International Journal of Economics, Business and Management Research

Vol. 2, No. 05; 2018

ISSN: 2456-7760

ANALYSIS OF FACTORS AFFECTING CAPITAL STRUCTURE

Brizan Sena Bagaskoro[1], Ismul Aksan[2]
[1]Faculty of Economic Bussiness, Universitas Sebelas Maret, Indonesia
[2] Faculty of Economic Bussiness, Universitas Sebelas Maret, Indonesia

Abstract
This study aims to determine the analysis of the factors that influence capital structure. Observations in this study are manufacturing companies listed on the Indonesia Stock Exchange in the 2012-2015 periods, there are 106 companies. The results of this study indicate that Profitability (ROA) has a negative and significant effect on Debt to Equity Ratio (DER). Liquidity has a negative and significant effect on Debt to Equity Ratio (DER). Price Earnings Ratio (PER) has a negative and insignificant effect on Debt to Equity Ratio (DER). In addition, it was found that the adjusted R square value was 29.83%. This means that 29.83% of the capital structure movement can be predicted from the movement of the three independent variables.

Keywords: Debt to Equity Ratio (DER), Profitability (ROA), Liquidity (CR), Price Earnings Ratio (PER)

Introduction

Competition in the business world makes a company, especially a manufacturing company, try to increase the value of the company. One of the ways that is done to increase the value of the company through increasing the prosperity of ownership or shareholders. In dealing with these conditions, each company is recommended or required to be able and smart to see and read the situation so that it can manage well to be able to be superior in competition. The company needs capital to conduct its business activities that are used to finance the company's operational activities so that it can live and continue to grow from year to year. The capital used by the company is equity and debt both short-term and long-term debt. Capital structure decisions are decisions related to debt, preferred stock, common stock used by the company, managers must be able to collect capital either from within the company or from outside the company efficiently, in the sense that the decision is able to minimize capital costs that must be borne by the company (Yuke and Handri in Dewi, 2014).

Capital structure is an important problem for the company, good or bad the capital structure of the company has a direct effect on its financial position. The company seeks to give priority to its owners or shareholders. Shareholders by buying shares mean expecting a certain return with minimal risk. With so many returns obtained, shareholders will be interested and share prices will be higher, so that the welfare of shareholders will increase. Aiming to maintain the survival of the company and develop its business. This is done by maximizing the value of the company which means maximizing stock prices by choosing the most appropriate capital structure by balancing the use of debt and equity.

The existence of factors that affect the company's capital structure is very important for the basis of consideration in determining the composition of the company's capital structure. Factors that

Vol. 2, No. 05; 2018

ISSN: 2456-7760

can influence the composition of the company's capital structure include profitability, liquidity, and Price Earnings Ratio.

Profitability is the company's ability to make a profit. Brigham and Houston (2011), that companies with very high returns on investment use relatively small amounts of debt. Companies that have high profitability are able to fund their business activities internally. This is in accordance with the pecking order theory which states that companies tend to use as much internal funding as possible before deciding to use external funding (Estienne and Handyman, 2011).

Liquidity is a ratio measuring a company's ability to pay short-term obligations (Van Horne and Wachowicz, 2007). The liquidity ratio compares short-term debt to short-term resources. The more liquid the company is, the easier it will be to obtain debt financing. This is because the trust of creditors towards the company is quite high, making it easier for creditors to channel their funds to the company. Companies use internal funding sources beforehand in financing their investments (Seftianne and Handyman, 2011). Based on the pecking order theory and also the research conducted by Mardinawati (2011), Priyono (2010), Yuliarti (2011), the higher the level of liquidity of a company, the less likely the company to fund its investments through debt. However, these results contradict research conducted by Sabir and Malik (2012) and Nugroho (2006).

Price Earnings Ratio (PER) is the ratio between stock price (closing) per share to earnings per share (earnings per share). The higher the PER, the company is considered by investors to be better by investors, but also has a high level of risk (Brigham and Houston, 2001). According to Riyanto (2001) PER has a positive influence on DER. According to Van Horne and Wachowicz (2007) the capital structure is a long-term permanent funding mix (proportion) in debt, preferred stock equity and common stock. The capital structure in this study will be proxies by using Debt to Equity Ratio (DER). Research Objectives to determine the analysis of factors that influence capital structure.

Literature review and Hypothesis Development

Profitability Affects Capital Structure

Brigham and Houston (2001) say that companies with high returns on investment use relatively small debt. A high rate of return makes it possible to finance most of the funding needs with funds generated internally. Capital structure decisions directly affect the amount of risk borne by the shareholders and the amount of return or the expected level of profit. Return on assets describes the ability of capital invested in total assets to generate profits for investors. According to Myers (1984) Pecking Order theory states that "Companies with high levels of profitability are actually low in debt, because companies with high profitability have abundant internal funding sources". Companies with high profit levels have high internal funds that can be used for the company's operating activities, so that the debt is low. The first hypothesis of this study is:

H1: Profitability Has a Negative Effecton the Capital Structure

Vol. 2, No. 05; 2018

ISSN: 2456-7760

Liquidity Affects the Capital Structure Liquidity

is how much the company's ability to meet its short-term obligations. Liquidity is one of them measured by a debt ratio which is a ratio that measures the percentage of capital needs spent on debt (Brigham and Houston, 2006). According to Weston and Copeland (1997) Current Ratio is the ratio between current assets and current liabilities. This ratio shows the company's ability to pay its short-term liabilities using its current assets. A high current ratio indicates that the company can use liquid assets as a source of financing so that the liquidity position of a company has a negative relationship with the DER ratio. According to the Pecking Order Theory, the greater the liquidity (Current Ratio) of the company, the lower the capital structure (debt) because the company has a large current asset that has the ability to pay its debt more. With this large current asset, the company would prefer to fund its business activities with its own capital. Then it is suspected that liquidity has a negative influence on the capital structure. There is a negative relationship between liquidity (Current Ratio) and Debt to Equity Ratio (DER). M. Sienly Veronica Wijaya and Bram Radiant (2008) stated that Liquidity has a negative effect on Capital Structure. Then the second hypothesis in this study is:

H2: Liquidity has a negative effect on the Capital Structure

Effect of Peron Capital Structure

Price Earnings Ratio is a comparison of the price of a stock (market price) with earnings per share (EPS) of the stock in question. The usefulness of PER is to see how the market values the performance of a company's stock against the company's performance as reflected by its EPS. The greater the PER of a stock, the more expensive the net share per share its shares (Riyanto, 2001). The increase in PER which was judged by investors showed better performance, also had an impact on attracting prospective creditors. Increasing attention of creditors to the company, it is very possible the amount of debt will increase. An increase in the amount of debt that is relatively large from equity will increase PER (Ang, 1997). This is similar to research conducted by Fitrijanti and Hartono (2002) which states that PER has a negative influence and significance. Towards the capital structure. Therefore the second hypothesis of this study is:

H3: PER negatively affects the Capital Structure

Research Method

Data is processed using Views 9 software; the data is processed by the panel data method. Panel data is a combination of cross section data and time series data. Using panel data, the number of observations that can be used for the sake of population parameter estimation will be even greater. And if the more number of samples used in the study, the level of accuracy of the results of the study will increase. With the application of the panel data estimation process, then individual characteristics can be estimated that can reflect the dynamics of the time between each independent variable. (Baltagi, 2005).

Population and Sample

Vol. 2, No. 05; 2018

ISSN: 2456-7760

Using Purposive Sampling with the Following Criteria:

A. Companies Listed on the Indonesia Stock Exchange for the Period 2012-2014.

B. The Company Is Devoted to Manufacturing With Complete Financial Data.

C. Having a Complete Financial Report in Accordance With the Data Needed.

Selection of Data Processing Methods

Considering the panel data is a combination of cross section data and time series data, the model is formulated as follows.

$$Yit = \alpha + Xit\ ßj + \varepsilon it^2 \qquad (1)$$

In estimating the model parameters with panel data, there are three approaches that can be used, namely the Pooled Least Square, the Fixed Effect Model, and the Random Effect Model. To determine the panel data model that is selected, it is necessary to test several stages, namely.

1. Chow Test, to choose between Pooled Least Square (PLS) and Fixed Effect Model (FEM).
2. Housman Test, to choose between Fixed Effect Model (FEM) and Random Effect Model

The fixed effect approach has the advantage effect of being able to distinguish individual effects and time effects, and in FEM there is no need to assume an error component or not have a correlation with independent variables that may be difficult to fulfill. While the random effects approach has the advantage that it has fewer parameters so that it has a greater degree of freedom compared to FEM (Nachrowi and Us man, 2006). So that in the selection of FEM or REM is done with the consideration through the purpose of analysis. The following is a way to be able to determine in the selection of approaches according to econometrics (Nachrowi and Us man, 2006).

1. If there are a number of individuals greater than the number of coefficients including an intercept, it is recommended to use REM.
2. If the amount of time (T) is greater than the number of individuals (N) it is recommended to use FEM.
3. If the number of individuals (N) is greater than the amount of time (T) it is recommended to use REM

Results

Data Analysis

Table 1 Description of Research Object

Criteria Sample	Total Company

Vol. 2, No. 05; 2018

ISSN: 2456-7760

Manufacturing companies listing on the Indonesia Stock Exchange (IDX) during 2012-2015	196
Number of Companies that use currencies other than the rupiah in financial statements	(47)
Total Observation for 4 years	(106)

To select the panel data used, a Chow test is needed to choose between Pooled Least Squared and Fixed Effect Model and Housman test to choose between Fixed Effect Model and Random Effect Model.

Table 2 Result of Chow Test

Model	*Variable*	*Prob.*
1	DER=ROA+CR+PER Prob > F	0,000***

Information:
*** Significance at level 1%, DER = Dependent variable that describes the structure of the company. ROA = Profitability. CR = Liquidity. PER: Price Earnings Ratio

The value that must be considered in the Chow test is the probability value of the F-statistic. The hypothesis used in the Chow test is as follows.

H0: Pooled Least Squared (PLS)

H1: Fixed Effect Model (FEM)

If the F-statistical probability value is smaller than the significance level α (5%), then reject H0. The F-statistical probability value in this model is 0,000, thus the right panel data method between Pooled Least Squared (PLS) with Fixed Effect Model (FEM) is Fixed Effect Model (FEM). Furthermore, if the Chow test concludes to use Fixed Effect Model (FEM), it is necessary to do a further test, namely the Housman test to choose between Fixed Effect Model (FEM) and Random Effect Model (REM). Following are the results of the Housman test for the Fit model.

Table 3 Result of Housman Test

Model	*Independent Variable*	*Prob.*

1	DER=ROA+CR+PER	Prob > Chi^2	0.0048***

Information:
*** Significance at level 1%, DER = Dependent variable that describes the structure of the company. ROA = Profitability. CR = Liquidity. PER: Price Earnings Ratio

The value that must be considered in the Housman test is the probability value of Chi-Square. The hypothesis used in the Housman test is as follows.

H0: Random Effect Model (REM)

H1: Fixed Effect Model (FEM)

If the Chi-Square probability value is smaller than the significance level α (5%), then reject H0. The Chi-Square probability value of this model is 0.0048. So that the right panel data method between Fixed Effect Model (FEM) and Random Effect Model (REM) is Fixed Effect Model (FEM). Thus, based on the Chow test and Housman test, the right panel data method to be used in this research model is Fixed Effect Model (FEM).

Table 4 Descriptive Statistic

Variable	*Obs*	*Mean*	*Std.Dev*	*Min*	*Max*
DER	106	0.968	1.010	0.000	7.400
ROA	106	8.103	10.057	-10.680	74.840
CR	106	315.740	1422.014	0.000	24712.71
PER	106	24.074	77.618	-237.980	1193.890

Information:
DER = The dependent variable that describes the structure of the company. ROA = Profitability. CR = Liquidity. PER: Price Earnings Ratio

Descriptive statistics from the data used in this study are presented in table 4. From the results of descriptive statistics it can be seen that the lowest value of the DER variable is 0,000, the highest value is 7,400, and the average with a standard deviation is 1,010 which shows the magnitude of the data deviation measured from the average value data or show the magnitude of data distribution in variables. The lowest value of DER comes from PER for 2015 while the highest value comes from CR for 2014. For the ROA variable the highest value is 74,840, the lowest is -10,680, and the average is 8,103 with a standard deviation of 10,057 which shows the amount of data deviation measured from the average value of the data or shows the magnitude of the data distribution in variables. At the highest CR is 24712.71, the lowest value is 0.000. and an average of 315,740 with a standard deviation of 1422,014 which shows the magnitude of the

Vol. 2, No. 05; 2018

ISSN: 2456-7760

distance deviation of the data measured from the average value of the data or shows the magnitude of the distribution of data in variables. At the highest PER PER is 1193,890, the lowest value is -237,980. and an average of 24,074 with a standard deviation of 77,618 which shows the magnitude of the distance of data deviation measured from the average value of the data or shows the magnitude of the distribution of data in variables.

Table 5 Correlation

	DER	ROA	CR	PER
DER	-----			
ROA	-3.190054	------		
	0.0015			
CR	-2.306688	0.124017	------	
	0.0216	0.9014		
PER	-0.474722	-1.112329	0.181429	------
	0.6352	0.2666	0.8561	

Information:
*** Significance at 1% level, ** Significance at 5% level, and * Significance at 10% level. DER = The dependent variable that describes the structure of the company. ROA = Profitability. CR = Liquidity. PER: Price Earnings Ratio

The correlation between the variables used in this study can be seen in table 5. Based on the table shows that the ROA and CR variables have a significant negative correlation to the Capital Structure (DER).

TABEL 6 Analysis of Fixed Model Regression Results

Variable	Predict	Coefisien
C	+/-	1.1285
		(0.0000)
ROA	-	-0.0155*
		(0.0014)
CR		-7.85**

Vol. 2, No. 05; 2018

ISSN: 2456-7760

	(0.0217)
PER	-0.000397
	(0.5255)
Prob	0.001287
Adjusted R-squared	0.029839

Information:
*** Significance at 1% level, ** Significance at 5% level, and * Significance at 10% level. DER = The dependent variable that describes the structure of the company. ROA = Profitability. CR = Liquidity. PER: Price Earnings Ratio

Discussion and Conclusion

Based on the F-test the regression of the DER dependent variable performed using Eviews in the Prob (F-statistic) model has a result of 0.001287 ie the significance value of the model is lower than α = 5% (reject H0). This shows that there are one or more independent variables that affect DER as the dependent variable, so that the independent variables affect the dependent variable together with a 95% confidence level.

Adjusted R-squared value in this model is 0.029839, this shows that the independent variables used in the regression model are able to explain the effect on DER of 2.98%, while the influence of 97.02% is explained by other factors.

The results of this test indicate that ROA, CR is proven to significantly negatively affect the capital structure. For further research, it is recommended to complete the limitations of this study, namely: expected to filter the information coming from the internet so that it is hoped that the information obtained can be competent and more valid.

References

Baltagi, B.H. (2005). *Econometric Analysis of Panel Data*. 3rd. John Wiley & Sons Ltd, Chichester

Bam bang Riyanto. 2001. *Fundamentals of Company Shopping*. BPFE publisher. Yogyakarta

Brigham, Eugene F. and Joel F. Houston. 2011. *Fundamentals of Financial Management*, Issue 11, Translator Ali Akbar Yulianto, Salemabad Empathy, Jakarta.

Dewy, Deny Ingrain Kusuma. 2014. *Analysis of Factors Affecting Capital Structur*e. Essay. Faculty of Economics and Business, Diponegoro University, Semarang

Ghostly, I. (2011). *Application of Multivariate Analysis with IBM SPSS 20*. Semarang: Semarang State University Publishing Agency.

Vol. 2, No. 05; 2018

ISSN: 2456-7760

Mardinawati. 2011. *Factors Affecting Capital Structure in Automotive Companies Registered on the Indonesia Stock Exchang*e. Journal of Business Administration, Vol. 12, No. 3, 1-10.

Myers, S., and N. Majluf, 1984, "*Corporate Financing and Investment Decisions when Firms have Information that Investors do not have."* Journal of Financial Economics 13, 187-221.

Nachrowi, D.N., and Us man, H. (2006). *Econometrics for Economic and Financial Analysis*. Institute of Publishers of the Faculty of Economics, University of Indonesia

Estienne and Ratih Handyman. (2011). *Factors Affecting Capital Structure in a Manufacturing Sector Public Company*. Journal of Business and Accounting, 13 (1), 39-56.

Van Horne, James C. and John M. Wachowicz. 2007. *Fundamentals of Financial Management, Principles of Financial Management*. Jakarta: Salemabad Empathy.

Weston, J. F. and Copeland, T. E. 1997. *Financial Management*, Nine Edition. Jakarta: Literacy Builder Publishers.

Weston J. Fred and Eugene F. Brigham, 1994, *Fundamentals of Financial Management*, Ninth Edition. Jakarta: Erlangen.