Optimal Capital Structure Model and Company Performance Study on Property and Real Estate Company Listed in Indonesia Stock Exchange During the 2012-2016 Period

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Abstract: The purpose of this study is to examine how the influence of capital structure represented by the ratio of Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Long Term Debt to Equity Ratio (LDER) and Time Interest Earned Ratio (TIER) towards company value demonstrated by Tobin's Q Ratio on the property and real estate industries listed on the Indonesia Stock Exchange during the period 2012-2016. Sampling technique using purposive sampling so that obtained 36 property companies and Real Estate sample researches. Hypothesis testing using regeresi panel data analysis techniques.

The results of this research are DAR partially has positive and significant influence Tobin's, DER partially does not have significant influence Tobin's Q, LDER partially does not have significant influence Tobin's Q, TIER partially has no significant influence Tobin's Q, and simultaneously there is significant influence among DAR, DER, LDER, and TIER against Tobin's Q. The value of Adjusted R square is 0.101 indicating that 10.1% of capital structure ratios DAR, DER, LDER and TIER affect the value of the company, while the rest 89.9% is influenced by other variables which are not investigated in this study. This research is supported by researches conducted by Odongo Kodongo et.al (2014), Yulsiati (2016), Effendi (2017).

Keywords: Capital Structure, Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Long Term Debt to Equity Ratio (LDER), Time Interest Earned Ratio (TIER), Tobins Q

INTRODUCTION

Purchase of property not only for the fulfillment of basic needs, but also a way to invest with rental profits and speculative purposes to take the advantage of increased price. This creates a growing investment trend in today's society. This behavior prompts the property and property sector industries continue to grow.

Based on data presented by Rill Sector Statistics Division, Department of Statistics of Bank Indonesia dated February 13, 2017, there is a decline in Residential Property Price Index in Primary Market and as

well as in property sales which will certainly affect the company's financial and corporate objectives to increase company value. One of the way to measure of company performance is through Tobin's Q ratio.

Tobin's Q was developed by Professor James Tobin in 1967. This ratio is a valuable concept because it shows the current financial market, it estimates the return value of each dollar of incremental investments (Safitri and Wahyuati, 2015). Brealey, Myers, & Allen (2011) stated that the company's goal desired by shareholders is to maximize the value of the company. One way to improve financial performance is to optimize the existing financial resources, namely how the company is able to meet the needs of funds and set the source of fulfillment of the need for funds to operate and develop their business or better known as the capital structure. Funding decisions by management will affect the valuation of companies reflected in stock prices (Harmono, 2009).

The capital structure according to Kamaludin (2011) is the combination or mixture of long-term financing sources. According to Brigham and Houston (2011), the optimal capital structure of a firm is defined as a structure that will maximize its share price. Harmono (2009) presented general indicators used to determine the composition of optimal capital structure is Debt to Assets Ratio, Long Term Debt to Equity Ratio and Debt to Equity Ratio. According to Smith, Skousen, Stice and Stice (1995) other than DER and LDER, there is a ratio of Number of Times Interest is Earned as the working capital ratio.

The influence of capital structure on the performance of the company has been tested by several researchers. Setiana and Rahayu (2012) examined the effect on Return on Investment performance (ROI), Nurhasanah (2012), Purwitasari (2013). Odongo Kodongo et.al (2014) investigated the relationship between leverage and performance financial companies listed in Kenya as measured by Tobin's Q. Varun Dawar (2014) with large cross-section samples proving its impact on ROA and ROE. Suandini and Suzan (2015), Safitri and Wahyuati (2015), Yulsiati (2016), examined the effect of capital structure on Return on Equity (ROE) performance. Safitri and Wahyuati (2015), Effendi (2017), Sulistio and Saifi (2017) tested their influence with Tobin's Q ratio. While Tauke, Murni and Tulung (2017) measured the effect of capital structure on company's value represented by Price to Book Value (PBV). Le and Phan Thi Bich (2017) investigated the effect of capital structure on firm performance on Vietnam-based ROA, ROE, and Tobin's Q measures.objectives to increase company value. One measure of company performance is through Tobin's Q ratio.

Based on the background of the research above, the formulation of the problem in this research are:

1. Is there any influence of capital structure represented by Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Long Term Debt to Equity Ratio (LER), and Time Interest Earned Ratio (TIER) partially towards company financial performance as measured by Tobin's Q?

2. Is there any influence of capital structure represented by Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Long Term Debt to Equity Ratio (LDER), and Time Interest Earned Ratio (TIER) simultaneously towards company financial performance as measured by Tobin's Q?

RESEARCH LITERATURE PERSPECTIVE

Capital Stucture

The capital structure is a combination or mixture of long-term financing sources (Kamaludin, 2011). Long term financing is shown by debt, equity of preferred stock and common stock. According to Gitman &

Zutter (2012) the source of capital can be divided into two kinds, namely long-term debt capital and own capital or equity.

There are several theories about capital structure. Modigliani-Miller Model Without Taxes, according to Nidar (2016), modern capital structure theory firstly appeared in 1958 by Franco Modigliani and Merton Miller (MM) known as MM Theory. This theory suggests that debt is not a tax deduction. Brigham and Huston (2011) stated that they recognize that the Tax Regulation allows companies to reduce interest payments as a burden, but dividend payments to shareholders are not tax deductible. So the MM theory was modified by Merton Miller (without Modigliani), With this tax, MM concludes that the use of debt will increase the value of the company because the interest cost of debt is the cost that reduces tax payments. The altered assumption is the tax on corporate earnings. This theory is known as Modigliani-Miller Model With Taxes.

Other capital structure theories are Trade-Off Theory in Capital Structure and Pecking Order Theory. Nidar (2016) in Trade-off Theory of debt usage will increase the value of the company eventhough only to a certain point. After that point, the use of debt will actually reduce the value of the company due to the increase of financial distress cost and agency problems. The turning point is called the optimal capital structure, indicating the optimal amount of corporate debt. The Trade off model can not precisely determine the optimal capital structure because it is difficult to decide precisely the Present Value (PV) cost of financial distress and PV agency cost.

Brealey, Myers and Marcus (2001) stated that in Pecking Order Theory companies prefer to issue debt rather than equity if internal finance is inadequate. And companies with high profitability levels are low debt levels, because companies with high profitability have abundant internal funding sources. In Pecking Order Theory there is no optimal capital structure. Specifically the company has a sequence of preferences (hierarchy) in the use of funds.

Tobin's Q

Tobin's Q is an indicator to measure company performance, especially about company value, which shows a proforma of management in managing the company's assets. Tobin's Q ratio is considered to provide the best information, because Tobin's Q includes all the elements of debt and equity capital of the company, not only ordinary shares and the company's equity is included but also all assets of the company. By Including all of the company's assets means that the company not only focuses on one type of investor ie the investors in the form of shares but also the creditor because the source of the company's operational financing is not only from equity but also from loans given by creditors (Safitri and Wahyuati, 2015).Tobin's Q ratio can be calculated as follows (Suranta dan Machfoedz, 2003) :

$$Tobin's\ Q = \frac{EM + MVD}{EBV + BVD} \qquad (1)$$

EMV : Equity Market Value

EBV : Equity Book Value

MVD : Market Value of Debt

BVD : Book Value of Debt

Tobin's Q Corporate Interpretation Score (Sudiyatno and Puspitasari; 2010):

Tobin's Q <1: Describes that the stock is undervalued.

Management has failed managing the company's assets. Investment growth potential is low.

Tobin's Q = 1: Describes that the stock is in average condition.

Management is stagnant in managing assets. Investment growth potential is not growing.

Tobin's Q> 1: Describes that the stock is in overvalued condition.

Management is successful in managing the company's assets. The potential for high investment growth.

Capital Structure Ratio

Subramanyam and Wild (2010), there are ratios that are part of the capital structure ratio: Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), Long Term Debt to Equity Rastio (LDER) and Time Interest Earned Ratio TIER).

Debt to Asset Ratio (DAR), Brigham and Houston (2011) conveyed that the ratio of total debt to total Assets commonly called the debt ratio measures the percentage of funds granted by creditors. The ratio of total debt to assets is calculated as follows:

$$\frac{Total\ Debt}{Total\ Asset} \quad (2)$$

Debt Equity Ratio (DER), Fahmi (2014) capital structure is a picture of the form of financial proportion form of the company is between the owned capital derived from the total debt and own capital that becomes the source of financing a company. Based on the formula of total debt ratio to total capital ratio (total debt ratio) is also calculated as follows:

$$\frac{Total\ Debt}{Total\ Equity} \quad (3)$$

Long Term Debt to Equity Ratio (LDER), Hery (2016) conveyed the ratio of long-term debt to capital is the ratio used to measure the proportion of long-term debt to capital. This ratio is used to measure how much long-term debt is guaranteed by own capital / equity. Ratios that exceed 1: 1 indicate debt funding over existing capital.The ratio of total long-term debt to capital is calculated as follows:

$$\frac{Total\ Long\ Term\ Debt}{Total\ Equity} \quad (4)$$

Time Interest Earned Ratio (TIER), the resulting interest rate ratio shows how far or how many times the company's ability to pay interest. The company's capability here is measured from the amount of earnings before interest and taxes (Hery, 2016). This ratio is also called the coverage ratio, which measures the extent to which earnings may decrease without compromising the company's ability to pay interest expenses (Hery, 2016). Time Interest Earned Ratio can be calculated by the formula:

$$\frac{\textit{Earning Before Interest \& Tax}}{\textit{Interest Expense}}$$

<div align="right">(5)</div>

Previous Research

Research on Setiana and Rahayu (2012) on the Influence Analysis of Capital Structure on Company Performance, with the result that DAR, DER, and LDER simultaneously have influence on ROI, DAR partially have influence on ROI. DER and LDER partially have no effect on ROI. Research Similarities are; DAR, DER, LDER as Independent variables , analysis technique used Multiple Linear Regression Data Panel. Research Differences are; Research Objects : Automotive Company listed on Indonesia Stock Exchange 2008-2010, Dependent variable is ROI and Independent variable's TIER is not used.

Simultaneously, DAR and DER have no effect on ROE. DAR has a positive and insignificant influence on ROE while DER has a negative and significant influence on ROE according to Nurhasanah (2012) in the study of Effect of Capital Structure on Profitability. Research Similarity is ; DAR and DER as independent variables. Research Differences are; Research Objects : Manufacturing Companies Listed on Indonesia Stock Exchange 2011, Dependent Variable is ROE, Independent Variable's LDER and TIER are not used, and Technique analysis used Multiple Linear Regression.

Purwitasari and Septiani (2013) with research on Effect Analysis of Capital Structure on Profitability with the results of research that short-term debt and total debt have a significant negative effect on corporate profitability (ROE) while long-term debt does not have a significant effect on the profitability of the company. Research Similarities are; DAR as Independen Variable and Analysis technique used Multiple Linear Regression Data Panel. Differences Research are; Research Objects : Manufacturing Companies Listed on Indonesia Stock Exchange 2009-2011, Dependent Variable is ROE, Independent Variables are STD, LTD, and independent variable's TIER is not used. Control variables are Size, Sales Grow, Total Asset Turnover.

Kodongo and Mokoaleli-Mokoteli and Maina (2014) their study findsreasonably strong evidence that leverage significantly, and negatively, affects the profitability of listedfirms in Kenya. However, leverage has no effect on Tobin's Q. Research Similarities are; Independent variables : DAR, DER, LDER, Dependent variable: Tobin's Q and using Panel Regression Analysis. Differences Research are; Research Objects: Company published in Nairobi Securities Exchange, Dependent variable: ROE, ROA, Independent variable: TIER is not used. Other independent variables: Total Assetd, Firm Size, Sales Growth, Grow.

The results of Varun Dawar (2014) in Agency Theory, Capital Structure and Corporate Performance by using companies listed on the S & P index of Bombay Stock Exchange 100 (India), is that the capital structure negatively affects the performance of the company. Research Similarities is analysis technique used Linear Regression Data Panel. Differences Research are; Research Objects: S & P Bombay Stock Exchange 100 index companies, Dependent variables: ROE, ROA, Independent variables: LTDA, STDA, SIZE, AGE, TANG, GROW, LIQ, ADV, Independent variables that are not used DAR, DER, TIER.

Suandini and Suzan (2015) in the study of Effect of Capital Structure on Financial Performance Company, states that simultaneously DAR, DER, LDER, and TIER have the effect of ROE. And partially DAR has no effect on ROE with negative coefficient direction. DER has no influence on ROE with positive coefficient direction, LDER has influence on ROE with negative coefficient direction and TIER

has influence on ROE with positive coefficient direction. Differences Research are; Research Object: Consumer Goods Industry Company Listed on Indonesia Stock Exchange 2009-2013 and Dependent variable: ROE.

By using path analysis of Safitri and Wahyuati (2015) in the study of Effect of Capital Structure and Investment Decision on Profitability and Corporate Value, stated that the variable of capital structure does not have a significant effect on profitability but the variable of capital structure have negative and significant influence to company value. The capital structure variable used is DER while profitability is measured by ROE, and firm value is measured by Tobins Q. Research Similarities are; Independent variable DER and Dependent variable: Tobin's Q. Differences Research are; Research Object: The cement industry that has been listed on Indonesia Stock Exchange, Other dependent variables: ROE, Independent variables that are not used DAR, LDER, TIER, Other Independent Variables: MBVE and using Path Analysis Analysis Technique.

Yulsiati (2016) examines the influence of Debt to Asset Ratio, Debt to Equity Ratio and Net Profit Margin to Return On Equity, the results of his research is simultaneously independent variables consisting of DAR, DER, NPM have a significant effect on the dependent variable that is ROE. DAR variable partially significant to ROE while DER partially has no positive and significant effect to ROE. Research Similarities are; Research Objects: Property and Real Estate listed on Indonesia Stock Exchange 2010-2013, Independent variable : DAR, DER, Analysis technique of Multiple Linear Regression Data Panel. Differences Research are; Dependent variable: ROE. Independent variables that are not used LDER, TIER, Other Independent Variables: NPM.

Capital Structure and Corporate Valuesinvestigated by Effendi (2017), resulted in the conclusion that DAR and DER simultaneously have an influence on the ratio of Tobin's Q. Variable DAR is the only variable of the independent variables in this study that partially have an influence on Tobin's Q. Research Similarities are; Independent variable : DAR, DER, Dependent variable: Tobin's Q, Analysis technique of Multiple Linear Regression Data Panel. Differences Research are; Research Objects: Mining Sector listed on Indonesia Stock Exchange 2012-2015, Independent variable LDER, TIER are missing.

Optimal Analysis of Capital Structure Determination to Increase Corporate Valueconducted by Sulistio and Saifi (2017), stated that the optimal capital structure of 2013-2015 period occurred in 2013. The composition of capital structure in 2013 consists of long-term debt of 6.11% and own capital of 93.89% (when the composition of short-term debt is small). Research Similarities are; Independent variables : DAR, LDER, TIER, Dependent variable: Tobin's Q. Differences Research are; Research Objects: Studies at PT. Astra Graphia, Tbk, Independent DER variable does not exist, Descriptive analysis technique with quantitative approach.

Tauke, Pure and Tulung (2017) with research on the Effect of Financial Performance on Company Value, concluded that capital structure (DER) has positive and significant influence to firm value (PBV), and simultaneously Total Asset, DER, ROA and Current Ratio have significant influence to firm value (PBV). Research Similarities are; Research Objects: Real Estate and Property Companies listed on Indonesia Stock Exchange Independent, Variables: DER, Multiple Linear Regression analysis of panel data. Differences Research are; Dependent variable: PBV, Dependent variables that are not used DAR, LDER, TIER, Other Independent Variables: ROA, TA, CR.

Thi Phuong Vy Le, Nguyet Phan Thi Bich (2017) in the study of Capital Structure and Corporate Performance, provide evidence that the capital structure has a negative effect on the performance of the company. Specifically, when examining the linear relationship between leverage and firm performance, the findings indicate that all long-term debt ratios, short-term debt and total debt both book and market value are significantly and negatively related to ROA, ROE and Tobin's Q. Research Similarities are; Dependent variable : Tobin's Q, Independent Variable of total debts to total assets (DAR), Panel Regression analysis technique. Differences Research are; Research Objects: Non-financial companies listed on the Vietnamese stock market, Other dependent variables: ROE, ROA, Other independent variables: long-term debt to total assets, short-term debt to total assets.

FRAMEWORK OF THOUGHT

Effect of Debt to Asset Ratio Against Tobin's Q

Debt to Assets Ratio (DAR) or also known as the debt ratio, which shows how much the company's assets are financed through debt. Thus the greater the debt in asset financing, then the burden of corporate liabilities to external parties will be greater as well. Increasing burden of liability can lead the company to an inability to pay. The results of Setiana and Rahayu (2012), Purwitasari (2013), Kodongo et.al (2014), Effendi (2017) Thi Phuong & Nguyet Phan (2017) proved that DAR has a negative effect on company performance.

Effect of Debt to Equity Ratio Against Tobin's Q

This ratio illustrates how capital guarantees the company's total debt. The massive increase of DER ratio can result in greater debt composition than the equity composition. To keep the composition of debt does not exceed the capital, then by increasing debt will make the capital provided by the company should also increase. Since the addition of equity from the stockholders is of course limited, so DER must be kept in order not to increase. This explanation shows the influence of DER on the value of the company. Researchers Nurhasanah (2012), Kodongo et.al (2014), Safitri & Wahyuati (2015) also stated that DER has a negative influence on the performance of the company.

Effect of Long Term Debt to Equity Ratio Against Tobin's Q

Long Term Debt Equity Ratio is used to measure how much long-term debt is guaranteed by own capital / equity. Ratios that exceed 1: 1 show debt financing beyond existing capital, and certainly illustrate what is not good for the company. Conversely, if the company can manage its funding through long-term debt that will make better financial condition.

The influence of Long Term Debt Equity Ratio to company performance has been shown in research conducted by Odongo Kodongo and Thabang Mokoaleli-Mokoteli and Leonard Maina (2014), Varun Dawar (2014) Suandini & Suzan (2015) Agum Sulistio and Muhammad Saifi (2017) . LDER negative relationship with company performance is evidenced by Kodongo et.al (2014) and Suandini & Suzan (2015).

Effect of Time Interest Earned Ratio Against Tobin's Q

This ratio is also called the coverage ratio, which measures the extent to which earnings may decrease without compromising the firm's ability to pay interest expenses (Hery, 2016). The greater the debt of the company causing the greater its debt interest and the greater the deduction of company profits. Decreasing profits will affect the value of the company. Conversely, if the debt interest burden is not large, the company can close it well.

This exposure shows that the Time Interest Earned Ratio has an influence on the performance and value of the company. The research shows the influence of TIER's influence on company performance is shown by Suandini and Suzan (2015), Agum Sulistio and Muhammad Saifi (2017).

Simultaneous Effect of Debt to Asset Ratio, Debt to Equity Ratio, Long Term Debt to Asset Ratio, Time Interest Earned Ratio Against Tobin's Q

DAR, DER, LDER, TIER are leverage ratios, where this ratio suggests how the company's condition and ability to organize and manage debt and pay its obligations. How the company can guarantee the security of its debts is one indicator that shows the financial health of the company. Therefore these ratios give influence to the performance and value of the company. Setiana and Rahayu (2012) Nurhasanah (2012), Suandini and susan (2015) Henny Yulsiati (2016), Murfat Effendi (2017), Putri Yuliana Tauke, Sri Murni and Joy E. Tulung (2017) explain that there is simultant ratio effect of capital structure in company performance.
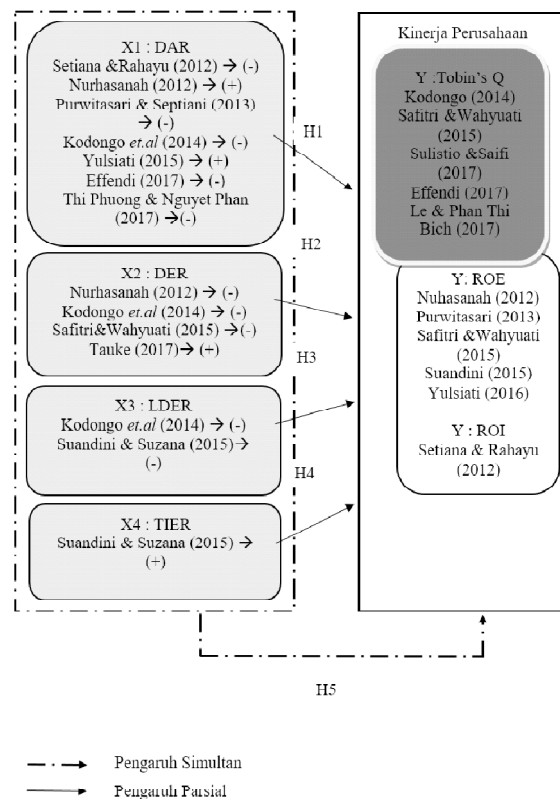
Framework of Thought

RESEARCH HYPOTHESIS

According to Nasution (2008), the hypothesis is a tentative statement which is a guess or conjecture about what we observe in an attempt to understand it. The function of the hypothesis is to test the truth of a theory, give ideas to develop a theory, expand knowledge about the symptoms learned. Based on the framework that has been submitted, the authors draw the hypothesis or the provisional allegation as follows:

1. Debt to Asset Ratio (DAR), has a negative effect on the value of the company.

2. Debt to Equity Ratio (DER), has a negative effect on the value of the company.

3. Long Term Debt to Equity Rastio (LDER) has a negative influence on company's value.

4. Time Interest Earned Ratio (TIER). negatively affect the value of the company.

5. DAR, DER, LDER and TIER simultaneously have an influence on company value.

RESEARCH METHODOLOGY

This research uses explanatory research methods that are causal (Causal Explanations) which according to Sugiyono (2011) causal relationship is a cause and effect relationship. Independent variables are : DAR, DER, LDER and TIER, Dependen variable is Tobin's Q.

The sample criteria for this research as follows :

Tabel 1

Industrial Population Company of Building Construction, Property and Real Estate	54
Non-Property and Real Estate Company	(9)
Property and real Estate company not registered respectively in 2012 – 2016	(7)
Unrealized Property and Real Estate Company 2012-2016	(2)
Total Sample	36

METHOD OF ANALYSIS

Descriptive Statistics Analysis

According to Ghozali (2013) descriptive statistics provides an overview or description of data viewed from average value (mean), deviation standard, variance, maximum, minimum, sum, range, kurtosis and skewness (win distribution).

Classic Assumption Test

1. Autocorrelation Test: Autocorrelation test is aimed to test in the linear regression model in which there is a correlation between the confounding error in period t with the intruder error in period t-1 (previous) (Ghozali, 2013).

2. Multicolinearity Test: Multicollinearity test is aimed to test whether the regression model is found in the correlation between independent variables (independent) (Ghozali, 2013).

3. Heteroscedasticity Test: The heteroscedasticity test is aimed to test whether in the regression model there is an inequality variance of one residual observation to another observation (Ghozali, 2013).

Regression Analysis

This analysis is to measure the strength of the relationship between the dependent variable and the independent variable. Because the variable which will be measured its strength of the relationship is the dependent variable with some independent variables of 5 years period, then the analysis is conducted by using panel regression.

To examine the effect of Debt to Asset Ratio (DER), Debt to Equity Ratio (DER), Long Term Debt to Equity Ratio (LDER), and Time Interest Earned Ratio (TIER) to Tobin's Q Ratio, a regression model is established as follows:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + e$$

Information:

Y: Tobin's Q

X1: Debt to Asset Ratio (DAR)

X2: Debt to Equity Ratio (DER)

X3: Term Debt to Equity Ratio (LDER)

X4: Time Interest Earned Ratio (TIER)

a: constants

b1, b2, b3, b4: regression coefficients

e: error

Hypothesis Testing

1. t Test (Partial Test): According to Ghozali (2013) the statistical test t basically shows how far the influence of one individual explanatory / independent variable in explaining the variation of the dependent variable.

2. F Test (Simultaneous Test): According to Ghozali (2013) the F statistical test basically shows whether all independent or independent variables intended in the model have a mutual influence on the dependent / bound variable. The null hypothesis (Ho) to be tested is whether all parameters in the model are zero.

3. Square and Adjusted R Square Test: The coefficient of determination is to measure how far is the ability of the model in explaining the variation of the dependent variable (Ghozali, 2013).R Square and Adjusted R Square are also called coefficients of determination. This coefficient explains how much the proportion of variation in the dependent can be explained by the independent variables simultaneously.

RESEARCH FINDING AND DISCUSSION

Descriptive Statistics Analysis

Descriptive analysis on each variable, described as follows:

Table 2
DAR, DER, LDER, TIER and Tobin's Q

	DAR	DER	LDER	TIER	TOBINSQ
Mean	0.3873	0.7646	0.311	158.1143	1.3480
Maximum	0.7402	2.8494	1.5801	27750.69	5.9762
Minimum	0.0335	0.0347	0.0000	-12922.89	0.0918

Source: data processed

The average DAR variable in 2012-2016 is 0,3873, with a maximum DAR of 0,7402, the minimum being 0,0335. The average DER variable during the study period is 0,7646 with a maximum DER of 2,8494, the minimum being 0,0347. The lowest LDER is at a value of 0,0000 while the highest is at a ratio of 1,5801 with an average LDER of 0,311. While the average TIER at the ratio 158,1143 with the highest ratio of 27.750,69 and the lowest is below zero, it is -12.922,89. Tobin's Q average is 1,3480 with the highest ratio of 5,9762 and the lowest ratio of 0,0918.

Classic Assumption Test

The classical assumption test is performed to obtain a regression model with unbiased estimates and reliable or BLUE (Best Linear Unbiased Estimator) testing, (Gujarati, 2006).

Autocorrelation Test

Autocorrelation is a condition where there is a correlation or relationship between observed variables.

The hypothesis tested (Sarwono, 2016):

1. H0: There is no serial correlation in the distribution of data

2. H1: There is a serial correlation to the distribution of data

Terms:

1. If p-value / significance count <0.05, then H0 is rejected

2. If p-value / significance count> 0.05, then H0 is accepted

There is no serial correlation in the distribution of data if p-value> 0,05

The results of autocorrelation testing are presented in the following table:

Table 3
Autocorrelation Test Results

F-statistic	81.43899	Prob. F(2,173)	0.0000
Obs*R-squared	87.28776	Prob. Chi-Square(2)	0.0000

Source: data processed

Based on the table above, it is obtained that R squared observation value is 0.000. Because its value <0,05 so it can be concluded that there is autocorrelation.

Multicolinearity Test

Multicollinearity is a test to see where some or all of the independent variables are highly correlated. With the help of Eviews software obtained the following results:

Table 4
Multicolinearity Test

	DAR	DER	LDER	TIER
DAR	1.000000	0.950426	0.662864	0.108977
DER	0.950426	1.000000	0.653521	0.089951
LDER	0.662864	0.653521	1.000000	-0.056854
TIER	0.108977	0.089951	-0.056854	1.000000

Source: data processed

From the above output can be seen that there is no multicollinearity because there are variables that have a correlation value> 0.8.

Heteroscedasticity Test

The heteroscedasticity test is aimed to test whether in the regression model there is inequality variance of one residual observation to another observation. If the variance of one residual observation to another observation remains the same, then it is called homoscedasticity. With the help of Eviews software, obtained the following results:

Table 5
Heteroscedasticity Test

F-statistic	1.319988	Prob. F(14,165)	0.2004
Obs*R-squared	18.12934	Prob. Chi-	0.2010
Scaled explained SS	55.67655	Prob. Chi-	0.0000

Source: data processed

Based on the output table above, it appears that the prob. chi-square for the white test estimation is 0.2010. Because the value of prob. chi-square> 0.05, it can be concluded that there is no violation of heteroscedasticity assumption.

Panel Data Regression Analysis

There are 3 (three) approaches used in panel data regression analysis, the researchers analyzed the three approaches, which are Pooling Least Square / Common Effect Model, Fixed Effect Approach / Fixed Effect Model, and Random Effect Approach / Random Effect Model. Model testing is performed by:

1. Chow Test: Chow test or commonly called the F statistics test is a statistical test that aims to determine whether the model used is Pooled Least Square (Common Effects Model) or Fixed Effect Model. In this test, it is performed with the following hypotheses:

   a) H 0: pooled square model

   b) H 1: fixed effect model

   The result of Chow test is presented in the following table:

Table 6
Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	11.87819	-35,140	0.0000
Cross-section Chi-square	248.15737	35	0.0000

Source: Eviews (processed data)

Based on the output table above, it appears that the prob. chi-square for the Chow test estimation is 0.0000. Because the value of prob. chi-square <0.05, it can be concluded that the model used is a fixed effect model.

2. Hausman test

   The hausman test is used to determine the Random Effect Model (REM) or Fixed Effect Model (FEM) approach. This testing hypothesis:

   a) H0 = p-value> α (5%), meaning H0 ¬ accept, REM)

   b) HA = p-value < α (5%), meaning H0 is rejected, FEM)

   With the help of Eviews software, it is obtained the following results:

Table 7
Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.914917	4	0.5722

Source: Eviews (processed data)

Based on the output table above, it appears that the prob. chi-square for the estimation of hausman test is 0,5722. Because the value of prob. chi-square> 0,05, hence can be concluded that approach using random effect model.

To examine the effects of Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), Long Term Debt to Equity Ratio (LDER), and Time Interest Earned Ratio (TIER) to Tobin's Q Ratio, a regression model is established as follows:

$$Y = a + b\_1 X\_1 + b\_2 X\_2 + b\_3 X\_3 + b\_4 X\_4 + e$$

Information

Y	:	Tobin's Q
X1	:	Debt to Asset Ratio
X2	:	Debt to Equity Ratio
X3	:	Term Debt to Equity Ratio
X4	:	Time Interest Earned Ratio
a	:	constants
b1, b2, b3, b4	:	regression coefficients
e	:	error

Results of Eviews software processing for multiple regression analysis of panel data are presented in the following tables:

Table 8
Multiple Panel Data Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.429992	0.287995	1.493051	0.1372
DAR	3.329612	1.222599	2.723388	0.0071
DER	-0.285717	0.365166	-0.782431	0.435
LDER	-0.49606	0.308322	-1.608899	0.1094
TIER	2.08E-05	1.92E-05	1.085143	0.2794

Source: data processed

Based on the calculation results in the table above, it is obtained the form of multiple linear regression equation as follows:

Y = 0.429992 + 3.329612 DAR - 0.285717 DER - 0.496060 LDER + 2.08E-05 TIER

The value of the regression coefficients on the independent variables illustrates that if the estimated independent variables rise by one unit and the value of other independent variables is estimated to be constant or equal to zero, then the value of the dependent variable is estimated to rise or may fall in accordance with the sign of regression coefficient of independent variables.

From the regression equation above it is obtained a constant value of 0.429992. That is, if the Tobin's Q (Y) variable is not influenced by the four independent variables DAR (X1), DER (X2), LDER (X3) and TIER (X4) (zero), then the average rate of Tobin's Q (Y) will worth 0.429992.

The sign of the free variable regression coefficient shows the direction of the relationship of the variable concerned with Tobin's Q (Y). The regression coefficient for the independent variable X1 is positive, indicating a one way relationship between DAR (X1) and Tobin's Q (Y). The coefficient of variable X1 regression of 3.329612 means that for each increase of DAR (X1) of one unit will cause the increase of Tobin's Q (Y) of 3.329612.

The regression coefficient for the independent variable X2 is negative, indicating a non-directional relationship between DER (X2) and Tobin's Q (Y). The regression coefficient of variable X2 of -0.285717 means that every increase of DER (X2) for one unit will cause the decrease of Tobin's Q (Y) equal to 0.285717.

The regression coefficient for the independent variable X3 is negative, indicating a non-directional relationship between LDER (X3) and Tobin's Q (Y). The regression coefficient of X3 variable equal to -0.496060 means that every increase of LDER (X3) for one unit will cause the decrease of Tobin's Q (Y) equal to 0.496060.

The regression coefficient for the X4 independent variable is positive, indicating a direct relationship between TIER (X4) and Tobin's Q (Y). The regression coefficient of X4 variable of 2.08E-05 means that for each increase of TIER (X4) of one unit will cause the increase of Tobin's Q (Y) of 2.08E-05.

Hypothesis Testing

1   t Test (Partial Test)

t Test is conducted in order to know whether or not an influence of partially free variables on a dependent variable.

Hypothesis

Ho1: $\beta1 \leq 0$ There is no positive influence between DAR and Tobin's Q.

Ha1: $\beta1 > 0$ There is a positive influence between DAR and Tobin's Q.

Ho2: $\beta2 \leq 0$ There is no positive influence between DER and Tobin's Q.

Ha2: $\beta2 > 0$ There is a positive influence between DER and Tobin's Q.

Ho3: $\beta3 \leq 0$ There is no positive influence between LDER and Tobin's Q.

Ho3: $\beta3 > 0$ There is a positive influence between LDER and Tobin's Q.

Ho4: $\beta4 \leq 0$ There is no positive influence between TIER and Tobin's Q.

Ho4: $\beta4 > 0$ There is a positive influence between TIER and Tobin's Q.

$\alpha = 5\%$

Test Statistics:

t_{hit} = degrees of freedom = n-k-1

Test Criteria:

1.   Accepted H0 if $-t_{table} \leq t_{arithmetic} \leq t_{table}$

2.   Rejected H0 if $t_{arithmetic} < -t_{table}$ or $t_{arithmetic} > t_{table}$

With t table n = 180 equal to 1,974

t test results based on Eviews software processing are presented in the following table:

Table 9
Hypothesis Testing by Partial (t test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.429992	0.287995	1.493051	0.1372
DAR	3.329612	1.222599	2.723388	0.0071
DER	-0.285717	0.365166	-0.782431	0.4350
LDER	-0.496060	0.308322	-1.608899	0.1094
TIER	2.08E-05	1.92E-05	1.085143	0.2794

Based on the above table the following results are obtained; for the variable DAR (X1) it is obtained t value counted 2.723388. Because t count (2.723388) > -t table (1,974), then H0 is rejected. Therefore, it can be concluded that the DAR (X1) partially has a positive and significant influence on Tobin's Q (Y). The variable DER (X2) it is obtained t value counted -0.782431. Because t count (-0.782431) > - t table (-1,974), then H0 is accepted. Therefore, it can be concluded that DER (X2) partially has no significant influence on Tobin's Q (Y). The variable LDER (X3) it is obtained t value counted -1.608899. Because t count (-1.608899) > - t table (1,974), then H0 is accepted. Therefore, it can be concluded that LDER (X3) partially has no significant influence on Tobin's Q (Y). The TIER (X4) variable, the value of t arithmetic is 1.085143. Since t arithmetic (1.085143) < t table (1,974), then H0 is accepted. Therefore, it can be concluded that TIER (X4) partially does not have a significant influence on Tobin's Q (Y).

2. F Test (Simultaneous Test)

F test is performed in order to know whether or not a significant influence of independent variables simultaneously on a non-free variable.

Hypothesis

H01: $\beta1 = \beta2 = \beta3 = \beta4 = 0$ There is no significant influence between DAR, DER, LDER, and TIER against Tobin's Q.

Ha1: at least one $\beta i \neq 0$ where i = 1, 2, 3, 4 There is a significant influence between DAR, DER, LDER, and TIER against Tobin's Q.

α = 5%

F test results based on Eviews software processing are presented in the following table:

Table 10
Hypothesis Testing Overall (Test F)

R-squared	0.101067	Mean dependent var	0.376770
Adjusted R-squared	0.080520	S.D. dependent var	0.553799
S.E. of regression	0.531035	Sum squared resid	49.34963
F-statistic	4.918835	Durbin-Watson stat	1.438477
Prob(F-statistic)	0.000880		

Source: data processed

From the table above, obtained Prob value. F arithmetic of 0.000880. Because the value of Prob. F count (0.000880) <0.05, then Ho is rejected. Thus it can be concluded that simultaneously there is a significant influence between DAR, DER, LDER, and TIER against Tobin's Q.

3.   R Square and Adjusted R Square Test

In order to know the effect of free variable to Tobin's Q, coefficient of determination (R2) is used. The coefficient of determination (R2) essentially measures how far the ability of the model in explaining the variation of the dependent variable. The small value of R2 means that the ability of the independent variables to explain the dependent variables is very limited. The magnitude of R-squared lies between 0 and 1. The value of R-squared which is smaller than 0.5 indicates that less free variables can explain dependent variables, and there are other variables within the model that affect the dependent variable. If R-squared approaches lift 1 then the independent variable can explain the dependent variable well.

Table 11
Determination Coefficient Analysis

R-squared	0.101067	Mean dependent var	0.376770
Adjusted R-squared	0.080520	S.D. dependent var	0.553799
S.E. of regression	0.531035	Sum squared resid	49.34963
F-statistic	4.918835	Durbin-Watson stat	1.438477
Prob(F-statistic)	0.000880		

Source: data processed

Based on the results of the Eviews output above, we get R-squared value of 0.101. This shows that the contribution of DAR (X1), DER (X2), LDER (X3) and TIER (X4) to Tobin's Q (Y) is 10.1% while the rest of 89.9% is the contribution of other variables in addition to the studied independent variables.

DISCUSSION

Effect of Debt to Asset Ratio Against Tobin's Q

For the variable DAR (X1) it is obtained t value counted 2.723388. Because t count (2.723388)> -t table (1,974), then H0 is rejected so that it can be interpreted that there is partial influence between DAR with Tobin's Q. The value of coefficient and t arithmetic is positive so that DAR has partial effect and in the same direction with Tobin's Q. This shows that the higher the DAR, then the value of the company will increase.

The positive relationship between DAR and company's value is due to the average sample company DAR during the period 2012-2016 is 0.387 and 17 companies out of 36 companies that become samples have below average DAR value. This suggests that on average during the period 2012-2016 these property and real estate companies have not used large debts to finance their assets on their capital structure. Therefore, when DAR increases, the value of the company increases as well. This finding also supports the capital structure theory which states that as long as the company is able to balance, the benefits and costs incurred by debt, it is not a problem to the value of the company.

The results of this study is not in line with the research conducted by Effendi (2017), and Thi Phuong & Nguyet Phan (2017) which concluded that partial DAR has negatively and significantly influence on Tobin's Q and Kodongo et.al (2014) research results that DAR has no influence on company's value.

Effect of Debt to Equity Ratio Against Tobin's Q

For the variable DER (X2) obtained t value counted -0.782431. Because t arithmetic (-0.782431)> - t table (-1,974), then H0 is accepted, so it can be interpreted that there is no partial influence between DER and Tobin's Q. During the study period 2012-2016 the average DER of the company being sampled is 0.765 and as many as 14 companies from 36 sample companies that have DER above the sample average. This means that during the study period 2012-2016 changes DER company's financial samples do not affect the value of the company.

These findings support the Trade-off theory assuming that the company's capital structure is the result of trade-offs of tax profits by using debt at costs that would arise as a result of the use of such debt, so DER is not a factor affecting company's value.

The results of this study do not agree with research conducted by Safitri and wahyuati (2015) which concluded that partially DER negatively affects Tobin'sQ. However, this research is in line with Kodongo et.al (2014), Effendi (2017) that DER has no influence on company value.

The Effect of Long Term Debt to Equity Ratio To Tobin's Q

For variable LDER (X3) it is obtained that t value count equal to -1.608899. Because t count (-1.608899)> - t table (1,974), then H0 is accepted. Therefore, it can be concluded that LDER (X3) partially has no significant influence on Tobin's Q (Y). During the study period 2012-2016 the average LDER of the companies being sampled was 0.311 and as many as 14 companies out of 36 sample companies had LDER above the average sample. This means that during the study period 2012-2016 changes in the LDER financial sampling company did not affect the value of the company.

In average, only few property companies and real estate use long term debt among all samples, this results in no LDER effect on the value of the company. The results of this study is in line with Kodongo *et al.* (2014) that LDER has no influence on company's value

The Effect of Time Interest Earned Ratio Against Tobin's Q

TIER (X4) variable partially does not have significant influence Tobin's Q (Y) with t value count 1.085143, where t arithmetic is (1.085143) <t table (1,974). The use of long-term debt that is not too rapid and based on descriptive analysis seen companies with negative EBIT still put the long-term debt interest payments so that the ratio of TIER does not affect the value of the company.

There is no previous research which concerned on TIER effect on Tobin's, nevertheless former researchers paid attention on the effect of TIER towards profitability represented by ROE with the result that TIER has a positive influence on ROE.

Simultaneous Effect of Debt to Asset Ratio, Debt to Equity Ratio, Long Term Debt to Asset Ratio, Time Interest Earned Ratio Against Tobin's Q

It is obtained from test F performed that Prob value. F arithmetic of 0.000880. Because the value of Prob. F count (0.000880) <0.05, then Ho is rejected. Therefore it can be concluded that simultaneously there is a significant influence between DAR, DER, LDER, and TIER against Tobin's Q. This simultaneous influence means the attachment of all independent variables has an important influence on the dependent variable, supporting the researcher's fifth hypothesis.

Thus companies should pay attention to the policies that affect financial performance so that the influence between DAR, DER, LDER and TIER variables on Tobin's Q ratio does not result in low value of the company. Effendi (2017) performed previous research that saw a simultaneous effect of DAR, DER, LDER and TIER on Tobin's Q.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Research conducted on 36 companies in the Property and Real Estate industry listed on the Stock Exchange during the period 2012-2016, using the technique of multiple linear regression data analysis panel data, could be concluded as follows:

1. Through t Test (Partial Test) can be found out the effect of DAR, DER, LDER and TIER partially on the Company Value measured through Tobin's Q ratio, proved as follows:

    a) DAR (X1) partially has positive and significant influence Tobin's Q (Y) with t value counted 2.723388, where t counted (2.723388)> -t table (1,974).

    b) DER (X2) partially does not have significant influence Tobin's Q (Y) with t value count of -0.782431, where t counted (-0.782431)> - t table (-1.974).

    c) LDER (X3) partially does not have significant influence Tobin's Q (Y) with t value counted -1.608899, where t counted (-1.608899)> - t table (1.974).

    d) TIER (X4) partially does not have significant influence Tobin's Q (Y) with t value count 1.085143, where t counted (1.085143) <t table (1,974).

2. Through Test F (Simultaneous Test) can be observed the significance of an influence of independent variables simultaneously proved that simultaneously there is a significant influence between DAR, DER, LDER, and TIER against Tobin's Q.

3. This research is supported by previous research conducted by Kodongo et.al (2014), Yulsiati (2015), Effendi (2017).

Suggestions

Based on the results of this study, there are several suggestions as follows:

1. Based on the R-squared value it shows the ratio of DAR, DER, LDER and TIER only has 10.1 effect on company's value, therefore for further research other variables that have big influence should be added.

2. Further research can use sample research on different industries or it can be developed by using samples from groups or other indexes listed on the Indonesia Stock Exchange.

3. For the investors if they will invest in the company Property and Real Estate should evaluate the value of the company, if the value of the company is in a good position or increase gradually then the investors have the opportunity to gain profits from their investment and the company will not feel harmed .

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