



THE INFULENCE OF CREDIT RATING, ASSET TANGIBILITY, PROFITABILITY, LONG-TERM INVESTMENT, SHORT-TERM INVESTMENT ON CAPITAL STRUCTURE DECISION

(Empirical Study on Non-Financial Company that listed on Indonesian Stock Exchange and registered in PEFINDO 2010-2014)

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ABSTRACT

This study aimed to examine the effect of credit rating, asset tangibility, profitability, long-term investment, short-term investment on capital structure decision. Sample of this study used non-financial companies that listed on Indonesian Stock Exchange and registered on PEFINDO during 2010-2014. This research was made because there are differences in results between studies with each other.

The sampling technique used in this research is purposive sampling method covering 15 companies as samples. The analysis used multiple regression, which is preceeded by a test consisting of the classical assumption test for normality, multicollinearity test, heteroscedasticity test and autocorrelation test. Hypothesis testing is using F test and t test.

The result of this research show that credit rating and profitability had significant negative effect on capital structure decision as well as long-term investment variable had significant positive effect on capital structure decision. In addition, the results did not support that asset tangibility and short-term investment had significant effect on capital structure decision. Moreover it found that the value of the adjusted R square is 41.5%. This means that 58.5% is explained by other variables outside the model.

Keywords: *rating, profitability, investment, multiple regression*

INTRODUCTION

Capital structure is the proportion of the company's long-term permanent financing which represented by debt, common stock and preferred stock (Van Horne and Wachowitz, 2010). Groth and Anderson (1997) defines capital structure as a representation of the company's capital proportion from different sources. Capital structure refers to the source of funds used by the company consists of debt, equity and hybrid securities which is used to finance the assets, operations and growth in the future (Baker and Martin, 2011).

For company, capital structure is an important issue because it will gives a direct impact on the financial position. One of the key company's financial policy is capital structure decisions (Al-Najjar and Hussainey, 2011). The statement was in line with Asri (2010) that the capital structure is one of the topics that need to be considered because it will affect the cost of capital and in turn will affect the company's efficiency.

In determining the value of the company, capital structure has an important role (Palliam et al. 2013). In line with what was said by (Al-Najjar and Hussainey, 2011), (Asri, 2010) and (Palliam et al. 2013), Chada and Sharma (2015) that capital structure is one of the most significant factors in determining the success of company. Capital structure is one

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of the considerations for investors in investing money in a company. Errors that related to capital structure decisions will lead to financial distress that eventually the company will go bankrupt (Sheikh and Wang, 2011). The proportion of debt that is too big and errors in making capital structure decisions are factors that led to company bankruptcy (Chada and Sharma, 2015).

The proportion of debt that is too big and errors in judgment the capital structure decision occurred on PT Merpati Nusantara Airlines and PT Bumi Resources. In 2013, the value of the debt Merpati reached Rp 6.7 trillion. It affects on employees' unpaid wages, aviation fuel supply is stopped, the branch office is closed and unable to pay the rent of aircraft (Moerti, 2014). In 2014, the credit rating agency S&P downgraded the debt rank of one of the main lines of Bakrie Group business, named Bumi Resources, from selective default to default. The downgrade is due to the value of the debt of PT Bumi Resources reached RP 44.77 trillion. (Tempo.co, 2014).

According to Brigham and Houston (2009) there are four main factors that affect the company capital structure decisions, namely business risk, corporate tax position, financial flexibility, and behavior management as well. Asset tangibility, growth opportunities, profitability, tax, debt rating by Bessler et al. (2011) are some of the factors that is often used in empirical research on capital structure. Core model leverage which proposed by Frank and Goyal (2009) stated that the industry median leverage, tangibility of assets, profits, firm size, market-to-book ratio and expected inflation are all factors that most influence the decision of the company's capital structure which is explains more 27% of the company's capital structure decisions in the United States in 1950-2003, while other factors could explain only 2%.

A survey of 392 CFOs in the United States shows that financial flexibility and credit rating is an important factor in the decision of the company's capital structure (Graham and Harvey, 2001). Referring to the survey Graham and Harvey in 2001, a survey conducted in 16 European countries by Bancel and Mittoo (2004) concluded that financial flexibility, credit rating and the company tax position is an important factor in the decision of capital structure.

Kisgen (2006) showed that credit rating negatively affect capital structure decisions. Results of research conducted by Shin et al. (2012) also showed that significant negative effect on the credit rating of the using of debt in capital structure decisions. Different opinions expressed by Kamper and Pao (2013) with a re-test study conducted by Kisgen (2006) and concluded that there is no influence of the company that experienced ups and downs in credit rating on capital structure decisions. Research conducted by Adriani (2009) concluded that credit rating does not affect the capital structure decisions.

According to Frank and Goyal (2009), asset tangibility as property, plant and equipment will be more easily valued. Asset tangibility should be an important factor in influencing the capital structure. Asset tangibility serves as a guarantee and provide security for those who invest in the company. Results of research Frank and Goyal (2009) showed that asset tangibility had positive effect on capital structure decisions. Research conducted by (Antoniou et al. 2008) and (Deesomsak et al. 2004) also concluded that asset tangibility had positive effect on capital structure decisions. However, research conducted by Palliam et al. (2013) showed that asset tangibility negatively affect the company's capital structure decisions. Research conducted Sheikh and Wang (2011) also showed asset tangibility negatively affect the capital structure decisions.

When a company has sufficient funds to finance a project in the future, according to the *pecking order theory*, the company better prioritize to retained earnings than using debt. Research conducted by Alipour et al. (2015) concluded that the profitability negatively affect the capital structure decisions. Palliam et al. (2013) say that the empirical study conducted in 1988-2007 showed negative effect on the use of debt on the capital



structure decisions. Research conducted by Hovakimian et al. (2004) conclude that profitability does not affect the capital structure decision. In contrast to research conducted by Palliam et al. (2013), study conducted by Margaritis and Psillaki (2007) showed that profitability had positive effect on capital structure decision.

Trade off theory argues when companies have high levels of investment opportunities in high profitable projects would prefer equity as a source of funds in capital structure decisions. That is because the use of debt may increase the cost of bankruptcy. According to Husnan (1997) pecking order theory says that company has an order in the use of funds by prioritizing internal funds first. When external financing is required companies tend to prioritize the use of debt in the capital structure decisions. Results of the study (Chadha and Sharma, 2015), (Juniati, 2010), (Yusrianti, 2013) showed that the investments made by company is one of the key factors and had positive influence in explaining the capital structure decisions. However, (Sheikh and Wang, 2011) and (Alipour et al. 2015) concluded that the investment made by the company negatively affect the company's capital structure decisions.

The description of previous research stated that the factors that influence decision of company capital structure remains unclear. In line with what was said Myers (1984), he did not find the important factors that affect company in selecting the source of funds that debt, equity and hybrid form of equity securities. This is supported by the opinions expressed by the Islamic Development Bank (in Palliam et al. 2013) that the capital structure remains a critical issue in formulating strategic financial decisions as well as the more confusing even for the company that is based on sharia.

Based on the description of previous research there is a difference in the results of the study or research gap that motivates researchers to reexamine the factors that affect company's capital structure decisions. The independent variables were selected in this study include credit rating, asset tangibility, profitability.

Research conducted by (Chadha and Sharma, 2015), (Sheikh and Wang, 2011), (Alipour et al. 2015), (Juniati, 2010), (Yusrianti, 2013) did not specify whether the investment made by the company are short-term investment or long term investment. However, Myers (2011) said that financing decisions in a company does not only refer to how to choose sources of funds that needed but also consider the fulfillment of the obligations of the parties who have contributed to past funding decisions, both short term and long term. Therefore, this study also uses long-term investment and short-term investment as an independent variable.

In this study, the capital structure decision is proxied using market leverage with consideration that the use of market leverage as a proxy of capital structure decisions better reflect the company's economic condition appropriately (Bessler et al. 2011).

THEORITICAL FRAMEWORK AND HYPOTHESIS FORMULATION

The influence of credit rating on capital structure decision

Kisgen (2006) concluded that company tends to reduce the use of debt and prefer to use equity in the capital structure decisions either as an increase or decrease in credit rating. Shin et al. (2012) said that credit rating is a very important factor in formulating company's capital structure decisions. Research results also concluded that credit rating as well as a significant negative effect on the use of debt in the capital structure decisions. However, research conducted by Adriani (2009) and Kamper and Pao (2013) concludes credit rating does not give any effect and significant relationship to the capital structure decisions.

The hypothesis of *pecking order theory* states that companies that have a rating use less debt and use more equity in capital structure decisions. However, *trade-off theory* states when the benefits of the use of debt in the capital structure decisions is greater than

the risk of bankruptcy, company should increase the proportion of debt in its capital structure. Baker and Martin (2011) implicitly said the company that has a rating facing a lower levels of *asymmetric information*. So that when the credit rating increase, company should increase the amount of debt in the capital structure decisions in order to benefit from the use of debt in the form of tax savings. Save on taxes is an advantage for the company, then theoretically the value of companies that use debt is greater.

Based on these explanations, the hypothesis about the influence of credit rating on capital structure decisions are as follows:

H1 : credit rating has positive influence on capital structure decisions

The influence of asset tangibility on capital structure decision

Almost the entire capital structure theory argues that the types of assets owned by the company affecting capital structure decisions (Titman and Wessels, 1988). *Trade off theory* says that the tangible assets serves as collateral and provide security to the lender when the company is likely to experience financial distress and bankruptcy. So companies with high tangible assets can acquire a greater debt (Gomez et al. 2014). Palliam et al. (2013) said asset tangibility is an important factor in the decision of the company's capital structure. The hypothesis of *trade-off theory* shows that asset tangibility has positive influence on capital structure decision. Several previous studies such as (Gomez et al. 2014), (Frank and Goyal, 2009), (Chadha and Sharma, 2015), (Antoniou et al. 2008) and (Deesomsak et al. 2004) showed the positive effect of asset tangibility towards the decision of the company's capital structure. Therefore, the hypothesis that can be formed are as follows:

H2 : asset tangibility has positive influence on capital structure decisions

The influence of profitability on capital structure decision

Palliam et al. (2013) and Mouamer (2011) argued that there is no consistent results whether profitability had influence towards company's capital structure decision. *Trade-off theory* said that the *profitable company* has a low cost of bankruptcy that will use the greater proportion of debt because it will reduce the tax to be borne by the company.

Pecking order theory implicitly argues that there is information asymmetry between managers of companies with investors. So that to prevent that happening, *pecking order theory* says that the company is prioritizing the use of internal funds. If the company has sufficient internal funds to finance the project or investment, the company prioritizes the use of internal funds than external (Palliam et al. 2013). Research conducted by (Gomez et al. 2014), (Palliam et al. 2013), (Sheikh and Wang, 2011), (Chen et al. 2014), (Alipour et al. 2015), (Chadha and Sharma, 2015), (Frank and Goyal, 2009), (Deesomsak et al. 2004), (Antoniou et al. 2008) concluded that profitability negatively affect the company's capital structure decisions.

Based on these explanations, the hypothesis about the effect of profitability on capital structure decisions are as follows:

H3 : profitability has negative influence on capital structure decision

The influence of long-term investment on capital structure decision

According to *pecking order theory*, companies tend to prioritize the use of internal funds. When the internal funds that used to finance investment is insufficient, the company will prioritize the use of debt than equity in the form of shares. Researches conducted by (Juniati, 2010) and (Yusrianti, 2013) showed that the investment made by the company has positive effect on the company's capital structure decisions. However, Results of research conducted by Titman and Wessels (1988) found no evidence that the funds invested by the company has an influence on capital structure decisions.

Based on the explanation, the hypothesis about the effect of long-term investment on capital structure decisions are as follows:

H4 : long-term investment has positive influence on capital structure decision

The influence of short-term investment on capital structure decision

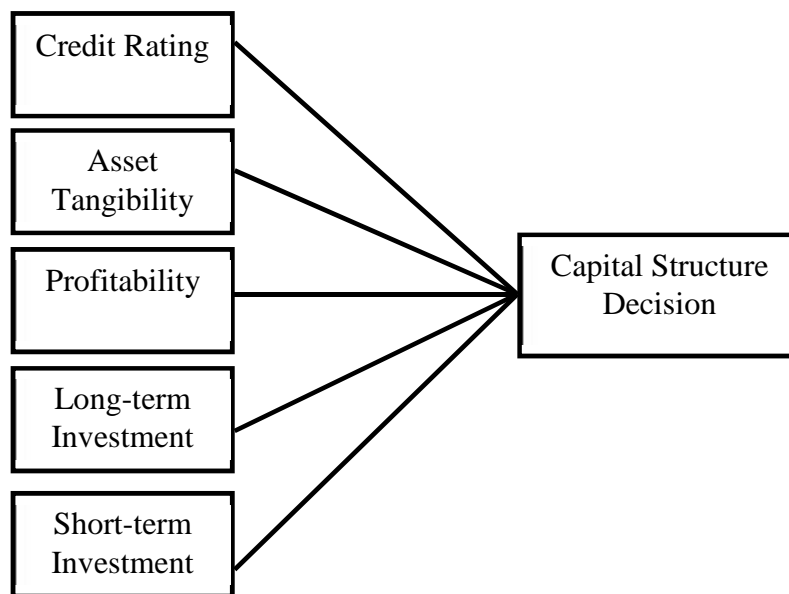
When a company invests both long-term and short-term according to Palliam et al. (2013) managers will tend to reduce the proportion of debt in the capital structure in line with the increase in the cost of bankruptcy. *Pecking order theory* states that the company has an order in the use of funds for investment. When the internal funds owned by the company is sufficient, the company prioritize the use of these funds. Research conducted by (Sheikh and Wang, 2011), (Deesomsak et al. 2004) and (Alipour et al. 2015) regardless the flow of funds concluded that the investment made by the company negatively affect the capital structure decisions.

Based on these explanations, the hypothesis about the effect of short-term investment for capital structure decisions are as follows:

H5 : short-term investment has negative influence on capital structure decision

Picture 1

Theoretical Framework



Source: (Alipour et al. 2015), (Deesomsak et al. 2004), (Palliam et al. 2013), (Sheikh and Wang, 2011), (Juniati, 2010), (Yusrianti, 2013)

RESEARCH METHOD

The object of this study is a non-financial companies listed on the Indonesia Stock Exchange and registered in PEFINDO 2010-2014. Selection of the sample in this study using purposive sampling method with the purpose to obtain samples in accordance with predetermined criteria.

From the results of data collection in 2010-2014, there were 65 non-financial companies listed on the Indonesia Stock Exchange and has a rating. The number of non-financial companies sampled in this study as many as 15 companies as it has cosecutive, complete periodically data over years of research. Observational data collected in this research are as many as 75 of data (15 companies x 5 years). Description of the object of study are shown in Table 1 as follows:

Table 1
Sample Selection Procedure

Description	Details
Research Population	65 company
Number of samples	15 company

The sampling period	5 years (2010-2014)
Sample size	75 (15 x 5)

Source: secondary data processed, 2015

In this research, data analysis technique which used is multiple regression analysis using SPSS version 20. The linear regression analysis used in the study aims to determine the influence of independent variables on capital structure decisions. The independent variables used were credit rating (probability of success), asset tangibility (fixed assets / total assets), profitability (ROA), long-term investment (capex / total assets), short-term investment (working capital / revenue). These variables affect the dependent variable that is measured with market leverage (book value of total debt / market value of equity plus the book value of total debt). In the multiple linear regression formula, then the equation as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

Description :

- Y = Market Leverage
- a = Constants
- b = Regression coefficients (1, 2, 3, 4, 5)
- X1 = Credit Rating
- X2 = Asset Tangibility
- X3 = Profitability
- X4 = Long-term Investment
- X5 = Short-term Investment
- e = Standart Error

To form the regression equation, the estimation model used is ordinary least square method. OLS is based on key assumptions which must be met so that the model used in this study is ideal according to Gauss-Markov theorem and have BLUE characteristic (Best Linear Unbiased Model). Tests will be carried out through several stages of descriptive statistics, normality, multicoloniarity, heteroscedasticity, autocorrelation and hypothesis testing.

RESULT AND DISCUSSION

Multiple Regression Analysis

From Table 2, it shows that the credit rating variable, profitability and long-term investment influence significantly to capital structure decisions at a significance level of 5% with a significance value of 0.025, 0.000 and 0.030.

Table 2

Multiple Regression Analysis

Research Variable	Variable code	B	Std. Error	t	Sig
RATING	X1	-2.606	1.138	-2.291	0.025
ATANG	X2	0.051	0.051	1.002	0.320
ROA	X3	-0.008	0.001	-5.870	0.000
LINVEST	X4	0.589	0.266	2.210	0.030
SINVEST	X5	-0.037	0.030	-1.242	0.218

Source: secondary data processed, 2015

Hypothesis Testing

F Test

From the F test in table 3 is obtained calculated F value of 11.511 with a probability of 0.000. Because the probability is much smaller than $\alpha = 0.05$ then the regression model this research may be used to predict the decisions of capital structure capital structure.

Table 3
F Test Result

Model	Sum of Squares	Df	Mean Square	F	Sig
Regression	0.417	5	0.083	11.511	0.000
Residual	0.500	69	0.007		
1 Total	0.918	74			

Source: secondary data processed, 2015

Coefficient of Determination

Based on Table 4, the adjusted R-square value is 0.415. This means that 41.5% of capital structure decisions can be explained by the independent credit rating variable, asset tangibility, profitability, long-term investment, and short-term investment, while the rest 58.5% is explained by other variables outside the model.

Table 4
Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.674	0.455	0.415	0.08515

Source: secondary data processed, 2015

T Test

Based on table 10, the credit rating variable, profitability, and long-term investment decisions affect the capital structure with t value -2291, -5870 and 2210 with significant value less than 0.05, which is 0.025, 0.000 and 0.030. Furthermore, asset tangibility variable and short-term investment decisions do not affect the capital structure, because the significance value for each variable is more than 0.05.

Table 5
T Test Result

Research Variable	T	Sig.	Description
RATING	-2.291	0.025	Significant
ATANG	1.002	0.320	Not Significant
ROA	-5.870	0.000	Significant
LINVEST	2.210	0.030	Significant
SINVEST	-1.242	0.218	Not Significant

Source: secondary data processed, 2015

Description :

T test for Credit Rating

At the 5% significance level, credit rating affect negatively and significant to the capital structure decisions. This means that **Hypothesis 1 is rejected.**

T test for Asset Tangibility



At the 5% significance level of asset tangibility is positive and it is not significant to the capital structure decisions. This means that **Hypothesis 2 is rejected.**

T test for Profitability

At the 5% significance level of profitability affect negatively and significant to the capital structure decisions. This means that **Hypothesis 3 is accepted.**

**T test Long-Term Investment**

At the 5% significance level of long-term investment affect positively and significant to the capital structure decisions. This means that **Hypothesis 4 is accepted.**

T test Short-Term Investment

At the 5% significance level of short-term investment affect negatively and it is not significant to the capital structure decisions. This means that **Hypothesis 5 is rejected.**

Discussion of Results**The influence of credit rating on capital structure decision**

Results of this study are consistent with research conducted by (Kisgen, 2006) and (Shin et al. 2012) which concluded that the company has the possibility of increasing credit rating tend to choose sources of funding in the form of equity than debt. The study also supports the hypothesis *pecking order theory* that companies that have tended to use a proportion of the debt rating less and more use of equity in the capital structure decisions. This is because the proportion of debt that is too large will increase the burdens of interest which is to be borne by the company so as to enhance the company's financial risk.

Negative and significant impact in this study caused of the company has a target debt ratio. When the debt ratio has exceeded the target set, then the company would prefer funding source in the form of equity in the capital structure decisions.

The influence of asset tangibility on capital structure decision

Results of this study are consistent with the *trade-off theory* and research conducted by (Gomez et al. 2014), (Frank and Goyal, 2009), (Chadha and Sharma, 2015), (Antoniou et al., 2008) and (Deesomsak et al. 2004) which concluded that tangible assets owned by the company acts as collateral and provide security to creditors when the company is likely to experience financial distress and bankruptcy so that companies with high tangible assets tend to use debt in larger quantities.

Positive effect and zero significant in this study explained that tangible assets of the company is not a major factor considered relevant proportion level of debt in the capital structure decisions. The proportion of the debt will continue to increase as the benefits of the use of debt is greater than the risk to be borne by the company.

The influence of profitability on capital structure decision

The results are consistent with the *pecking order theory*, and consistent with researches conducted by (Gomez et al. 2014), (Palliam et al. 2013), (Sheikh and Wang, 2011), (Chen et al. 2014), (Alipour et al. 2015), (Chadha and Sharma, 2015), (Frank and Goyal, 2009), (Deesomsak et al. 2004), (Antoniou et al. 2008) that the company has a hierarchy of funding decisions by prioritizing the use of internal funds in the decision capital structure so reluctant to use other funding sources if possessed sufficient internal funds to finance the company's needs. Negative and significant impact in this study explained that the company prefers to use internal funding sources when obtaining high profits generated.

The influence of long-term investment terhadap on capital structure decision

Results of this study are consistent with research conducted by (Juniati, 2010) and (Yusrianti, 2013) which concluded that the higher the intensity of the long-term investment, the greater the proportion of debt used in capital structure decisions. This study also supports the *pecking order theory* which states that when the internal funds is inadequate to finance the investment, the company will use debt as a source of funding to finance the investment. Positive and significant effect in this study caused of not every project or activity by the company can be financed using internal funds, so that external funding is needed to support it.



The influence of short-term investment on capital structure decision

Results of this study are consistent with research conducted by (Palliam et al. 2013), (Antoniou et al. 2008), (Deesomsak et al. 2004) which concluded that the higher the intensity of short-term investments, the lower the amount of debt used in the capital structure decisions. This study also supports the *pecking order theory* which states that the company is prioritizing the use of internal funds in capital structure decisions so reluctant to use other sources of funds when possessed sufficient internal funds to finance the investments made by the company.

No significant and negative effect in this study explained that short-investment is not a major factor to be considered related to the level of the proportion of debt in the capital structure decisions. Short-term investment carried out in order to meet liquidity needs with the aim to reduce reliance on external funding sources.

CONCLUSION

The conclusion that can be given related to the results of this study are as follows:

1. It is not proven that the company will increase the proportion of debt in the capital structure decisions when the credit rating of each of these companies is increasing. The Company has a target debt ratio. When the debt ratio has exceeded the target set, then the company would prefer funding source in the form of equity in the capital structure decisions.
2. The company will increase the proportion of debt in the capital structure decisions when tangible assets of the company is growing or increasing. Positive effect and no significant influence are conclude that the tangible assets of the company is not a major factor considered relevant proportion level of debt in the capital structure decisions.
3. Proved that the company will reduce the use of debt in the capital structure decisions when profitability increased. Companies prefer to use internal funding sources generated high profits.
4. Proved that the company will increase the proportion of debt in the capital structure decisions when the intensity of long-term investments increased. This is because not every project or activity by the company can be financed using internal funds, so that external funding is needed to support it.
5. Companies tend to reduce the proportion of debt in the capital structure decisions when the intensity of short-term investments increased. And no significant negative influence conclude that short-investment is not a major factor considered relevant proportion level of debt in the capital structure decisions. Short-term investment carried out in order to meet liquidity requirements aimed at reducing the dependence on external funding sources.

Suggestions

Results of this study contribute to the academics in form of the relationship between the credit rating, asset tangibility, profitability, long-term investment, and short-term investment for capital structure decisions. The things that can be recommended for further study are as follows:

1. Future research is needed to examine the determinants capital structure decision in sample firm over a long period.
2. There is a need for future research to investigate the influence of size, stock returns, taxes, macroeconomic conditions.

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