Determinants of Capital Structure: Empirical Evidence from the Indonesia Stock Exchange

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Abstract

Capital structure strategy relates to the composition of debt and equity, which will deliver the highest profitability to the companies. To analyze the variables affecting the capital structure, this study utilized yearly financial statements from 2001 to 2015 with the exclusion of 2008, for 136 non-financial public companies listed on the Indonesia Stock Exchange. This study adopted an econometric approach of t-test, correlation coefficient, difference test and descriptive statistics analysis. The variables adopted are net debt-to-equity ratio as the dependent variable, size, profitability, asset structure, liquidity, sales growth and capital expenditure as the independent variable. This study found that for overall market, size, profitability, asset structure and sales growth have a significant relationship with capital structure. On the other hand, this study found no significant relationship between liquidity and capital structure. The findings of this study suggested that the manager should prioritize these four variables in determining the company's capital structure.

Keywords: capital structure, Indonesia, net debt to equity ratio, non-financial companies

1. Introduction

Every economic activity requires capital for its business activities. This capital is needed for the financing of assets, operational activities and for the company's business expansion. Capital needed for every business stage underlies the importance of understanding and implementation of the capital structure. The studies on capital structure aim to explain the proportion of debt and equity used by the companies to finance real investment (Myers 2001). The theory of capital structure by Modigliani and Miller (1958), known as Capital Structure Irrelevance Theory (MM Theory), formed the basis of modern thinking on capital structure. In earlier studies, MM Theory showed that in tough competition and frictionless world, the value of a company is independent of its capital structure. The expansion of MM Theory led to the introduction of other capital structure theories among other the Trade-Off Theory (TOT) and Pecking Order Theory (POT).

TOT asserted that the company can increase its debt level as long as the tax shield is greater than the cost of financial distress. Company following TOT believes that there is an optimal capital structure and will gradually move towards the target debt ratio, this is known as dynamic trade off theory (Myers 1984). Myers (1984) further stated that the company shall substitute debt with equity and equity with debt, until the value of the company is maximized. On the other hand, companies that follow POT would prefer utilizing the company's internal financing than external financing, and when the companies decide to use external financing, the companies will issue the external debt followed by equity as a last resort.

Previous studies in Indonesia adopted to-equity ratio (DER) to measure the capital structure and found varying results relating to the relationship between the independent variables and DER. DER is calculated by dividing total interest bearing debt with the company's book value of equity. However, by including cash and cash equivalent in the capital structure measurement, it shall provide a sharper analysis. This is supported by the argument that in the valuation perspective, the investors do not buy the company's cash. Damodaran (2006) also asserted that in the calculation of debt, many analysts in Europe and Latin America prefer to subtract the cash from the gross debt to arrive at a net debt figure. A decrease in net debt can be resulting from an increase in the cash holdings from the precautionary demand for cash theory, where the companies hold cash as a buffer to protect the companies from cash flow shocks (Bates *et al.* 2009). In addition, cash can be used to pay off the debt, which may explain the reasons for the subtraction of the cash in the company's balance sheet from the value of outstanding debt in order to determine the company's leverage (Lambrecht & Pawlina 2013).

Based on the aforementioned argument, this study aimed to analyze the variables affecting the capital structure for non-financial companies listed on the IDX by adopting net debt-to-equity ratio to measure the capital structure of non-financial companies listed on the Indonesia Stock Exchange (IDX).

2. Literature Study

2.1 Capital Structure

Capital structure is defined as the combination of various sources of debt and equity financing used by the

companies to finance business activities, and business growth. The capital structure is important due to differences in tax implication between debt and equity as well as the tax impact on the company's profitability. When the company decides to issue debt, the company must be careful not to issue too many debts to avoid excessive risks and the likelihood of financial distress or bankruptcy. Debt level above the average range lower the cost of capital due to the declining cost of capital from debt (compared to the cost of capital from equity) that is added to the capital structure. However, the increasing debt levels above its average range may increase the rate of the return required by the shareholders and this shall result in an increase of the overall cost of capital (Bringham & Ehrhardt 2008).

The commonly used measurement of capital structure is DER. This ratio shows the proportion of debt and equity in the financing of assets. High DER indicates that the company has been aggressively pursuing a loan to support business growth of the company. This will increase the interest cost that will caused the net income fluctuation. However, this may not necessarily means a bad thing as the use of DER should consider the industry where the company operates. For certain industries, high DER may be common while it may not be common for companies operating in different industries. Therefore, high or low DER shall be compared with the companies operating within the same industry.

In capital structure decision making, the management is faced with cost and benefit analysis associated with the use of debt and equity. If the company uses high debt level in financing its operation, the company's profit will also increase. If the increase in profit is higher than the interest costs incurred, shareholders will receive a higher profit. On the other hand, if the interest costs increase is higher than the profits generated, this will result in financial difficulties or bankruptcy. This shall explained the importance of understanding the role of debt and equity composition in capital structure.

2.1.1 Capital Structure Irrelevance Theory

MM Theory is also known as Capital Structure Irrelevance Theory, stated that in a world without tax, the value of a company is independent to its capital structure. Thus, all composition of capital structure is equivalent because the cost of capital remains unchanged, regardless of its capital structure. Furthermore, MM Theory also stated that considering the corporate income tax, the value of a company increases with the increasing leverage. Leverage is the representative of the level of use of debt in the capital structure of the company. When the companies make loans or issue debt, these loans and debt issuance will increase leverage. The leverage is useful when the company using funds generated with fixed costs and generates greater profits than the fixed costs incurred by the company (Beck & Levine 2002). The expansion of MM Theory led to the introduction of other capital structure theories, which includes among other TOT and POT.

2.1.2 Trade Off Theory

MM Theory continues to be the center of debate and controversy. One of the criticisms of the MM Theory is the existence of financial distress, which will result in the emergence of bankruptcy if the company continues to increase its debt. The higher the company's debt level, the higher is the interest costs to be paid. The yield expected by the investors will certainly be higher than the previous interest rate, as the company continues to increase its debt level. This will lower the company's net income and eventually will lead to financial distress. Stiglitz (1969) initiated the concept of TOT, where firms trade off the benefits of debt against the cost of debt (costs of financial distress), holding the company's assets and investment plan constant. The costs of financial distress include the legal and administrative costs of bankruptcy, agency, and moral hazard, monitoring and contracting costs, which can reduce the value of the company. This theory recognizes the tax benefit generated by the payment of interest because this interest payments act as a tax deduction to the net income. In other words, the actual cost of debt is lower than the nominal cost of debt due to the tax benefits received by the company.

2.1.3 Pecking Order Theory

The companies are said to follow POT when the companies prefer internal financing than external financing. When the external financing is chosen, the companies will issue the safest security first that is external debt and equity as a last resort. In this case, there is no well-defined target debt-equity mix as there are two types of equity being internal financing at the top of the pecking order and external financing at the bottom of the pecking order. Donaldson (1961) observed that "Management strongly favored internal generation as a source of new funds even to the exclusion of external funds except for occasional unavoidable 'bulges' in the need for funds". The study further mentioned that in a case where the company needs external financing, managers rarely thought of issuing stock.

2.2 Research Variables

The dependent variable adopted in this study is net debt-to-equity ratio (Net DER). For the independent variables, this study adopted size, profitability, asset structure, liquidity, sales growth and capital expenditure.

2.2.1 Net DER

To measure the capital structure, generally, the measurement used is the ratio of interest bearing debt to equity. However, as mentioned by Damodaran (2006), many analyst in Europe and Latin America prefer to subtract the

cash from the gross debt to arrive at a net debt figure. He further stated that there is no conceptual problem with net debt approach, however for the calculation purpose, it should remain consistent.

A decrease in net debt can be due to an increase in the cash holdings that is resulting from the precautionary demand for cash theory, where the companies hold cash as a buffer to protect the companies from cash flow shocks (Bates *et al*. 2009). In addition, cash can be used to pay off the debt, which may explain the reasons for the subtraction of the cash in the company's balance sheet from the value of outstanding debt in order to determine the company's leverage (Lambrecht & Pawlina 2013). Based on the aforementioned argument, this study adopted Net DER as the dependent variable.

Damodaran (2002) stated that for a review of the long term solvency, the calculation of DER only incorporate long term debt. Considering that the company can roll over short term debt and company can funded long term project using short term debt, the use of only long term debt in the calculation of debt may mislead the company. Hence, in the calculation of interest bearing debt of the company, this study used both long term and short term interest bearing debt. Net DER is calculated by dividing total interest bearing debt; both long term and short term debt; minus cash and cash equivalent with book value of equity

2.2.2 Size

Size is one of the important factors on capital structure for several reasons: 1) large companies have cheaper financing cost than small companies, 2) large companies tend to have a diverse source of financing, 3) the company's size act as a proxy for the volatility of the company's assets, 4) the degree of information asymmetry between insiders and investors in capital market is lower for large companies, which is due to closer scrutiny by regulators and investors. The size of the company is the log natural company's total assets.

TOT asserted that big companies are more reliable in the capital market and depends on debt in financing their day-to-day operation (Bhaduri 2002). While POT asserted that big companies have sufficient levels of internal sources, and they prefer to use internal financing sources than external financing sources. TOT predicted a positive relationship, while POT predicted a negative relationship between size and leverage.

2.2.3 Profitability

POT stated that the company with high profitability tend to use retained earnings as a source of funding and hence a negative relationship between profitability and leverage. On the other hand, TOT asserted that profitability and leverage has a positive relationship as the use of retained earnings will reduce the costs of financial distress caused by the funding through debt and will increase its leverage through debt capacity obtained from good credit rating. High profitability companies have the capacity for a higher level of debt and therefore able to take the advantage of debt tax shields (Fama & French 2002). These companies have higher likelihood in meeting the obligation for the repayment of debt and interest responsibilities and less probability of default. The profitability is measured by return on equity (ROE), calculated by dividing net profit with book value of equity.

2.2.4 Asset Structure

The asset structure is measured by a ratio of fixed assets to its total assets. The more assets the company has in the form of fixed assets, the more assets that can be used as collateral (Titman & Wessels 1988). Harris and Raviv (1991) asserted that the larger share of tangible assets increases the liquidation value of the asset as it constitutes as collateral in a case of bankruptcy. TOT predicted a positive relationship, while POT predicted a negative relationship between asset structure and leverage.

2.2.5 Liquidity

Liquidity shows the company's ability to meet short-term obligations by using short-term assets. The company's liquidity is measured by current ratio, calculated by dividing current assets with current liabilities. According to POT, the relationship between liquidity and leverage is negative. Companies with more liquid assets tend to use internal financing than external financing. On the other hand, TOT asserted a positive relationship between liquidity and leverage. High liquidity ratio shows higher ability of the companies to meet its short-term liabilities.

2.2.6 Sales Growth

As the company's grow, the financing requirement are also increase. If the company only rely on internal funds for financing, the growth may be restricted. According to TOT, company with higher growth opportunities have a lower debt level because the higher the growth opportunities, the higher is the agency problems between the managers/ owners with creditors. On the other hand, Myers (1984) states that companies with higher growth opportunities tend to have higher likelihood of bankruptcy and therefore companies can be reluctant to increase the amount of debt they have so as not to increase the bankruptcy level. The company's growth is measured by sales growth.

2.2.7 Capital Expenditure

Following Harris and Raviv (1991) on the model of capital structure that used the theory of the industrial organization, there are other strategic variables that would be useful to be explored. One of the variables include the research and development expenditure (R&D). O'Brien (2003) asserted that R&D investments are clearly one of the driving forces on company's innovative competitive strategy. The impact of R&D investments

on capital structure has been one of the research subjects with several studies evidencing a positive relationship and others a negative relationship.

For the purpose of this study the research and development expenditure is represented by the capital expenditure. Capital expenditures are the costs incurred by the company to acquire or increase number of fixed assets such as property, machinery, factory buildings or equipment. These charges are often used to carry out new projects or investments made by the company. These charges are important as it acts as among other, as an indicator of whether the company is in a growth phase or not, whether the company is implementing an aggressive strategy and whether the company is trying to increase its market share. In addition, capital expenditure is important because it is directly related to the company's capital structure in relation to the financing of the capital expenditure. For example, if a company plans to increase its market share, the company needs to increase the amount of production, which can be done by building a new plant. Financing the plant can be done by using 100% financing through equity or debt component. The capital expenditure is the log natural of company's capital expenditure.

2.3 Research Hypotheses
The hypotheses of this study are as follow:
Alternative Hypothesis 1:
HA_1: Size affects the capital structure.
Alternative Hypothesis 2:
HA_2: Profitability affects the capital structure.
Alternative Hypothesis 3:
HA_3: Asset structure affects the capital structure.
Alternative Hypothesis 4:
HA_4: Liquidity affects the capital structure.
Alternative Hypothesis 5:
HA_5: Sales growth affects the capital structure.
Alternative Hypothesis 6:
HA_6: Capital expenditure affects the capital structure.

3. Research Method
This quantitative study is conducted in Indonesia, using an econometric approach of t-test, correlation coefficient, difference test and descriptive statistics analysis. This study used yearly financial statement from 2001 to 2015, with the exclusion of year 2008, collected from the companies' official website, Prospectus and Bloomberg database.

As of December 30, 2015 there were 521 companies listed on the IDX. The companies that qualified for this study must meet the following criteria: 1) availability of yearly financial statements from December 2001 to December 2015, 2) availability data to calculate Net DER, size, profitability, asset structure, liquidity, sales growth and capital expenditure. After the screening process, the number of non-financial companies qualified for this study is 136 companies.

3.1 Empirical Model
To determine the independent variables relationship with the capital structure, this study combined variables from several previous studies (Upneja & Dalbor 2001, Abor 2005, Tang & Jang 2007, Yau *et al*. 2008, Karadeniz *et al*. 2009, Joni & Lina 2010, Margaritis & Psillaki 2010, Gill *et al.* 2011, Charalambakis & Psychoyios 2012, Javed & Akhtar 2012, Butt 2013, Purnomosidi 2014, Alnajjar 2015, Skoogh & Sward 2015) to obtain the estimated equation as follow:

$$NET\ DER_{i,t} = \alpha + \beta_1 SIZE_{i,t} + \beta_2 PROF_{i,t} + \beta_3 AS_{i,t} + \beta_4 LIQ_{i,t} + \beta_5 SGR_{i,t} + \beta_6 CAPEX_{i,t} + \varepsilon_{i,t} \qquad (1)$$

Where $NET\ DER_{i,t}$ is the net debt-to-equity ratio for company i at period t, $SIZE_{i,t}$ is the size for company i at period t, $PROF_{i,t}$ is the profitability for company i at period t, $AS_{i,t}$ is the asset structure for company i at period t, $LIQ_{i,t}$ is the liquidity for company i at period t, $SGR_{i,t}$ is the sales growth for company i at period t, and $CAPEX_{i,t}$ is the asset structure for company i at period t.
The operationalization of the variables is as follow: 1) net debt-to-equity ratio – total interest bearing debts less cash and cash equivalent /book value of equity, 2) size – ln (total assets), 3) profitability – net profit/ book value of equity, 4) asset structure – fixed assets/ total assets, 5) liquidity – current assets/ current liabilities, 6) sales growth – Δsales/sales$_{t-1}$, 7) capital expenditure – ln (capex).

4. Empirical Results and Discussion

4.1 Descriptive Statistics

Table 1. Descriptive Statistics

	NET DER	SIZE	PROF	AS	LIQ	SGR	CAPEX
Mean	1.1378	14.0421	0.1720	0.3921	3.1998	0.6616	10.3737
Median	0.2264	13.9890	0.0859	0.3628	1.6196	0.1119	10.4971
Maximum	899.6929	19.3185	202.4226	0.9626	464.9844	661.6465	17.0967
Minimum	-1.6655	6.3398	-11.8397	0.0000	0.1528	-0.9944	0.0000
Obs	1,904	1,904	1,904	1,904	1,904	1,904	1,904

Table 1 shows that the Net DER has an average of 1.1378, which means that the net debt for the companies is 113.78% of its book value of equity. The finding showed that SIZE has an average of 14.0421, PROF 17.20%, AS 0.3921, LIQ 3.1998, SGR 66.16, and CAPEX 10.3737. Table 1 also shows that Net DER, profitability, liquidity and sales growth have large discrepancy between the mean and the median figures. This was caused by the extraordinary high maximum numbers in the data set. The outliers were not omitted from the data analysis because it happened in a specific year for a certain number of companies within a period of the study.

4.2 Correlation Coefficient

The r-value of +1 show that there is a perfect degree of association between two variables or a perfect positive correlation. On the other hand, r-value of -1 shows a perfect negative correlation between the two variables.

Table 2. Correlation Coefficient Between Variables

	NET DER	SIZE	PROF	AS	LIQ	SGR	CAPEX
NET DER	1.0000						
SIZE	0.0209	1.0000					
PROF	0.9795	0.0327	1.0000				
AS	0.0635	0.1555	0.0479	1.0000			
LIQ	-0.0066	-0.0487	-0.0014	-0.1400	1.0000		
SGR	0.0246	0.0073	-0.0052	-0.0035	-0.0010	1.0000	
CAPEX	0.0044	0.7645	0.0185	0.2502	-0.1440	-0.0061	1.0000

Table 2 shows that SIZE has r-value of 0.0209, this showed a weak uphill (positive) linear relationship. PROF has a strong uphill (positive) linear relationship with 0.9795 r-value. The correlation results for AS, SGR and CAPEX are similar with SIZE having a weak uphill (positive) linear relationship with 0.0635, 0.0246 and 0.0044 r-value respectively. While LIQ has a weak downhill (negative) linear relationship with -0.0065 r-value.

The finding of this study suggested that PROF is the only variable that showed a strong linear relationship with Net DER, while other variables showed weak relationship. An increase in the value of all variables except LIQ, increased the value of Net DER, while for LIQ, the value of Net DER increased as the value of LIQ decreased.

4.3 Panel Data

4.3.1 Panel Data Test

Prior to regression of panel data, there are three tests adopted to determine the model that best suits the research purpose. The tests are Likelihood Ratio Test, Hausman Test and Langrange Multiplier Test.

Likelihood Ratio Test (LRT)

LRT is used to select which model is more appropriate between Common Effect Model (CEM) and Fixed Effect Model (FEM). If the p-value ≤ 0.05, we reject null hypothesis. On the other hand, if the p-value > 0.05, we do not reject null hypothesis. In this case the null hypothesis is CEM and alternative hypothesis is FEM.

Table 3. Likelihood Ratio Test Result

	Statistics	d.f.	Prob.
Cross-section F	2.9719	-1,351,762.0000	0.0000

Table 3 shows that p-value is $0.0000 \leq 0.05$, therefore we reject null hypothesis and the appropriate model is FEM.

Hausman Test (HT)

HT is used to select which model is more appropriate between FEM and Random Effect Model (REM). If the p-value ≤ 0.05, we reject null hypothesis. On the other hand, if the p-value > 0.05, we do not reject the null hypothesis. In this case the null hypothesis is REM and alternative hypothesis is FEM. Therefore, if p-value ≤ 0.05, the chosen model is FEM while p-value > 0.05, the chosen model is REM.

Table 4. Hausman Test Result

	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	16.3111	6.0000	0.0122

Table 4 shows that p-value is $0.0122 \leq 0.05$, therefore we reject null hypothesis and the appropriate model is FEM.

Langrange Multiplier Test (LMT)
LMT is used to select which model is more appropriate between CEM and REM. Since the two tests above showed FEM is the appropriate model therefore this study did not run the LMT.

4.3.2 Ordinary Least Square Assumption Test
Following panel data test, this study test the three ordinary least square (OLS) assumptions of multicollinearity, heteroscedasticity and autocorrelation. If the multicollinearity exist in the regression model, the OLS estimators still retain the property of best linear unbiased estimator (BLUE). Unlike multicollinearity, the existence of heteroscedasticity and autocorrelation will not result in BLUE.

To detect multicollinearity, this study look at the correlation coefficient between variables. Table 2 shows that there is a high correlation between variable capital expenditure and size. To treat this problem, this study removed variable capital expenditure from the estimated regression model.

This study adopted White method for heteroscedasticity test, and Breusch-Godfrey method for autocorrelation test. The OLS result for heteroscedasticity test is shown in Table 5 and autocorrelation test in Table 6.

Table 5. White Test Result with Cross Term

Heteroscedasticity Test: White			
F-statistic	162.8173	Prob. F	0.0000
Obs*R-squared	1,206.3950	Prob. Chi-Square	0.0000

Table 6. Breusch-Godfrey Serial Correlation LM Test Result

Breusch-Godfrey Serial Correlation LM test			
F-statistic	118.7752	Prob. F	0.0000
Obs*R-squared	211.9922	Prob. Chi-Square	0.0000

Table 5 and 6 shows that the p-value $0.00 \leq 0.05$, therefore it shall be concluded there were heteroscedasticity and autocorrelation problem.To ensure that the estimator has BLUE characteristics, these two problems are treated using Heteroscedasticity and Autocorrelation Consistent Covariance Matrix (HAC), shown in Table 7. After performing HAC, t-test can be performed.

Table 7. HAC Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.0092	0.9302	2.1600	0.0309
SIZE	-0.1649	0.0634	-2.6024	0.0093
PROF	4.3602	0.0883	49.3970	0.0000
AS	1.7441	0.4026	4.3321	0.0000
LIQ	-0.0048	0.0038	-1.2642	0.2063
SGR	0.0387	0.0049	7.8593	0.0000
R-squared				0.9608

4.4 Empirical Result
4.4.1 Overall Market
Table 7 shows that SIZE, PROF, AS and SGR have p-value ≤ 0.10 with 0.0093, 0.0000, 0.000 and 0.0000, respectively. Therefore, the null hypothesis is rejected implying there is a significant relationship. On the other hand, LIQ has p-value > 0.10 with 0.2063. Therefore, the null hypothesis is not rejected and there is no significant relationship between liquidity and capital structure. The output estimate of the empirical model is as follow:

Net DER = 2.0092 - 0.1649 SIZE + 4.3602 PROF + 1.7441 AS – 0.0048 LIQ + 0.0387 SGR

Table 7 shows that the coefficient of determination (R-squared) is 0.9608, implying that the model explains 96.08% variability of the response data around its mean. The result of the estimated model for overall market is as follow:
- Constant

The constant value from the estimated model of 2.0092 showed that without the independent variables influence, the Net DER value is 2.0092.
- Coefficient of SIZE

This study found that SIZE has a negative significant relationship to capital structure. The finding of this study

did not support the findings from several previous studies on capital structure (Joni & Lina 2010, Karadeniz *et al.* 2009, Tang & Jang 2007, Upneja & Dalbor 2001) where it found that SIZE does not significantly affect the capital structure. The finding of this study supported the POT argument where large size companies allow the companies to accumulate the retained earnings and less debt is needed relatively to smaller size companies, hence the negative relationship.

- Coefficient of PROF

The coefficient PROF has a value of 4.3602, which showed that an increase of one unit, ceteris paribus, will increase Net DER by 4.3602. This study found that profitability has a positive significant relationship with capital structure. This is consistent with several studies (Abor 2005, Yau *et al.* 2008, Margaritis & Psillaki 2010, Gill *et al.* 2011, Purnomosidi 2014). This study supported the TOT argument where profitable companies may prefer debt as it increases the companies value due to its tax shield, hence the positive relationship.

- Coefficient of AS

The coefficient AS has a value of 1.7441, which showed that an increase of one unit, ceteris paribus, will increase Net DER by 1.7441. This study found that asset structure has a positive significant relationship with capital structure. This is consistent with Skoogh and Sward (2015) and Charalambakis and Psychoyios (2012). This study supported TOT argument where the positive relationship exists because the tangible assets could be used as collateral for debt holders. The tangible assets tend to reduce the financial distress cost and this increases creditors' confidence in providing loans to companies with high tangible assets than companies with low tangible assets (Skoogh & Sward, 2015).

- Coefficient of LIQ

Table 7 shows that there is no significant relationship between liquidity and capital structure. The findings of the study is consistent with Butt (2013).

- Coefficient of SGR

The coefficient SGR has a value of 0.0387, which showed that an increase of one unit, ceteris paribus, will increase Net DER by 0.0387. This study found that sales growth has a positive significant relationship with capital structure. The finding is consistent with Alnajjar (2015) and Javed and Akhtar (2012). This study supported TOT argument where The greater the sales growth, the greater is the debt incurred by the company as the company with relatively stable sales are easier to obtain loans from creditors (Brigham & Houston, 2010).

4.4.2 Individual Industry

In addition to the overall market analysis, this study also analyzed the determinants of capital structure for the individual industry as the characteristics of the company between industries differ.

- Coefficient of SIZE

Table 8. FEM Result: SIZE

Variable	Industry	Coefficient	Prob.
SIZE	Agriculture	-0.7425	0.0099
	Basic industry and chemicals	0.1878	0.6840
	Consumer goods	0.2282	0.2420
	Infrastructure, utilities and transportation	-0.1102	0.1596
	Mining	1.8577	0.0001
	Miscellaneous	-0.1334	0.7439
	Property, real estate and building construction	0.0542	0.4745
	Trade, services and investment	0.2172	0.0015

Table 8 shows that agriculture, mining and trade, services and investment industry have p-value ≤ 0.10 with 0.0099, 0.0001 and 0.0015, respectively. On the other hand, basic industry and chemicals, consumer goods, infrastructure, utilities and transportation industry, miscellaneous industry, property, real estate and building construction industry have p-value > 0.10 with 0.6840, 0.2420, 0.1596, 0.7439 and 0.4745, respectively. The finding of this study highlighted that the significant relationship between variable size and capital structure are evidenced in agriculture, mining, and trade, services and investment industry.

- Coefficient of PROF

Table 9. FEM Result: PROF

Variable	Industry	Coefficient	Prob.
PROF	Agriculture	-0.5613	0.0003
	Basic industry and chemicals	4.4153	0.0000
	Consumer goods	-5.3709	0.0000
	Infrastructure, utilities and transportation	-0.2887	0.0050
	Mining	-7.5852	0.0000
	Miscellaneous	-4.0824	0.0000
	Property, real estate and building construction	-1.2676	0.0000
	Trade, services and investment	-1.5577	0.0000

Table 9 shows that all industries have p-value ≤ 0.10, therefore we reject null hypothesis and we can conclude that for all industries, there is a significant relationship between profitability and capital structure.

- Coefficient of AS

Table 10. FEM Result: AS

Variable	Industry	Coefficient	Prob.
AS	Agriculture	-3.5235	0.0525
	Basic industry and chemicals	-2.1671	0.2127

Table 10. FEM Result: AS (cont.)

Variable	Industry	Coefficient	Prob.
	Consumer goods	0.6171	0.3404
	Infrastructure, utilities and transportation	0.7936	0.0062
	Mining	2.0432	0.2708
	Miscellaneous	-6.2027	0.0001
	Property, real estate and building construction	0.6116	0.0011
	Trade, services and investment	-0.5323	0.1661

Table 10 shows that infrastructure, utilities and transportation industry, miscellaneous industry and property, real estate and building construction industry have p-value ≤ 0.10 with 0.0062, 0.0001 and 0.0011, respectively. While agriculture industry shows a significant relationship at 10% significance level. On the other hand, other industries such as basic industry and chemicals, consumer goods, mining, and trade, services and investment industry have p-value > 0.10 with 0.5642, 0.8434, 0.5946, 0.1204, and 0.4365, respectively. The finding of this study highlighted that the significant relationship between variable asset structure and capital structure are evidenced in agriculture industry, infrastructure, utilities and transportation industry, miscellaneous industry, and property, real estate and building construction industry.

- Coefficient of SGR

Table 11. FEM Result: SGR

Variable	Industry	Coefficient	Prob.
SGR	Agriculture	-0.5471	0.4039
	Basic industry and chemicals	0.0343	0.8451
	Consumer goods	0.4963	0.0942
	Infrastructure, utilities and transportation	-0.4145	0.0037
	Mining	0.0152	0.0039
	Miscellaneous	-0.3765	0.6119
	Property, real estate and building construction	0.0900	0.0413
	Trade, services and investment	-0.0136	0.3726

Table 11 shows that consumer goods, infrastructure, utilities and transportation industry, mining industry and property, real estate and building construction industry have p-value ≤ 0.10 with 0.0037, 0.0039 and 0.0413, respectively. On the other hand, agriculture industry, basic industry and chemicals industry, miscellaneous industry, and trade, services and investment industry have p-value > 0.10 with 0.4039, 0.8451, 0.6119 and 0.3726, respectively. The finding of this study highlighted that the significant relationship between variable sales growth and capital structure are evidenced in consumer goods industry, infrastructure, utilities and transportation industry, mining industry, and property, real estate and building construction industry.

5. Conclusion

This study assessed and observed the variables affecting the capital structure, in this case Net DER. This study highlighted that there are four variables affecting the capital structure, namely size, profitability, asset structure and sales growth. Firstly, for size, from overall market perspective, the findings suggested that size has a

negative significant relationship with capital structure. For individual industry, this study evidenced a significant relationship for agriculture, mining, and trade, services and investment industry. Unlike overall market with negative significant relationship between size and capital structure, the findings for these three industries varies. It shall be concluded that from overall market perspective, the findings of this study give support to POT, while from individual industry, the result varies.

Secondly, for profitability, from both overall market and individual industry perspective, the findings showed a significant relationship between profitability and capital structure. The findings of profitability for overall market is consistent with TOT, where it predicts a positive relationship with capital structure. This is supported by the argument that the theory recognizes the tax benefit generated by the payment of interest because this interest payments act as a tax deduction to the net income, which will then increases the profitability of the company.

Thirdly, for asset structure, from overall market perspective, the findings of asset structure suggested a positive relationship with capital structure. The plausible explanation is that the tangible assets tend to reduce the financial distress costs as it has a higher secondary market value and in the event of bankruptcy, these assets can quickly be sold in the market. This increases creditors' confidence in providing loans to the companies with high tangible assets than companies with low tangible assets. Furthermore, the finding of this study supported the TOT, where the theory predicted a positive relationship between asset structure and capital structure.

Last but not the least, for the sales growth, from overall market perspective, the findings suggested a positive relationship with capital structure. As the sales growth increases, the greater is the debt incurred by the company as the company with relatively stable sales are easier to obtain loans from creditors. The finding of this study supported the TOT. Furthermore, the findings of this study suggested that the manager should prioritize these four variables in planning their capital structure.

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