THE CORRELATION OF CAPITAL STRUCTURE, FIRM VALUE, AND SIZE AS MODERATING FACTOR

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Abstract

This research aimed to investigate whether the profitability and capital structure to the firm value by dividend policy and firm size as moderating variables in the LQ 45 company listed in Indonesia Stock Exchanged period 2013-2017. In this research, profitability measured by return on asset, capital structure measured by debt-to-equity ratio, firm value measured by price to book value, dividend policy measured by dividend payout ratio and firm size measured by logarithm natural of total asset. The population used in this research is the entire of LQ 45 company listed in Indonesia Stock Exchanged period 2013-2017. The research sample amounted to 30 companies out of a total population of 73 companies. Sampling used purposive sampling. Data analysis tool used in this research is moderated regression analysis (MRA). The result of this research showed that: (1) Capital structure (DER) is positive significant impact on the firm value (2) Firm size negative and not significant impact on the firm value, (3) Firm size can’t moderate the relationship of capital structure with the firm value.

Keyword : Profitability, Capital structure, Dividend policy, Firm size and Firm value

INTRODUCTION

In the economy and the current era of globalization, the capital market in a country is often used as a benchmark for a country's economic progress. Every company has goals that they want to achieve, both short-term and long-term goals. The company's objectives include increasing prosperity for all shareholders through strengthening company value, Alfaro and Sudirgo (2019). An aspect that often receives special attention from investors is the value of the company. Company value is the price prospective buyers are willing to pay if the company is sold. The good or bad value of the company can indicate the condition of the company itself, so that the value of the company can be used as a reference for potential investors in determining their investment decisions. Several previous researchers have conducted research related to firm value. Hamidy et al (2015), Hermawan (2018), Khoirunnisa et al (2018) and Yando (2018) present empirical evidence that capital structure has a significant positive effect on firm value. Different empirical evidence is put forward by Iskandar (2016), Diantimala (2016), Marsono (2017) and Situmeang and Wiagustini (2018), that capital structure has a significant negative effect on firm value. Other empirical
evidence that is not aligned is put forward by Anisyah and Purwohandoko (2017), Oktrima (2017), and Rahmasari et al (2019) that capital structure has no effect on firm value.

The empirical evidence indicates that there is an inconsistency or gap in the correlation between capital structure and firm value. Researchers believe that the gap occurs because there are other factors that influence the relationship. At the empirical level, usually every change in the debt ratio is responded to by investors with a decision to increase or decrease their investment policy towards stocks, depending on how confidently investors will receive their investment returns. As is generally accepted, debt policy will result in two things, first tax savings, and second financial bankruptcy. These two factors will become the main reference for investors in formulating their investments when there is a change in debt policy from the company's management. Another factor that is no less important is what the increase in the debt ratio is for. If it is used to increase the size of the company, it will certainly have an impact on increasing investor confidence, because there is the potential to increase investment returns to encourage an increase in company value. As we know that to increase the amount of assets, we usually use external funding sources from debt first, when internal funding sources are not sufficient, before using funds from share capital. Research that explains the role of firm size as a moderating factor are very limited, including Iskandar (2016) and Suteja and Abbas (2018) which prove that firm size is able to moderate the relationship between capital structure and firm value.

Based on the various explanations above, the researcher intends to review the relationship between capital structure and firm value by including firm size as a moderating variable. This study is intended to obtain empirical answers about the level of significance of the impact of capital structure on firm value, and the level of significance of the moderating factor of firm size on the relationship between capital structure and firm value.

**LITERATURE REVIEW**

**Signalling theory**

Signal is an action taken by the company's management to provide instructions to investors on how management assesses a company's prospects, Brigham and Houston (2013: 186) in Triyani et al (2018). A relevant understanding is also put forward by Khairudin and Wandita (2017) which states that signaling theory is the information signals needed by investors to consider and determine whether investors will invest their shares or not in the company concerned. From the several definitions above, it can be concluded that signal theory suggests how a company should give signals to users of financial statements. A good company will give a clear signal and is very beneficial for investors.

**Firm Value**

Firm value is the company's performance which is reflected by the stock price formed by supply and demand in the capital market which reflects the public's assessment of the company's performance, Harmono (2014: 233) A relevant understanding is also put forward by Sujoko Denica (2010) in Dewi et al (2018) that the value of the company is an investor's perception of the level of success of the company which is often associated with stock prices. From some of the definitions above, it can be concluded that the value of the company can be interpreted as an appreciation or appreciation of investors for a company. This value is reflected in the company's stock price.

**Capital Structure**

Capital structure is defined as a combination of debt and equity as a source of funding in achieving the company's management goals, namely increasing firm value, Meivina (2018) A relevant understanding
is also put forward by Suwardika and Mustanda (2017) which states that capital structure is a description of the use of a company's debt to finance the company's operational activities. From the definitions of capital structure according to the experts above, it can be concluded that the capital structure is a balance between permanent short-term debt, long-term debt and own capital: preferred stock and common stock.

Size

Company size is a scale where the size of the company can be classified according to various ways, including total assets, log size, stock market value, etc., Azzahra and Nasib (2019). The greater the total assets of the company, the greater the size of a company. The more sales, the more the turnover of money in the company. So it can be said that company size is the amount of wealth assets owned by the company, Meidiawati and Mildawati (2016). From some of the above understanding can be concluded that the size of the company is the amount of assets owned by the company. The bigger the size of the company, the bigger the scale of the company.

Hypothesis Development

The Effect of capital structure on firm value

The effect of capital structure on firm value is based on signaling theory which states that an increase in the amount of debt in the capital structure of a company indicates that the company is confident in the company's future earnings prospects so that the company does not have to worry about paying off debt and interest, Suranto et al. (2017). This is supported by the trade off theory which states that any increase in capital structure can increase the value of the company if it has not reached its optimal point, namely the balance between financial distress and tax savings, Haryono et al (2017).

The relationship of capital structure to firm value is empirically carried out by Solikin et al (2015) the results of the study show that capital structure has a significant positive effect on firm value. Relevant results were also carried out by Limbong and Chabachib (2016). The results show that capital structure has a significant positive effect on firm value. Other studies that also present the same results are presented by Handriani and Robiyanto (2018), Hermawan (2018), Uziawati et al (2018) and Zuhroh (2019) which state that capital structure has an effect significant positive on firm value. Based on the description above, the hypothesis proposed in this study is:

H1: The higher the capital structure, the higher the firm value.

The effect of capital structure on firm value is moderated by size

Based on signaling theory, a high amount of debt will give a positive signal to shareholders. This is because with a high debt composition, the company is considered to have good prospects so that it dares to borrow large amounts of external funds. The success of the company in borrowing funds from external parties is also positively assessed by investors because the company is trusted by creditors to provide loans. Companies with large assets are the driving force when companies want to borrow funds from external parties. This is because the large number of assets can be used as collateral to creditors when they want to borrow funds. The greater the number of assets owned by the company, the easier it will be for the company to obtain external funding, Apriliyanti et al (2019).

Empirically related to size as a moderator on the effect of capital structure on firm value, Iskandar (2016) research results show that firm size can strengthen the relationship between capital structure and firm value. Other relevant research is proposed by Suteja and Abas (2018) the results of the study state that firm
size can strengthen the relationship between capital structure and firm value. Based on the description above, the hypothesis proposed in this study is H2: Firm size strengthens the effect of capital structure on firm value.

Figure 2.1
Framework Model

RESEARCH METHOD

Types of Research
This study uses a quantitative research methodology, namely a methodology based on data from existing research variables. There are two formats in this research, namely descriptive format and explanatory format. Descriptive research is used because in its implementation, this research is carried out to provide an overview or description and explain the company’s condition systematically about profitability, capital structure, dividend policy, company size and company value which is then observed changes that occur in the five variables both increase and decrease. Using explanatory research to explain or find out changes in the value of endogenous (bound) variables due to changes in exogenous (free) variables.

Population and sample
The population in this study were all LQ 45 Index companies listed on the Indonesia Stock Exchange in 2013–2017, as many as 73 companies. While the research sample is 30 companies which are determined by purposive sampling technique.

Method of collecting data
The data collection method used in this research is the literature study and documentation method. Literature study method is additional data collection to support research from other literatures such as research journals and literature books. While the documentation method is the collection, recording and review of data regarding the financial statements of companies in the LQ 45 Index company for the 2013–2017 period obtained from the Indonesian Capital Market Dictionary (ICMD) and the Indonesia Stock Exchange.

Operational research variables
Firm value as dependent variable is measured by price to book value, capital structure as independent variable is measured by debt-to-equity ratio, firm size as moderating variable is measured by natural log of total assets.

Data analysis technique
Descriptive statistics
Descriptive statistics are statistics used to provide an overview or description of a data seen from the average value, standard deviation, maximum, minimum, kurtosis skewness, Ghozali (2016:19).
The data normality test aims to test whether in the regression model, the confounding or residual variables have a normal distribution, Ghozali (2016:154). Normality test using Kolmogorov Smirnov parameter. The multicollinearity test aims to test whether there is a correlation between the independent variables in the regression model. A good regression model does not have a correlation between the independent variables, Ghozali (2016: 103). Test using tolerance and VIF parameters. The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another, Ghozali (2016: 134). The autocorrelation test aims to test whether in the linear regression model there is a correlation between the confounding error in the period, with the confounding error in the t-1 period (previous), Ghozali (2016:107). Test using the glacier parameter. Linearity test is used to see whether the specifications of the model used are correct or not. With the linearity test, information will be obtained whether the empirical model should be linear, quadratic, or cubic, Ghozali (2016:159).

Moderated regression analysis

To test the regression with the moderating variable using the interaction test. According to Ghozali (2011:229) Moderated Regression Analysis (MRA) or interaction test is a special application of linear multiple regression where the regression equation contains an interaction element (multiplication of two or more independent variables). The regression equation model to be tested is as follows: \( PBV = \alpha + b_1\text{DER} + b_2\text{Size} + b_3\text{DER} \times \text{Size} + e \)

RESULTS AND DISCUSSION

Classic assumption test

Normality test

The normality test of the data using the kolmooorov-smirnov test presents the results of the asym values. sig 0.000 lower than the specified significance level of 0.05. This result does not meet the requirement that the asym.sig value > 0.05. Because the data in this study are not normally distributed, outliers can be used which can be done by determining the limit value that will be categorized as outlier data, namely by converting the data values into standardized scores or commonly called z-scores, then the standard score is the > 2.5 are declared outliers (Ghazali, 2016: 41). The data in this study were 150 data and the data outliers were data 7, 8, 14, 28, 37, 42, 44, 58, 67, 68, 88, 97,101,118,127 and 148. After outliers were carried out this led to a reduction in the number of 16 data. so that the sample data on LQ 45 companies listed on the Indonesia Stock Exchange for the period 2013-2017 are 134 data.

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Kolmogorov-Smirnov Z</th>
<th>Asymp. Sig. (2-tailed)</th>
<th>Analysis Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Before outlier</td>
<td>2.796</td>
<td>0.000</td>
<td>Not normally distributed</td>
</tr>
<tr>
<td>2</td>
<td>After outlier</td>
<td>1.157</td>
<td>0.137</td>
<td>Normal Distribution</td>
</tr>
</tbody>
</table>

Based on the Kolmogorov-Smirnov test above, the Asymp value can be seen. Sig has a value of 0.137 > 0.05, this indicates that the data in this study is normally distributed. Thus, in the regression model the data is normally distributed.

Multicollinearity test

The multicollinearity test can be seen from the value of tolerance and variance inflation (VIF). If the tolerance value is > 0.10 and VIF < 10, it can be said that there is no multicollinearity in the research data.
Based on the multicollinearity test table above, we can see that the tolerance value for the variable, debt to equity ratio and size is 0.458 and 0.463, respectively, which is greater than 0.10. Meanwhile, the value of VIF (Variance Inflation Factor) for the debt to equity ratio and size is 2.185 and 2.159, respectively, less than 10, so that the resulting regression model does not show symptoms of multicollinearity.

Heteroscedasticity test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one observation residual to another observation residual (Ghozali, 2016:134). Using the white test parameter, the results are presented in the following table:

<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>.607a</td>
<td>.368</td>
<td>.322</td>
<td>4.82038</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), X1X2, SIZE, DER

Based on the table above, the results show that the heteroscedasticity test shows an R2 value of 0.368 with a total of n observations of 134, then the magnitude of the calculated \( c^2 \) value is: \( C^2 \) arithmetic = \( n \times R^2 \), \( C^2 \) count = \( 134 \times 0.368 = 49.312 \), \( C^2 \) table df = \( 134-4 = 130 \) is 157,610. Then the calculated value of \( c^2 \) is smaller than the value of table \( c^2 \) (49.312 < 157.610). Because the value of calculated \( c^2 \) is smaller than table \( c^2 \), it can be concluded that there are no symptoms of heteroscedasticity in the regression model.

Autocorrelation test

The autocorrelation test aims to test whether in the linear regression model there is a correlation between the confounding error in period t and the confounding error in period t-1 (previous) (Ghozali, 2016:107). Using Durbin Watson parameters, the test results are presented in the following table:

<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>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Based on the table above, the Durbin-Watson value = 1.828 from the DW table value with a significance of 5%, it is obtained dU = 1.7797 and dL = 1.6569. Therefore, the dU value (1.7797) is less than the dW value (1.828) and the dW value (1.828) is less than the 4-dU value (4-1.7797 = 2.220). Thus dU<dW<4-dU or 1.7797 < 1.828 < 2.220. So it can be concluded that the data has no symptoms of autocorrelation in the regression model.

**Linearity test**

The linearity test will provide information on whether the empirical model should be linear, quadratic or cubic (Ghozali, 2016:159). Using the lagrange multiplier parameter, the test results are presented in the following table:

<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>.164a</td>
<td>.027</td>
<td>-.003</td>
<td>1.68621967</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), SIZE, DER

Based on the table above, the results show that the linearity test shows the $R^2$ value, which is 0.027 with the number of n observations being 134, then the magnitude of the calculated $C^2$ value is: $C^2$ count = n x $R^2$, $C^2$ count = 134 x 0.027 = 3.618, $C^2$ table df = 134 - 4 = 130 is 157,610 then the calculated $C^2$ is smaller than the table $C^2$ value (3,618 < 157,610). It can be concluded that the resulting regression analysis model is linear.

**Hypothesis test**

a. The effect of Capital Structure on Firm Value

From the results of calculations regarding the effect of debt-to-equity ratio on price to book value, the t-count value is 4.176 and has a significance value of <0.05 (0.000 <0.05), meaning that capital structure has a significant positive effect on firm value, so hypothesis $H_2$ is accepted. Signaling theory explains how a company manager views the company's prospects and gives signals to investors or shareholders. The results of this study indicate that any additional debt made by the company to expand its business will increase the stock price of the company, so that the value of the company will increase. The capital structure of the LQ 45 company has not yet reached its optimal point, in accordance with the trade off theory which states that if the addition of debt is below its optimal point, it will increase the value of the company, so that the benefits of increasing debt are still large from the sacrifices incurred, so the direct benefits of using debt This will increase the value of the company. The results of this study are in line with research conducted by Limbong and Chabachib (2016), Israel et al (2018), Handriani and Robiyanto (2018), Hermawan (2018), Uzliawati et al (2018) Yando (2018), Dahar et al (2019) and Zuhroh (2019) which state that capital structure has a significant positive effect on firm value.
b. The effect of Size on firm value

From the results of calculations regarding the effect of size on price to book value, the t-count value is -0.341 and has a significance value of > 0.05 (0.734 > 0.05), meaning that firm size has no significant negative effect on firm value, thus $H_0$ is accepted. The results of this study are in line with research conducted by Rumondor et al (2015), Haryadi (2016), Suryandani (2018), Muliana and Ikhsani (2019), Welly et al (2019) and Zuhroh (2019) which state that firm size has a negative effect on firm value. The results imply that the size of the company, its changes will not directly reduce the value of the company, because the movement is not too large so that it does not require a very large concentration of funds to increase investment and operational activities, which has the potential to reduce investor expectations of investment returns, so that it does not reduce the value of the company. The size of the company is not the main factor for investors in assessing a company, because the larger the size of the company does not guarantee that the profits obtained will also be greater. The size of the company which is reflected in the total assets of the existing company is not considered a negative signal for investors because the size is not too big (table 6).

c. The moderating effect of Size on the effect of Capital Structure on Firm value

Size as a moderating variable unable to strengthen a correlation between capital structure and firm value. This can be seen from the moderate t-statistical significance of the DER*SIZE multiplication interaction with t count -0.869 and has a significance value of more than 0.05 (0.387 > 0.05), then the hypothesis $H_0$ is accepted. The results do not support the research of Iskandar (2016) and Suteja and Abas (2018) which prove that firm size as a moderating variable is able to strengthen the effect of capital structure on firm value. However, the results are in line with the research of Mahdaleta et al (2018), Apriliyanti et al (2019), Astari et al (2019), Mudjijah et al (2019) and Suwisnaya and Krisnadewi (2019) which prove that firm size as a moderating variable cannot strengthen the effect of capital structure on firm value. The results imply that firm size is not able to strengthen the relationship between capital structure and firm value. The large size of the company does not necessarily cause debtholders to take policies to increase their credit access to a company, unless the assets of the company in question are liquid or marketable. In case there is a market trend (debtholders) indicating that the company's assets are less liquid or less marketable. Large company assets do not necessarily increase market expectations (investors) for the company, unless they believe there is an increase in their investment return. In this connection, there is a tendency for investors to think that with these large assets, it is indicated that there is no potential to increase their investment returns.

### Table 7

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-.023</td>
</tr>
<tr>
<td>DER</td>
<td>.428</td>
<td>.103</td>
</tr>
<tr>
<td>SIZE</td>
<td>-.051</td>
<td>.151</td>
</tr>
</tbody>
</table>

a. Dependent Variable: PBV
CONCLUSION

The size of the company is not a dominant factor in the movement of company value, given the tendency of investors who do not see the potential for increasing their investment returns. Firm size is also unable to moderate the relationship between capital structure and firm value. This is due to the tendency of debtholders to view that the size of the existing company does not reflect the liquid and marketable aspects. In addition, there is a tendency for investors to think that the size of the existing company does not increase their expectations of return on investment. Although empirical data shows an increase as reflected in an increase in assets, it does not increase the debt ratio. The increase in assets also does not move the value of the company significantly.
REFERENCE


