

Affecting Factors on Debt Agreement in Indonesia's Manufacturing Company Listed in IDX

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Abstract

This study aims to examine the affecting factor on debt agreement in manufacturing company listed in Indonesia's Stock Exchange (IDX). The study population include all manufacturing company listed in 2010-2014 and have debt agreement and stated in annual report. The samples in this study were selected through the purposive sampling method and tested hypothesis by logistic regression. The results found that collateral, profitability, growth have not significant affecting on debt agreement and leverage have significant influence affecting on debt agreement in manufacturing company.

Keywords: debt Agreement, collateral, profitability, growth, leverage

1. Introduction

During 2014, one of the market's instrument named "Bond" attracts huge sentiment from many investors and companies. For companies, bond became one of the better options during the time when loans from the banks are persistently hard enough to get, the bad outlook that's coming from the market, and the difficulties of scoring a direct investments. For the investors, decreasing in interest rate, the plummeted market and the commodity's price keep on getting lower must leave a good hit on them, so it is common if Bonds that give fix income with limited risks became popular on investors that time. Based on IDX's data that was published on July 2015, it is mentioned that the sum of bonds issuance and Islamic bonds as of 2015 has exceeded the target for 2014.

Over the past 2014, the value of bonds issuance is reaching at 46,84 trillion rupiah and it comes from the issuance of 49 bonds and Islamic bonds, and up until last year, the total bonds and Islamic bonds that have been issued are 271 with total outstanding value comes up around 246,66 trillion rupiah and USD 100 million. Those bonds are issued by 104 companies.

Jensen (1984) stated that one of the ways to reduced control cost borne by the stockholders is to let third parties involved in the control. Main idea for Agency Theory especially in liability (debt agency theory) is that conflict of interest exist between stockholders and bondholders. Jensen and Meckling (1976), Myers (1977) with Smith and Warner (1979) in Frankel and Lito (2007) elaborate the Agency Theory, to gives reason for covenant to exist in a liability contract. A covenant is a stipulation, like some limitations that exists in dividends payment that restrained company to not involve in particular actions after the bonds are issued (Smith and Warner, 1979 in Frankel and Lito, 2007).

Watts and Zimmerman (1978) as quoted by Scott (1997) said that there are 3 hypothesis that generally connected with manager's opportunistic behavior, such as; *bonus plan hypothesis*, *debt covenant hypothesis* dan *political cost hypothesis*. This research will focus on the 2nd hypothesis which is the debt covenant hypothesis.

This study was inspired by Inamura (2009) and Sulistiani (2014), the difference is that the object of study, years of research, and modifying some specific variables to be tested on a smaller unit of analysis like a manufacturing company in IDX. Alteration in the research model, Inamura (2009) used path analysis with the E-views, whereas this study used logistic regression with SPSS ver 17 (Frankel *et al.*, 2006; Mazumdar and Sengupta, 2005; Begley and Chamberlain, 2005). The pretension to compare the results of previous studies were mostly done abroad by the results of research on public companies in Indonesia, thus the inconsistency of the results of previous studies and the limited research on this, especially in Indonesia became the motivation to conduct this research.

Based on the background described above, this study stress on some particular problems which are; *Is the independent variables consisting of: (1) the guarantee / collateral; (2) the company's profitability; (3) the company's growth; (4) leverage; influenced the formation of the bond agreement?*

2. Literature Review

Previous studies have observed that accounting-based covenants effective in control conflicts of interest between the bondholders and the stockholders (Henry and Palepu, 1990 in Hall and Swinney, 2004 and Billet *et al.*, 2006). Characteristics of accounting-based covenants consistent with considerations of efficient contracts (Letwichee, 1983 in Hall and Swinney, 2004 and Asquith *et al.*, 2005). Characteristics of the financial statements relates to debt pricing (Morhman, 1996 in Hall and Swinney, 2004 and Barath *et al.*, 2004). According to Inamura (2009), there are four types of collateral based covenants;

- 1) The collateral restriction
- 2) The collateral requirement provision,

- 3) The retained asset restriction, and
- 4) The retained asset provision requirements

And, according to Inamura (2009) and Malitz (1986), there are three types of covenant-based accounting;

- 1) The net worth requirement provision
- 2) Net income provision requirement, and
- 3) The dividend restriction

2.1. Collateral

The collateral here means the collateral asset which is the ratio of total fixed assets to total assets (Begley and Chamberlain, 2005; Siddiqi, 2007). Warranty is very important in liability-receivable agreements. In debt agreements, guarantees or collateral are the assets of the borrower that they promise to hand it to the lender if the borrower cannot pay the lender back. If the borrower defaults, the lender can have the collateral. In a credit rating, a warranty is often an important factor to improve the individual or company's credit score. El-Gazzar and Pastena (1991) analyzed that debt agreement made companies find that the existence of collateral affects the formation of covenant. Begley and Chamberlain (2005) also used collateral where it is assumed that companies with high levels of collateral that will minimize the risk of debt default and corporate failure. It also expressed by Hoshi, *et. al.*, (1993) in Siddiqi (2007). The researchers found a positive effect of the guarantee / collateral (collateral) with the establishment of the covenant. Based on the results of these studies, the researchers formulate hypothesis as follows:

H1: Security / collateral effect on the manufacture of the debt agreement.

2.2. Firm Profitability

Company profitability is the health indicator of a company (Moh'd, *et. al.*, 1998 in Haryono, 2005). Profitability is a company's ability to generate profit. The higher profitability of the company will lead to the increasing interests of investors to buy the bonds of the company. The company's profitability is the result of series of processes at the expense of resources. Profitability can be measured by the number of operating profit, net profit, return on investment / assets, and return on equity owner. Profitability measured by Return on Investment (ROI) ratio. ROI is an investment rate of return on investment of the company's assets.

Research conducted by Frankel *et al* (2006) and Graham *et.al.* (2008) found a negative influence between firm size and covenant-making. Another study conducted by Gopalakrishnan (1994) found the effect to the reverse direction is a positive influence, while research conducted by Inamura (2009) and Billet *et.al.* (2007) found no effect between these two variables. Graham *et al.* (2008), Suda (2004) and Inamura (2009) found that a negative influence between profit-making company with covenant. Based on the results of these studies, the researchers formulate hypotheses as follows:

H2: Profitability influential companies in the manufacture of the debt agreement.

2.3. Growth Opportunities

The company's growth is the company's ability to increase the size of the company itself (Kallapur and Trombley, 2001 in Sriwardany 2006). The growth rate of the company will show how far the company will use debt as a source of financing. The company's growth can be seen from the measured growth opportunities of market to book value of equity, linking the company's share price by its earnings and book value per share (Weston and Bringham 2005 in Kumalawati, 2009)

Growth opportunity in this study is predicted using the ratio of sales growth which will measures the ability of companies in the growth rate of sales like Haskins and Williams (1990), DeFond (1992), Weston and Copeland (1992), Woo and Koh (2001) have done in Kumalawati (2009), and Inamura (2009). Research conducted by Frankel *et al* (2006) and Billet *et.al* (2007) found a negative influence between firm size and covenant-making.

Another study conducted by Begley and Chamberlain (2005) as well as Siddiqi (2007) found the effect to the reverse direction is a positive influence, while research conducted by Inamura (2009) and Mariano and Tribo. (2005) found no effect between these two variables. Billet *et al.* (2007) stated that companies with growth opportunities are more likely to face a conflict of shareholder-bondholder and more likely to take advantage of the establishment of the covenant. However, most companies will try to maintain the long-term financing and investment flexibility by having fewer covenant restrictions. Billett *et al.* (2007) suggest that the level of covenant security will positively or negatively associated with growth opportunities. Based on the results of these studies, the researchers formulate hypothesis as follows:

H3: Company's growth influenced the manufacture of its debt agreement.

2.4. Leverage

Leverage is the ratio size of the issuer's leverage, as measured by the ratio of total debt to total assets (Inamura, 2009; Begley and Chamberlain, 2005, and Graham et al, 2008). The Company has no specific financial reporting requirements related to the financial condition unless it has been considered as a sign of bankruptcy. However, because the ratio of debt to total assets reflects the health of the company, it is likely to hold back bad news for publication. Research conducted by Frankel et al (2006) and Bharath et.al (2007) found a negative influence between firm size and the making of covenant

Another study conducted by Begley and Chamberlain (2005), Inamura (2009), Billet et.al. (2007), Begley and Feltman (1999), Mazumdar and Sengupta (2005), Alcock et al (2008), Dichev and Skinner (2001), Graham et.al. (2008) and Gopalakrishnan (1994) found the effect to the reverse direction is a positive influence, while research conducted by and Siddiqi (2007) found no effect between these two variables. Myers (1977) in Frankel and Litov (2007), a shareholder in the company that owes to have incentives to transfer wealth from bondholders, even refusing investment projects with a positive present value. Allegations that applies is that the effect is expressed by Myers (1977) in Frankel and Litov (2007) and Black and Scholes (1973) became stronger when the company's leverage ratio increased (Gavish and Kalay, 1983). Based on the results of these studies, the researchers formulate hypotheses as follows:

H4: Leverage effect on the manufacture of its debt agreement.

3. Research Methodology

3.1 Sample of Research

The population used in this research is manufacturing companies listed in Indonesia Stock Exchange that perform debt covenants in 2010 -2014.

Samples will be selected with the following criteria :

- 1) Public companies have been listed in the Indonesia Stock Exchange by the official website of the Stock Exchange (www.idx.co.id) from 2010 -2014.
- 2) The company entered into a loan with collateral (covenant based collateral)
- 3) The company did not come out of years of observation 2010-2014.
- 4) The Company presents data consistently observed debts within a period of observation years 2010-2014.
- 5) The Company presents all data variables into research purposes researchers.
- 6) The financial statements using the currency.

3.2. Variable Operationalization

The dependent variable used in this study are AB (accounting-based covenants). The independent variables used to describe AB: Cl (collateral/ guarantee/collateral), Pr (profitability ratios), GO (growth companies), Lev (leverage),

AB as the dependent variable is a dummy variable, 1 = if the contractual use restrictions debt accounting (accounting-based covenants), 0 = otherwise. Cl as the collateral is measured by net fixed assets divided by total assets. Pr is a profitability ratio measured by net income divided by total sales. GO is the growth opportunities are measured by this formula: $\{S(t) - S(t-1)\} / S(t-1)$, where S (t) is the company's sales in the year t (t is the fiscal year before the bonds are issued) and S (t-1) is the company's sales in year t-1. Lev is leverage measured by total debt divided by total assets.

The equation to test the overall hypothesis in this study are as follows:

$$\ln \frac{AB}{1-AB} = \beta_0 + \beta_1 Cl + \beta_2 Pr + \beta_3 GO + \beta_4 Lev + \varepsilon$$

Information:

Ln = AB: Accounting based covenants proxied by a dummy variable,

1-AB 1 = if contractual use restrictions debt accounting (accounting based covenants), 0 = otherwise.

β_0 : constants

β_1 - β_{11} : Regression coefficients

Cl: collateral (guarantee / collateral)

Pr: profitability ratios

GO: opportunity sales growth (sales growth)

Lev: leverage

ε : error term (residual error)

3.3. Data Analysis

This study used statistical analysis descriptive and inferential statistical analysis. The data have been collected are then tabulated in tables and discussions were held descriptively. Inferential statistical analysis was used to test the influence between variables. This study using panel data of 10 companies for six years from 2010 to

2014.

The decision to accept or reject the hypothesis is done with the following requirements:

- 1) If significance < 0.05 then the null hypothesis (H_0) is rejected or H_a accepted, meaning that there is influence between the two variables are statistically.
- 2) If the significance of > 0.05 , the null hypothesis (H_0) H_a accepted or rejected it means there is no influence between the two variables are statistically.

4. Statistics Descriptive, Results, and Conclusions

4.1. Statistics Descriptive

The table below describes the description of research on variable collateral, profitability, growth and leverage and Tobin's Q and Return on Assets.

Table 4.1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Collateral	50	.2440	1.2039	.594654	.1863524
Profitability	50	-.7703	.9044	.150339	.2374698
Growth	50	-.7478	3.4811	.194922	.5896707
Leverage	50	.0009	1.4069	.527784	.3082458
Covenant	50	0	1	.60	.495
Valid N (listwise)	50				

Output SPSS versi 22, 2016

Based on the output descriptive statistics in table 4.1 above, the average of accounting-based covenants that occurred in the study period was 0.60, which means the proportion of covenant based accounting for 60%. With a high value based accounting covenants in Indonesia showed that accounting numbers are still used as a reference in a contract debt. The lowest value of collateral assets are 0.24, 1.204 and the highest average of 0.59. Values lowest profitability was -0.77 means that there are companies that suffered losses, the highest score of 0.904 and an average of 0.15. The lowest value growth of -0.75, which means there is a company that is experiencing a decline in sales, the highest value growth amounted to 3.48, while the average value of 0.19. The value of the lowest leverage is 0.0009 and the highest was 1,407, while the average value of leverage is 0.528, meaning that the average company in the sample using a larger debts than assets.

4.2. Hypotheses Results

Hypotheses testing effects of collateral, profitability, growth and leverage to accounting-based covenants using logistic regression with significance level of 5%. To test the goodness of fit statistical models used Value Hosmer and Lemeshow's. If Hosmer and Lemeshow's statistic is greater than alpha (0.01 and 0.1) then the model can be summed able to predict the value of his observations or unacceptable because according to the data observations.

Table 4.2. Hosmer and Lemeshow Test

Step	Chi-square	Df	Sig
1	14.434	8	.071

Output SPSS versi 22, 2016

Based on the table above, the significant value is 0,071 greater than 0.01, the regression model can be concluded is able to predict the value of observation and deserves to be used in subsequent analyzes. The next step is to test the overall model (overall model fit). The regression model was assessed using Omnibus tests of the model coefficient, this test is similar to the F test on multiple linear regression analysis.

Table 4.3. Omnibus Tests of Model Coefficients

Step 1		Chi-square	Df	Sig.
	Step	10.033	4	.040
	Block	10.033	4	.040
	Model	10.033	4	.040

Output SPSS versi 22, 2016

The test results demonstrate the model Chi -squares value of 10,033 where the value $p >$ chi-square showed 0:04. This value is smaller than 0.05 significance level test so that we can reject the null hypothesis that there is no independent variables that significantly influence the dependent variable. Thus, with a 95 percent confidence level can be concluded that there is a minimum of one independent variable that significantly effect to the dependent variable. The test results can be used for simultaneous testing (together) influence the independent variable on the dependent variable, meaning that collateral, profitability, growth and leverage significant effect together against the covenant.

Partial hypothesis testing was conducted to see the effect of the independent variable on the dependent one by one.

Table 4.4. Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Collateral	-.151	1.808	.007	1	.933	.860
	Profitability	-1.269	1.760	.520	1	.471	.281
	Growth	.568	.766	.550	1	.458	1.765
	Leverage	3.058	1.492	4.199	1	.040	21.276
	Constant	-.905	1.233	.538	1	.463	.405

a. Variable(s) entered on step 1: Collateral, Profitability, Growth, Leverage.

Sumber: Output SPSS versi 22, 2016

This test is done to determine the effect of each independent variable on the dependent variable partially. This test is similar to the t test on multiple linear regression analysis. Values of this test can be seen in the z score or when using the p-value can be seen in item Sig. For variable collateral, the value of Sig. is 0.933. This value is greater than the value of 0.05 significance test that hypothesis is not supported the first study, where the variable collateral no significant effect on the variable covenant. Profitability for the variable, the value of significance for 0.471. This value is greater than the value of 0.05 significance test that hypothesis is not supported a second study, in which the profitability variable has no significant effect on the variable covenant. For variable growth, value significance of 0.458. This value is greater than the value of the test of significance of 0.05 (0.458 > 0.05), so the hypothesis is not supported by the third study, in which the growth variable has no significant effect on the variable covenant. While the significant value of the variable leverage is 0.040, meaning variable leverage significant value smaller than the value of the test of significance of 0.05 (0.04 < 0.05) so that the fourth research hypothesis is supported, where variable leverage significant positive effect on the variable accounting-based covenants.

The logistic regression model of the research are:

$$\ln \frac{AB}{1-AB} = -0,91 - 0,15 Cl - 1,27 Pr + 0,57 GO + 3,06 Lev + \varepsilon \dots (4.1)$$

Unlike the multiple linear regression analysis/simplified, the interpretation of logistic regression analysis can not be directly read by the coefficient value. To be interpreted, first coefficient value of each variable must be exponential. The magnitude of the effect is shown with Exp (B) or also known as Odds Ratio (OR). In the variable collateral, the value of Exp (B) of 0.860, Exp (B) profitability amounted to 0.281, Exp (B) growth amounted to 1.765, and the value of Exp (B) the leverage of 21.276. If the collateral up 1 then the covenant based accounting will drop by 0.860 and vice versa. If profitability rose one the covenant based accounting is likely to increase by 0.281, when growth rose 1 then covenants based accounting is likely to rise by 0,568. And if leverage rose 1 then the chances of covenant based accounting will increase the spread 21.276 times. Of the four independent variable only one that has a significant influence is leverage.

Table 4.5. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	57.268 ^a	.182	.246

a. Estimation terminated at iteration number because parameter estimates changed by less than .001.

The value of the coefficient of determination on a logistic regression model indicated by Nagelkerke R-squared value. Nagelkerke R-square value can be interpreted as the value of R square on multiple regression. The results of statistical calculation magnitude Nagelkerke R-square value is equal to 0.246, which means variable covenant influenced by variable colletarel, profitability, growth and leverage of 24.6% while the remaining 75.4% (100 to 24.6%) influenced by factors or other variables outside the model.

4.3. Conclusions

From the results of data analysis can be concluded as follows:

- 1) The significance value of variable collateral is greater than the value of significance test that hypothesis is not supported the first study, where the variable collateral no significant effect on the variable covenant.
- 2) The significance value of variable profitability, is greater than the value of significance test that hypothesis is not supported a second study, in which the profitability variable has no significant effect on the variable covenant.
- 3) The significance value of variable growth, is greater than the value of significance test, so the hypothesis is not supported by the third study, in which the growth variable has no significant effect on the variable covenant.
- 4) The significant value of variable leverage smaller than the value of significance test, so that the fourth research hypothesis is supported, where variable leverage significant positive effect on the variable accounting-based covenants.

5. Limitations and Suggestions

The suggestions can be given for this study are as follows:

- 1) In this study, for the collateral, profitability, growth variables showed partially no significant effect found on covenant, this can happen because the amount of data or a company that only 10 companies. The next researchers should add more companies surveyed for more significant result.
- 2) Subsequent research can also be done by adding variable research to get a better result.
- 3) Subsequent research can also be done at the company, other than the manufacturing sector with longer years of the study.

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