Determinants of Capital Structure: Evidence from Listed Indonesian Companies

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ABSTRACT

Capital structure of a company determines its value, based on capital structure theories it can be influenced by several determinants on company, industry, and country level. This paper examines the capital of Indonesian company based on company-level determinants by analyzing 693 firm-year operations. Using Ordinary Least Square regression method, the paper tested which company-level factors of tradeoff and pecking order theories that have influence the capital structure in the country. The result shows that determinants profitability and liquidity both have significant relationships as expected by pecking order theory, while non-debt tax shield did not provide strong relationship, and tangibility and size showed an inversed relationship as tradeoff theory suggested.

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1. INTRODUCTION

Capital structure can be defined as the use of debt or equity or the mix of both to finance a company's operations or investments (Laux, 2011). The optimal capital structure of companys has been broadly studied since Modigliani and Miller's (1958) paper that proposed company's value is unaffected by a company's capital structure in a perfect capital market; but with an imperfect capital market, capital structure turns into an important determinant as companys need to decide when to use equity, debt, or a combination of both. Many modern theories of capital structure developed on the base of Modigliani and Miller's proposition, including tradeoff theory, pecking order theory, agency theory, signaling theory, and tax-based theory (Deesomsak, Paudyal, Pescetto, 2004; DeAngelo, and Masulis, 1980; de Jong, Kabir, and Nguyen, 2008; Wiwattanakantang, 1999).

One theory is the tradeoff theory, which predicts a company will reach a certain level of capital structure to balance the benefit of costs and debts (Tanimura, 2001). The pecking-order theory was developed later; the theory was developed on basis of asymmetric information that explains companies' preference for internal financing or for debt over equity (Myers & Majluf, 1984). The theory suggests that the financial structure of a company follows a hierarchy model from internal financing to external financing, because of the asymmetric information and signaling problem associated with external financing (Shyam-Sunder, & Myers, 1999).

Capital structure can be resolved on the basis of variables from company-level, industry-level, and country-level determinants. This study will test on company-level determinants, using variables from Tradeoff theory and Pecking-order theory. Table 1 and table 2 present a brief summary of previous empirical studies about capital structure in different countries with the model used in each study, which will be used as comparison for the results of this study. Table 1 and table 2 showed that pecking order and tradeoff theories are the most commonly used theories of capital structure in previous empirical studies; hence this study will likewise follow the same method using tradeoff and pecking-order theories.

While there have been numerous researches on capital structure, a large majority of the previous studies focused on the US and other developed economies. Table 2 shows similar studies with focus on developing economies. As is shown on Table 1, studies of capital structure on Indonesian companies have been very limited. Most recent study by Achsani et al. (2014), focus on the industry level determinants. While de Jong et al. (2008) partly studied capital structure of Indonesian companies among other countries, focusing company-level determinants using an older data compare to this paper.

Table 1: Previous Studies on Capital Structure of Indonesian Companies (Specifically or Partially Studied)

Authors	Ang, Fatemi, Tourani-Rad (1998)	de Jong et al (2008)	Achsani et al (2014)
Theories Used	PET	Various theories	TOT
Determinants Variables	Industry level	Company level	Industry level

The focus on Indonesian companies is particularly interesting as the country's economy has been constantly growing above 5% rates since 2005, with the exception of 2009 when the growth dropped to 4.6%[1] following the global recession. Both state-owned and private companies play important roles in shaping the country's economy. The country was one of the few G20 countries that managed to grow and was not significantly affected by the global recession in 2008 because of the relatively low dependability on US banks and export, making it relatively immune on lower global demand. This opens an opportunity to test whether Indonesian companies' company-specific determinants have the same level of significance as other studies found.

Thus the appropriate research question will be:

"What company-level determinants influence the capital structure of Listed Indonesian companies?"

The research question will be explained by investigating data from listed Indonesian companies from year 2010 to 2013. As of March 15, 2015 there are 507 listed, however the number the scope of the study will be narrowed down to 263. The time frame is selected from the post-global financial crisis. The time frame is further influenced by a large number of data missing in the past 2 years, thus is limited to year 2010 to 2013.

Although capital structure is one of the most debated and frequently studied topics in finance, the concept however, still opens many rooms for further studies. With many focused on developed economies, more recent studies change their focused towards developing economies as is shown in table 2. Achsani et al. (2014) studied the industry-level determinants in the country using variables of tradeoff theory, they found that their variables to be 'statistically significant' to the capital structure. While de Jong et al. (2008) studied capital structure of multiple countries around the world by testing company-level determinants. This paper contributes in the same manner as previous papers on table 2 from Indonesian perspective, using a more recent data in comparison to de Jong et al. (2008), and Ang, Fatemi, and Tourani-Rad, 1997).

The rest of this paper is coordinated into several sections. Firstly, section 2 provides literature review of trade-off theory, and pecking-order theory, in addition to an overview of Indonesian capital market, along with company-specific determinants of both theories that are used in the subsequent analysis. Additionally expected hypothesis will be deployed within each associated theory. Section 3 covers the methodology, data and measurement of the variables, followed by section 4. Section 4 presents the results of bivariate analysis using Pearson's correlation and subsequently followed by multivariate analysis with ordinary least square regression method. The section will further cover the discussion of the results and is concluded in section 5 together with implications of the study and suggestions for further research.

Table 2: Previous Studies on Capital Structure of Developing Economies

Authors	Wiwattanakantang (1999)	Huang and Song (2006)	Chakraborty (2010)	Chen et al (2013)	Igbinosa and Chijuka (2014)
Country Investigated	Thailand	China	India	Taiwan	Nigeria
Theories used	Agency Cost, TOT, Signalling, Tax-Based	TOT and POT	TOT and POT	POT and MTT	TOT and POT

2. LITERATURE REVIEW

This section will cover the underlying theory of capital structure, which will be followed by pecking order theory and tradeoff theory. Subsequently followed by the development of expected relationships and hypothesis of dependent variable Leverage and independent variables related to each theory to answer the initial research question. Ultimately this part will be ended by an overview of Indonesian capital market.

The development of modern capital structure theory was started with the highly venerated paper from Modigliani and Miller (1958) that states a company's value is irrelevant to its capital structure in a market with no imperfections. In an imperfect market nonetheless, capital structure turns into an important factor determining a company's value (Deemsomsak et al., 2004). With imperfections such as taxes, bankruptcy costs, information asymmetric and transactions costs, some theories are developed to explain which source of financing that companies prefer to be used. These theories include agency cost theory, pecking order theory, and tradeoff theory. However, since the focus of this paper will be pecking order and tradeoff theories, thus agency cost theory is ignored.

2.1 Pecking-Order Theory

It is well known that companies can get three sources of financing, namely retained earnings, debt, and equity. The pecking order theory states that a company prefers to choose internal source (retained earnings) of financing to external sources (debt and equity). However, when external funding is seemed to be required, the company will prefer to issue debt to equity. This behavior is associated to the degree of information of cost of debt is lower than equity (Frank, & Goyal, 2003). Thus based on this theory, companies will maximize the use of their liquid assets and see external financing as the last source of financing. Myers (2001) explained that this preference is motivated, as managers would want to reveal as least information about the company as possible, subsequently favoring internal financing over external.

1. Profitability

In accordance to pecking order theory, a more profitable company will use their retained earnings first to finance their investment before making use of bonds or equity. A negative relationship is expected between profitability and company's leverage. Many studies finding can be used to back this expected relationship, including Shyam- Sunder & Myers (1999) who found that companies that are more profitable tend to lower their debt ratios. Supporting Shyam- Sunder & Myers (1999), both Rajan and Zingales (1995) and Titman & Wessels (1988) also found negative relationship between both variables.

Hypothesis 1: Profitability will be negatively related to company's leverage

2. Liquidity

In relation to Pecking-order theory, a company values internal financing more than external financing, thus a company with high liquidity is expected to borrow less. Thus the expected relationship between company's leverage and liquidity is negative. Deesomsak et al. (2004) further explained that liquid assets could be manipulated in favor of shareholders; despite the possible opposite interest of debt holders thus increase the agency cost of debt.

Hypothesis 2: Liquidity will be negatively related to the company's leverage

2.2 Trade-Off Theory

As Modigliani and Miller (1958) proposition that stated the use of debt and equity is equal alternatives for each other in a market with no imperfections such as no tax imposed, no transaction costs, and all information provided are credible; making capital structure independent from a company's value. However in an imperfect market, capital structure becomes an important determinant of a company's value. The static tradeoff theory proposed that a company's leverage is determined by trading off the benefits and costs of borrowing (Myers, 1984). On one hand, the benefits of using debts include deducting interest paid on debt from taxes paid on earnings (Modigliani and Miller, 1958), the less tendency of managers to invest on high-risk investments, and the signal it gives that companies who borrow more tend to have higher profitability in relation to signaling theory. On the other hand, the costs include the agency cost of debt. The following are variables as independent variables related to tradeoff theory:

3. Tangibility

The first company-specific determinant is tangibility. Tangibility is associated with pecking order theory and can be calculated by dividing total fixed assets to total assets. The influence of tangibility to a company's leverage can be seen as proposed by Jensen, and Meckling (1976) that relates tangibility to agency cost of debt, as a company may move to riskier investment after debt is issued. They argued that the company could use tangible assets as collateral if they are high. Thus the study expects a positive relationship between tangibility and company's ration. This is further supported by Harris and Raviv (1990) and Scott (1997) who argued that leverage should increase with the liquidation value.

Hypothesis 3: Tangibility will be positively related to the company's leverage

4. Profitability

As in Pecking order theory, profitability is also variable can be used to explain tradeoff theory. Within this scope, profitability is expected to have a positive relationship. This relationship is expected on the basis that more profitable companies tend to have more advantages of tax shield (Petit & Singer, 1985). Thus the expected hypothesis is:

Hypothesis 4: Profitability will be positively related to company's leverage.

5. Size

Based on tradeoff theory, the relation between company's size and their leverage ration is positive. Deesomak et al. (2004) argued it is due to the lower bankruptcy risk and cost of a larger company. Furthermore, Deesomak at al (2004) also added that other factors such as lower agency cost of debt, monitoring cost, access to credit market, etc. in relation to size also contribute positively to leverage.

Hypothesis 5: Company size will be positively related to leverage ratio

6. Non-Debt Tax Shields

The study from DeAngelo and Masulis (1980) concluded that companies with higher non-debt tax reduction use less debt. Which is in line with the tradeoff theory that states companies prefer to use debt to save corporate tax to equity. Consequently, companies with larger non-debt tax shields tend to use less debt. Non-debt tax shield is thus expected to have a negative relationships to company's leverage.

Hypothesis 6: Non-debt tax shield will be negatively related to the company's leverage

2.2 Indonesian Capital Market and Economy

Indonesian economy was hardest hit by the East Asian financial crisis in 1998 that brought down the currency (Rupiah) on its knee, along with the then President Suharto who had led the country for 32 years. The economy made a record low of -13% growth (the Global Economy, 2015) in a year. Afterwards the economy has been undergoing a relatively high growth rate above 5% since 2004.

Before the deregulations of financial markets in Indonesia during the 1980s, state banks had superior influence in the debt market that offered subsidized loans to companies backed by Indonesia's oil revenue at that time (Ang et al. (1997). As the results, companies would prefer the loans from state banks to retained earnings (Ang et al., 1997). This contradicted to the pecking order theory in which companies prefer internal source of financing. The first stock exchange established in Indonesia was in 1912 as Batavia Stock Exchange for trading securities and bonds for Dutch companies operating in Indonesia, since then had been closed and reopened and undergone name changes several times followed by the opening of Surabaya and Semarang stock exchanges in 1925. The deregulations of financial markets in late 1980s opened access for foreign investors to invest in the state-owned enterprises dominated Jakarta stock exchange and Surabaya stock exchange. The current form of Indonesia stock exchange resulted in a merged between the two previously active stock exchanges. As of April 2015 there are 507 listed companies from all industries. Total fund raised in for new equity issuers each year have been steadily increasing from 139.17 trillion Rupiah in 2009 to 383 trillion Rupiah in 2013, while the market capitalization increased from 2,019.17 trillion rupiah to 4,274.02 trillion rupiah for the same year period. The stock market capitalization as percentage of GDP stood at 45.2% in 2012 (the Global Economy), this is relatively low in comparison to Japan's 61.82%, and USA's 115.5% in the same year. The high percentage of stock market capitalization relative to the country's GDP can be seen as an indicator of a well-developed capital market, although Laporta et al. (1997) claimed that it is not the most appropriate measurement of a stock market.

The time period of this research will focus on post 2008 global financial crisis. The great recession is viewed as the worst financial crisis since the great depression in 1930s. Some scholars have studied the impact of the recession on capital structure such as Fosberg (2012) who found that companies tended to increase the amount of debt in comparison to the pre-crisis period. This thus contradicts with the pecking order theory. Although the crisis affected globally, the impact varied in each country. Indonesia managed to keep the growth of above 4% during the height of global recession in 2009, even with the decreasing global demand. This is mainly because, unlike other typical Asian manufacturing and export driven economies, the economy is driven by domestic consumption rather than export (Oberman et al., 2012).

3. METHODOLOGY AND DATA

3.1 Research Method

The paper studies the influence of company-specific determinants as the independent variables, on company's leverage as the dependent variable. The paper will be using Ordinary Least Square (OLS) regression method to analyze which company-level determinants of pecking order theory and tradeoff theory is more significant to explain the capital structure of Indonesian companies. OLS is one the simplest and most commonly used statistical measurement in capital structure such as Deesomsak at al. (2004); Chen et al. (2012);

The following regression model will then be used:

$$Leverage_{i,t} = \beta_0 + \beta_1 Profitability_{it-1} + \beta_2 Liquidity_{it-1} + \beta_3 Tangibility_{it-1} + \beta_4 Size_{it-1} + \beta_5 Non\text{-}Debt\ Tax\ Shield_{it-1} + \varepsilon_{it}.$$

In which L_{it} is company i's leverage, measured at time t at accounting year-end and ε_{it} is the error term. In which L_{it} is company i s leverage at time t measured at accounting year-end and ε_{it} is the error term. The independent variables are lagged one year behind the dependent variable (company's leverage). The above regression model is developed from similar method within the same study such as Deesomsak et al. (2004), Huang (2006) with lagged independent variables to eliminate the potential reverse casualty between dependent and independent variables.

Firstly, univariate analysis will be executed to show the distribution of the independent variables Tangibility (TANG), Profitability (PROF), Size (SIZE), Growth (GROW), Non-Debt Tax Shield (NDTS), Liquidity (LIQ), and Risk (RISK) and the dependent variable Leverage (LEV). Subsequently, a bivariate analysis will be performed in order to test the relationships between the dependent and independent variables. Ultimately, OLS method as mentioned earlier will be carried out to test the theories to listed Indonesian companies.

3.2 Measurement of the Variables

The dependent variable used in this study is company's ***Leverage.*** There are some ways to define a company's leverage as is used in previous empirical studies. De Jong et al. measure leverage as book value of total assets subtracted by book plus market values of equity. However this study will follow Deesomsak et al. (2008) and Rajan and Zingales (1995) who defined leverage as ratio of total debt to total assets. Subsequently, the independent variables will be measured. The first independent variable is ***Tangibility,*** in line with Deesomsak et al. (2004), *tangibility* is measured by the company's ratio of total fixed assets to total assets. Next is ***Profitability,*** which is measured by dividing company's Earning Before Interests and Taxes (EBIT) to total assets. Company's ***Size*** is more complicated to measure; however in accordance to Degryse et al. (2010) study, natural logarithm of the company's assets will be used. Next to that, ***Non-Debt Tax Shield*** is also used as a control variable. It will be measured by depreciation costs scaled back to total assets. This is aligned with Titman and Wessels (1988). ***Liquidity*** is measured by dividing total current assets to total current liabilities, which is aligned with Daesomsak et al. (2004) and de Jong et al. (2008).

3.3 Data

In order to answer the research question and find which company-level determinants are significant to explain the capital structure choice of Indonesian companies, the companies data are obtained from database ORBIS. Additionally, some missing information of companies from the database are obtained though the website of Indonesian Stock Exchange and companies' own websites. The paper studies listed Indonesian companies within the period of 2010 – 2013 The time period is further supported by the unavailability of data of some companies prior 2010 and the most recent year. Since the independent variables are lagging however, data have to be obtained from 2010, which increases the time period by one year. This results in companies' leverage of year 2011 to be linked to independent variables of 2010, leverage of year 2012 to be linked with independent variables from 2011, and companies' leverage of year 2013 to be linked with independent variables of year 2012. This follows Deesomsak et al. (2004) model in order to avoid reverse casualty of the result.

As was mentioned, the number of active listed companies in Indonesian stock exchange as of April 2015 is 509. However, some companies' data are not available within the database ORBIS, consequently the scope of this paper's inquiry is further tightened. The following is a set of requirements for the inquiry:

- Exclude companies that operate in financial industry because they have different requirements than non-financial companies as the consequences of facing frequent government interventions, and thus capital structure is regulated by the government.
- Have all data available associated to the variables used in this study, during the study period 2010 – 2013.

After the screening process, the number of companies that were analyzed was 231, making 693 firm-year observations. Table 3 presents the enquiry that has been narrowed down.

Table 3: Sample

Criteria	Sum
All listed and delisted companies	1189
Non - financial companies	725
Listed non - financial companies	369
Companies with data available in years 2010 - 2013	231
Number of companies	231

4. RESULTS

4.1 Descriptive Statistics

Table 4 presents the descriptive statistics of listed non-financial Indonesian companies for the study period 2010 – 2013. The table shows the mean, standard deviation, range, minimum, and maximum of the sample set. Since there are limited studies regarding capital structure of Indonesian companies as shown in table 1, the statistics will mostly be compared to de Jong et al. (2008) among other studies. The mean leverage of Indonesian companies shows to be about 33%, which is remarkably different from de Jong et al. (2008) who showed that the leverage of Indonesian companies is 18.9%. However this variable cannot be compared as both studies used different methods to measure company's leverage. The 33% mean leverage is still considerably small in comparison to other more developed market such as that of US companies with 58% and 54% for their UK counterparts (Rajan and Zingales, 1995). Higher debt ratio can be considered as an indication of good debt market. However when comparing with other developing countries such as India and Thailand, the mean debt ratio is fairly similar with 35% and 37% respectively (Chakraborty, 2010; Wiwattanakantang, 1999).

Profitability has a mean of 10%, it is comparable with de Jong et al. (2008) with 12.2%. Deesomsak et al. (2004) found the mean profitability of Indonesian neighboring countries in Asia Pacific to be between around 8% for Australia to 11% for Thailand. Higher profitability indicates a lower leverage as companies that are highly profitable will have more internal source of financing thus can be used as their capital, which is in

Table 4: Descriptive Statistics

Variables	Mean	Median	SD	Range	Min	Max	Firm-year Observation
LEV	0.33	0.26	0.27	1.33	0.00	0.13	693
TANG	0.53	0.53	0.24	0.96	0.00	0.97	693
PROF	0.10	0.09	0.11	1.01	-0.33	0.67	693
LIQ	2.14	0.15	0.29	48.97	0.14	49.11	693
SIZE	12.31	12.30	1.59	8.82	7.45	16.26	693
NTDS	0.17	0.12	0.18	1.58	-0.10	1.47	693

The table presents the mean, median, standard deviation, range, minimum, and maximum of both dependent variables Leverage and independent variables Tangibility, Profitability, Size, Non-Debt Tax Shield, and Liquidity. The table also presents the number of valid observation of listed Indonesian companies for the study period 2010 - 2013. The dependent varibale LEV is calculated as the ration of total debt and total assets. Independent variables TANG is measured as ratio of total fix assets to total assets, PROF is calculated as earning before interest and taxes divided by total assets, LIQ is measured as total current assets per total current liabilites, SIZE is measured using the natural logarithm of the company's assets, and NDTS is depreciation costs divided by the total assets.

line with the pecking order theory.

The next variable is liquidity, table 4 shows that the mean liquidity is 2.1, which is comparatively the same as de Jong et al.. For other comparison, Deesomsak et al. (2004) put the liquidity of Thailand, Singapore, Malaysia, and Australia between 2.3 and 4.

The mean tangibility is in the region of 53%, which shows quite big increase in comparison with de Jong et al. (2008) that found a mean of 42.7%. The relationship of tangibility and leverage is expected to be positive, companies with high tangibility tend to have higher lower interest in debt as they have better collateral in the event of bankruptcy, Harris and Raviv (1990). Scott (1997) also argued that leverage should increase with the liquidation value. Thus it is quite surprising that tangibility is relatively higher than the mean leverage.

Size is determined as the natural logarithm of companies' total assets. The study found the mean of size for Indonesian companies is strikingly different form de Jong et al. (2008) with 12.3 compare to 6.06. This can be explained the data used as de Jong et al. (2008) used comparatively older data than this study. Achsani et al. (2014) on the other hand has a closer comparison of size of Indonesian companies to this study with 11.39, although they used smaller data in their study.

For non-debt tax shield, the mean is about 17%, it is expected that companies with lower non-debt tax shield will use less debt. However the non-debt tax shield for Indonesian companies in this study is higher than in other Asia Pacific countries as Deesomsak et al. (2004) showed, with non-debt tax shield being in the range of 2%-5%.

4.2 Result of Bivariate Analysis

Table 5 presents the bivariate analysis result using Pearson Correlation. With this specific analysis the correlation of independent variables Profitability, Liquidity, Tangibility, Size, and Non-deb Tax Shield to dependent variable leverage can be observed.

Leverage and Profitability has a significant negative relationship, which is as expected with the Pecking Order theory, although it does not explain tradeoff theory. Leverage and Liquidity also has as significant negative relationship. Tangibility does not show correlation as expected, as the results appear to be significantly negative. In parallel with Tangibility, Size and Leverage an inverse relationship relative to the hypothesis. While the last variable, Non-debt Tax Shield appeared to have an expected negative correlation with the dependent variable Leverage, although the correlation is not significant. Overall 3 independent variables have correlation as their respective hypothesis, while independent variables Tangibility and Size have an inversed correlation as expected.

Table 5 further analyzed correlation between each independent variable. Profitability is significantly correlated with size and non-debt tax shield. Tangibility and variable size also indicate significant relationship, while having negative relationship with other variables. Liquidity has negative relationship with size and non-debt tax shield, although it is not significant. Lastly size and non-debt tax shield have significant negative relationship.

4.3 Ordinary Least Square Regression Analysis

Table 6 presents the results of multivariate regression analysis. The table is parted into 3 models. Model 1 tested variables of Pecking Order theory; model 2 tested variables of Tradeoff theory, whereas the third models tested the regression model of variables from both theories.

The first hypothesis between leverage and profitability assumes that, according to pecking order theory, profitability will be negativity related to debt ratio. The regression analysis matched the expected hypothesis as in all three models; profitability is shown to have significant negative relationship with the dependent variable. It is in line with the underlying theory that suggests companies that are more profitable tend to issue less debt. This result further supports de Jong et al. (2008) who also found similar relationship with both variables. On contrary, this ruled out the fourth hypothesis that relates profitability within the scope of tradeoff theory. The fourth hypothesis expects an inverse relationship between leverage and profitability to hypothesis 1. Tradeoff theory predicts positive relationship between the two variables on the based of more profitable companies gain more tax advantage. Since model 2 that tested variables of tradeoff theory and model 3 also show significant negative relationship, it can conclusively be said that the more profitable Indonesian companies follow the pecking order theory model that values internal source of financing.

The second hypothesis expects a negative relationship between leverage and liquidity. The result is in alignment with it as it reports a significant negative relationship. It is however, differs from de Jong et al. (2008) as they found that liquidity did not relate to leverage of Indonesian companies. On the other hand, these results in model 1 and 3 confirm pecking order theory that predicts companies who have more cash will borrow less. Thus the more liquid companies will have less debt ratio and less liquid companies. For comparison, the results are in accordance to other countries such as Indonesia's neighboring countries

Table 5: Correlation of Variables

	LEV	TANG	PROF	LIQ	SIZE	NDTS	Firm-year Observation
LEV	1						693
TANG	-.083*	1					693
PROF	-.112**	-.19**	1				693
LIQ	-.100**	-.15**	0.05	1			693
SIZE	-.204**	2.06**	.12**	-0.090	1		693
NDTS	-.017	-0.070	.19**	-0.040	-.08*	1	693

Thable 5 presents the correlations of dependent variable LEV and independent variables TANG, PROF, LIQ, SIZE, NDTS using Pearson Correlation. For definitions of the variables, refer to table 4. *indicates that the correlation is significant at 0.05 level, ** indicates that the correlation is sigficant at 0.01 level.

Table 6: Ordinary Least Square Regression

Variables	Expected Relationship	Model 1: Variables of Pecking Order Theory	Model 2: Variables of Tradeoff Theory	Model 3: Variables of Pecking Order and Tradeoff Theories
Constant		0.368*** (23.471)	0.773*** (9.495)	0.829*** (10.047)
Profitability	- (POT) / + (TOT)	-0.258** -2.853	-0.242** (-2.582)	-0.228** (-2.448)
Liquidity	-	-0.009** (-2.512)		-0.012*** (-3.368)
Tangibility	+		-0.075* (-1.694)	-0.094** (-2.217)
Size	+		-0.031*** (-4.652)	-0.033*** (-4.915)
NDTS	-		-0.024 -0.425	-0.035 (-0.623)
Adj. R square		0.019	0.048	0.062
Firm-year Observation		693	693	693

$Leverage_{i,t} = \beta 0 + \beta 1 Profitability_{it-1} + \beta 2 Liquidity_{it-1} + \beta 3 Tangibility_{it-1} + \beta 4 Size_{it-1} + \beta 5$ Non-Debt Tax Shield$_{it-1} + \varepsilon it$. The table presents the regression analysis of leverage on company-level determinants. Expected relationships of company-level determinants related to Pecking Order theory and Tradeoff theory are presented. Model 1 shows the regression results of variables of Pecking Order theory. Model 2 shows the regression result of variables of Tradeoff theory. Model 3 shows the regression result of variables of Pecking Order and Tradeoff theories. Dependent variable of all models is Leverage. For definition of each variable can be referred to table 4. The table presents the unstandardized coefficient B and T value in parantheses. *, **, and *** denote significane at 10%, 5%, and 1% respectively.

studied by Deesomsak et al. (2004) who found all negative relationship between the two variables, in addition to de Jong et al. (2008) in general that found most countries to have negative relationship between the respective variables.

The third hypothesis foresees determinant tangibility to be positively related to company's leverage. However the regression analysis states otherwise. Table 6 presented a significant negative relationship between the two variables in both model 2 and 3. Thus also in contrast with Jensen and Meckling (1976) that states more tangible companies tend to have more debts as they have more collaterals in case of bankruptcy. On the other hand, the negative relationship can be explained by Booth, Aivazian, Demirguc-Kunt, and Maksimovic (2001) who also found reversed relationship between leverage and tangibility in some developing countries, that claimed tangibility could be contradicted between long-term debt and short-term debt. Companies with higher tangibility may use more long-term debt instead of short-term debt, thus their debt ratio in general goes down. Conclusively, it implies that Indonesian companies tend to have higher short-term debt.

The next variable is the size of the company, which is measured as the natural logarithm of total assets. The initial hypothesis argued that size would have positive relationship with leverage ratio. In contrast, the regression analysis shows a significant negative relationship between the two variables. The reason can be explained by Deesomsak et al. (2004) that states lenders tend to decrease their lends to larger companies in order to decrease the default risk. Further explanation of the negative relationship between the two variables can be related to degree of information asymmetry as Pecking Order theory explained (Frank and Goyal, 2003). Thus in term of size companies, Indonesian companies do not follow tradeoff theory as expected, this suggest that asymmetric information is also an important determinant for Indonesian companies. The result is similar with Barharath, Pasquariello and Wu (2008) who confirmed that information asymmetry did effect capital structure decision of US companies.

The last variable is non-debt tax shield; the result is in line with the predicted hypothesis. Both model 2 and model 3 shows negative relationship between non-debt tax shield and leverage, which is in line with tradeoff theory that states companies with higher non-debt tax reduction use less debt (DeAngelo and Masulis, 1980). Although the results are expected and in line with previous studies from other countries such as Deesomsak et al. (2004), the relationship in this study is not significant.

Lastly, the adjusted R^2 of model 1, model 2 and model 3 appeared to be small with 0.019, 0.048, and 0.062 respectively, which means only 1.9%, 4.8%, and 6.2% of the variation in the dependent variable is explained by the independent variables in each model respectively. For comparison small percentage of adjusted R^2 is also found de Jong et al. (2008) for some countries like Brazil, Columbia, and the Philippines, additionally Deesomsak et al. (2004) also found R^2 of pre-crisis Australia to be small. Model 2 that tested variables of tradeoff theory show a slightly higher adjusted R^2 in comparison to model 1.

5. CONCLUSION

This paper is an empirical research and tested sample of data from listed Indonesian companies. The inquiry contains data of 231 Indonesian companies analyzing 693 firm-year

observations over period of 2010 – 2013. The paper is intended to test which company-level determinants of tradeoff theory and pecking order theory is significant to explain capital structure of Indonesian companies. To test the company-level determinants, ordinary least square regression analysis was used. Conclusively, the regression result showed that both determinants of pecking-order theory to have significant relationship as predicted, while variables of tradeoff theory displayed inverse relationship than the predicted hypothesis with the exception of non-debt tax shield. The result with variable Size is most surprising as many authors refer that larger size of a company contributes to higher debt. Thus to answer the initial research question: *"What company-level determinants influence the capital structure of Listed Indonesian companies?"*, profitability and liquidity derived from pecking order theory are most significant in explaining the capital structure behavior of companies in the country.

This paper is intended to contribute to the limited available empirical studies of capital structure of Indonesian companies with more recent data in comparison to previous studies such as de Jong at al., (2008) and Ang et al., (1998), in addition to Achsani et al. (2014) who studied industry-level determinants. This study can be used as a comparison for future studies to see whether the result still stand as more inquiry is included.

There are however some limitations for in this study. First of al, since the study focuses on the post crisis period which is after 2009, the time frame is restricted to companies' data post 2009. The data inquiry is further narrowed down with the unavailability of some companies' data in recent year. Nonetheless, future research should be able to bolster their data inquiry by adding more company-year observations as more data expected to be available. Additionally, as is shown in table 2, there are other theories explaining capital structure such as signaling theory, market timing theory, agency theory, etc. but this paper only used variables from tradeoff and pecking order theories. Furthermore industry-level and country-level determinants are excluded in this study, thus future research is recommended to use different variables and, possibly, different theories as there might be more relevant in explaining capital structure of Indonesian companies.

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