

DETERMINANTS OF DEBT MATURITY IN INDONESIA FIRMS

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Abstract: *This study examine the relation between determinants of debt maturity for a sample of 98 Indonesia non-financial firms listed on Indonesia stock exchange for period 2004-2013. I applied panel data and used fixed effect to estimate model's parameter as a result of chow test and hausman test. I find that size, tangibility, asset maturity, leverage, cash flow, and inflation rate have a significant relation on debt maturity. Whereas growth opportunity, profitability, business risk, tax, GDP growth, and level of corruption do not have a significant relation on debt maturity.*

Key words: *Debt maturity, Leverage, Cash flow, and Inflation rate*

INTRODUCTION

There is a phenomenon that non-financial companies listed on the Indonesia Stock Exchange tend to use short-term debt than long-term debt to finance its investment activities during the period 2004 to 2013. In that period, the average return on assets (ROA) positive, except for 2004 amounted to -2.8. This confirms Kunt and Maksimovic (1999), that developing countries have a number of long-term debt is much lower than developed countries.

The firm of corruption country and the weak implementation of the law tend to use more debt, especially short-term debt (Fan, Titman, and Twite, 2012). This is related to the ratio of higher firm' debt and shorter maturity debt. Tekce (2011) and Dang (2008), state that the firm overcome the under-investment problem by reducing the level of leverage than shortening debt maturities. Higher leverage caused the higher cost of financing. Myers (1977) state that the maturity of debt after the expiry of the growth option causes under-investment problem, because the firm refused to finance the project with a positive net present value (NPV) that can provide benefits to the debt-holders, are not shareholders.

This study is a hypothesis testing study which aimed to analyze the relationship of size, tangibility, assets maturity, leverage, cash flow, inflation rate, growth opportunities, profitability, business risk, tax, GDP growth, and the level of corruption on debt maturity.

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THEORITICAL, VARIABLES, AND HYPOTHESIS THEORIES

This paper based on agency costs theory (Bolton and Scharfstein, 1990; Jensen, 1986) emphasize the role of debt in reducing agency costs between shareholders and managers. In a seminal paper, Myers (1977) represented that short-term debt mitigates the under-investment problem. Firms do not pursue relatively riskier projects because creditors get more benefits from these investments. The under-investment problem gets more severe if a firm has more growth opportunities. When firms grow very quickly, their financing needs exceed their internal resources (Demirgüç-Kunt and Maksimovic, 1999). Kunt and Maksimovic (1999), that developing countries have a number of long-term debt is much lower than developed countries. Tekce (2011) and Antoniou, Guney, and Paudyal (2002), said that debt maturity depends on firm' specific factors and country' specific factors.

VARIABLES AND HYPOTHESES

a. Debt Maturity

There is no universal definition of short-term debt or long term. Some studies consider the long-term debt if paid after one year (eg Scherr and Hulburt, 2001) while others define it as long term if paid after three years (Barclay and Smith, 1995) or five years (Schiantarelli and Sembenelli, 1997). In this study, I define maturity of debt (DEBTMAT), defined as long-term debt with debt maturities of more than three years and maturity is defined as the ratio of long-term debt divided by long-term debt plus short-term debt. This variable follows the Kirch and Terra (2011), Qiu et.al (2005), and Tekce (2011). Variable debt maturity acts as the dependent variable.

b. Whereas the independent variables are as follows

Growth Opportunities

This variable follows Tekce (2011) in which the equation of growth opportunities (GROWTH) is defined as the ratio of the total market value of assets divided by the book value of assets. Tobin-Q as a proxy for the growth of the company. The hypothesis is

H1: There is a significant association negatively between growth opportunity and debt maturity.

Firm Size

Firm size (SIZE) is defined as the scale of the company, where the total assets of the fixed and movable assets of firm i in period t . In this study, I follow Tsapin et.al (2010) and Brick and Liao (2013), and Tekce (2011). The hypothesis is

H2: There is a significant association positively between size and debt maturity.

Profitability

This variable follows Terra and Kirch (2010), where profitability (PROFIT) is defined as the ratio between the total return of the asset i in period t . The hypothesis is:

H3: There is a significant association positively between profitability and debt maturity.

Tangibility

This variables follows the Kirch and Terra (2010) and Tekce (2011), where tangibility (TANGIB) is the ratio of collateral assets the firm i in period t to total assets. The hypothesis is:

H4: There is a significant association positively between tangibility and debt maturity.

Business Risk

This variables follows the Kirch and Terra (2011), where the business risk (BRISK) is a degree of operational leverage which is the ratio of sales of firm i in period t to the operating income. The hypothesis is:

H5: There is a significant association positively between business risk and debt maturity.

Tax

This Variable followed the Tsapin et.al (2010) in which taxes are measured from the ratio of total taxes paid to the EBIT firm i in period t . The hypothesis is

H6 : There is a significant association positively between tax and debt maturity.

Maturity Assets

Following Stohs and Mauer (1996) and Tsapin et.al (2010), I measure the assets maturity (ASMAT) as net property, plant and equipment divided by the cost of depreciation. The hypothesis is:

H7 : There is a significant association positively between assets maturity and debt maturity.

Cash Flow

Following Qiu et.al (2005), cash flow (CF) is defined as the ratio of income before extraordinary items and depreciation divided by Net Fixed Assets at the beginning of the year. The hypothesis is:

H8: There is a significant association positively between cash flow and debt maturity.

Leverage

This variables referring to Tsapin et.al (2010), Brick and liao (2013), Qiu et.al (2005), and Tekce (2011). Leverage (LEV) is defined as the ratio of debt to total assets of the company at any given time. The hypothesis is:

H9: There is a significant association positively between leverage and debt maturity.

Inflation rate

Following Fan, Titman, and Twite, 2012; Fan, Titman, and Twite (2010); Fan, Titman, and Twite (2002); Sorge and Chang (2006), then the rate of inflation (INFLAT) is defined as the rate of annual change in the consumer price index. The hypothesis is:

H10: There is a significant association negatively between inflation rate and debt maturity.

GDP Growth

Following Tekce (2011); Nicolo and Detragiache (2007), Sorge & Chang (2006), the GDP growth (GDPGR) is a proxy for investment opportunities, is an annual growth rate of GDP. Hypothesis proposed is:

H11: There is a significant association positively between GDP growth and debt maturity.

The level of corruption

Following Fan, Titman, and Twite, 2012; Fan, Titman, and Twite (2010); Fan, Titman, and Twite (2002); Wei (2000); Sorge & Chang (2006), the level of corruption (CORRUPT) is a corruption index released by Transparency International, where the index ranges from 0 to 100, where a value of 0 = very clean, and 100 = very corrupt. The hypothesis is:

H12: There is a significant association negatively between level of corruption and debt maturity.

METHODS

Secondary data sources are from the Indonesia Stock Exchange (BEI), the Indonesia Central Bureau of Statistics (BPS), and Transparency International (TI). The type of

data is secondary data panel (pooled data) which is a combination of the sample data 98 cross (cross-section) of non-financial companies listed on the Indonesia Stock Exchange, which consists of a balance sheet, cash flow and income statement. It does not include companies that do not submit complete financial statements, and time series data (times-series) over a period of 10 years from 2004 till 2013 as many as 980 observations, so as to conform with the rules of the minimum number of observations in the regression analysis technique research models. The use of secondary data will save time and costs.

Multiple regression analysis analyze the factors that affect the firm's debt maturity. The multiple regression analysis in order to produce a valid parameter estimates there are some assumptions that must be met in the regression analysis among other things best linear Unbiased Estimator (BLUE). It used E-Views 6.0 applications. To estimate the parameters of a panel data regression, used test chow (Chow test) and Hausman test. The result shows that the fixed effect model are appropriately used in this study. Fixed effect estimation model used as a result of Chow test and Hausman test. In the model equation, Chow test results demonstrate the significant value of the cross-section F of 0.000. Because the value of the value is less than 0.05, then been fixed effect (Appendix 2). The result of Hausman test showed the Chi-square value of 42.974 (Appendix 3). Because Chi-square value calculated $42.974 > 21.026$ (Chi-square table, $DF = 12$), then the selected is fixed effect. Multiple regression equation used in this research as follows:

$$\begin{aligned}
 DEBTMAT_{it} = & \alpha - \beta_1 GROWTH_{it} + \beta_2 SIZE_{it} + \beta_3 PROFIT_{it} \\
 & + \beta_4 TANGIB_{it} + \beta_5 BRISK_{it} + \beta_6 TAX_{it} + \\
 & \beta_7 AMAT_{it} + \beta_8 CF_{it} + \beta_9 LEV_{it} - \beta_{10} INFLAT_{it} + \\
 & \beta_{11} GDPGR_{it} - \beta_{12} CORRUPT_{it} + \varepsilon_{it} \dots\dots\dots
 \end{aligned}$$

Where:

$$\varepsilon_{it} = u_i + v_t + w_{it}$$

Where :

- | | | | |
|---------------------|-----------------------|-------|---------------------------------|
| α | = Contant | i | = Individual |
| $\beta_1 - \beta_9$ | = Coefficient | t | = Time |
| ε | = Error term | u_i | = cross-section error Component |
| w_{it} | = Mix error component | v_t | = time-series error Component |

The problem of assuming deviation can arise in the linear regression model with panel data in time series data and cross-sectional data, namely multikolinier and autocorrelation problems. These deviations can results model becomes invalid.

In this study was not conducted tests of normality, because the amount exceeded 30 obserasinya observation. The coefficient of determination (R^2), used to measure how much the independent variables can explain the dependent variable

in the regression model. The value of the coefficient is between 0 and 1. value close to 1 indicates that the variables in the model can represent problems studied, because it can explain the variations that occur in the dependent variable, and vice versa.

't' test is applied, where the results of 't value' is calculated in comparison with the 't table' based on a certain degree of freedom and with $\alpha = 5\%$. If the t value greater than t-table then H_0 is rejected. If the t value less than or equal to, from t-table then H_0 is accepted.

Using the probability distribution of the test statistic, by setting a confidence interval of 100 $(1 - \alpha)\%$. If the value of the parameter under the null hypothesis, located in the area of trust, namely the reception area, we do not reject the null hypothesis. However, if the value is outside this interval, we reject the null hypothesis. This study uses one tail test confidence interval, assuming that the direction of expected value based on the results of previous studies. In the significance test procedures, when a statistical test is calculated based on the data we have, then the q value can be easily obtained; q value gives the right probability to obtain estimates of statistical tests stated in the null hypothesis. If q value is small, the hypothesis can be rejected, and vice versa. the hypothesis testing is useful to check or test whether a significant regression coefficients or not.

RESULTS AND DISCUSSION

Classic Assumption Testing Results

Results of multiple linear regression requires the detection of problems that may occur in any regression model. Problems that may occur because of the violation of the assumption that multicollinearity, autocorrelation, and heteretokedastisitas.

Multicollinearity

Multicollinearity problems can be overcome by using panel data (Gujarati, 2003). Thus, the problems in the regression model telah resolved with the use of panel data in this study. However, to strengthen the statement multikolinieritas test using a correlation matrix (Appendix 5). The test results obtained correlation coefficient value lower than 0.8, so it can be said that the model used is free from the problems of multicollinearity.

Autocorrelation

To overcome the problem of autocorrelation, then used the model GLS (General Least-square). According to Gujarati (2003), the use of GLS models output result

has no problem of autocorrelation. Thus, the problem of autocorrelation in the model can be ignored.

Heterokedastisitas

According to Gujarati (2003), the problem can be solved heterokedastisitas using the model GLS (General Least-square). On GLS models are treated white cross section heterokedastistas to overcome problems that might occur. It can be seen from the results of the estimation in which the residual square sum weighted value lower than the value of the residual square sum unweighted. Thus, the model is free from the problems heterokedastisitas.

Based on the results of the regression calculation, then the first equation with a fixed effect model can be written as follows:

$$\begin{aligned}
 \text{DEBMAT} = & 0,6392 + 0,0005 \text{ GROWTH}_{it} - 0,0251 \text{ SIZE}_{it} - 0,0454 \text{ PROFIT}_{it} - \\
 & 0,0182 \text{ TANGIB}_{it} + 0,00004 \text{ BRISK}_{it} + 0,0007 \text{ TAX}_{it} \\
 & + 0,0008 \text{ ASMAT}_{it} + 0,0037 \text{ CF}_{it} + 0,0309 \text{ LEV}_{it} + 0,0488 \text{ INFLAT}_{it} + \\
 & 0,0762 \text{ GDPGR}_{it} + 0,0001 \text{ CORRUPT}_{it} + \epsilon_{it,\dots}
 \end{aligned}$$

To illustrate the condition of each variable descriptive statistical results of the study are presented in Table 1, namely:

Table 1
Research Variables Descriptive Statistic

| <i>VARIABEL</i> | <i>MEAN</i> | <i>MAXIMUM</i> | <i>MINIMUM</i> | <i>STD. DEV.</i> |
|-----------------|-------------|----------------|----------------|------------------|
| DEBTMAT | 0,331 | 0,999 | 0,000 | 0,239 |
| GROWTH | 1,759 | 20,250 | 0,178 | 2,024 |
| SIZE | 13,805 | 19,181 | 9,267 | 1,770 |
| PROFIT | 0,103 | 1,286 | -0,688 | 0,148 |
| TANGIB | 0,420 | 14,696 | 0,005 | 0,660 |
| BRISK | 19,036 | 2244,026 | -920,456 | 128,231 |
| TAX | 0,359 | 184,429 | -39,534 | 6,351 |
| ASMAT | 13,459 | 350,793 | -2,211 | 24,361 |
| CF | 0,482 | 13,217 | -71,251 | 2,506 |
| LEV | 0,567 | 6,499 | 0,002 | 0,501 |
| INFLAT | 0,011 | 0,171 | -0,268 | 0,127 |
| GDPGR | 0,161 | 0,253 | 0,104 | 0,047 |
| CORRUPT | 122,200 | 143,000 | 100,000 | 13,028 |

- Debt Maturity represents a mean of debt maturity of 0.331. While the lowest value was 0 and the highest value 0.999. The standard deviation value of 0.239 indicates a relatively small deviation of the data because the value is smaller than mean value (0.331).
- Growth opportunities, showed a mean value of Tobin-Q of 1,759. while the highest value and the lowest value was 20.250 and 0.178. The deviation standard value of 2.024 indicates a relatively large deviation data because its value is greater than the mean value (1.759).
- Firm Size, shows the mean of firm size amounted to 13.804. While the highest value 19,181 dan lowest value was 9.267. The standard deviation value of 1.770 indicates a relatively small deviation of the data because the its value is smaller than the mean value (13.804).
- Profitability, shows the mean of profitability 0,103. While the highest value and the lowest value was 1.286 and -0.688. The deviation standard value of 0.148 indicates a relatively large deviation data because its value is greater than the mean value (0,103).
- Tangibility, shows the mean of tangibility 0.420. while the highest value and the lowest value was 14.696 and 0.005. The deviation standard value 0.660 indicates the deviation data is relatively large because the its value is greater than the mean value (0.420).
- Business Risk, shows the mean of tangibility 19.036. While the highest value and the lowest value was 2244.026 and -920.456. The deviation standard value 128.231 indicates the deviation data is relatively large because the its value is greater than the mean value (19.036).
- Taxes, showed a mean of tax 0.359. While the highest value and the lowest value was 184.429 and -39.534. The standard deviation value of 6.351 indicates the deviation data is relatively large because the its value is greater than the mean value (0.359).
- Assets maturity, showing the mean of assets maturity amounted to 13.459. While the highest value and the lowest value was 350.793 and -2.211. The deviation standard value 24.361 indicates the deviation data is relatively large because the value is greater than the mean value (13.459).
- Cash Flow, shows the mean of cash flow amounted to 0,482. While the highest value and the lowest value was 13.217 and -71.251. The deviation standard value of 2.506 indicates the deviation data is relatively large because the value is greater than the mean value (0.482).

- Leverage, shows a current of 0.567. While the highest value of 6.499 and the lowest value was 0.002. The deviation standard value of 0.501 indicates a relatively small deviation data because the value is smaller than the mean value (0.567).
- Inflation rate, showed a mean of inflation rate 0,011. While the highest value and the lowest value was 0.171 and -0.268. The deviation standard value of 0.127 indicates the deviation data is relatively large because the value is greater than the mean value (0.011).
- GDP growth, showing a mean of GDP growth 0.161. While the highest value of 0.253 and the lowest value was 0.104. The deviation standard value 0.047 indicates a relatively small deviation data because the value is smaller than the mean value (0.161).
- Level of Corruption, shows the mean of level of corruption amounting to 122.2. While the highest value of 143 and the lowest value is 100. The deviation standard value of 13.028 indicates deviation data is relatively small because the value is smaller than the mean value (122.2).

Based on the equation hypothesis test analysis and t-test above can be explained as follows:

- Relation between Growth Opportunities and Debt Maturity.

The regression coefficient was 0.0005. It would mean, there is a positive influence on the growth opportunities to debt maturity. t-estimated obtained at 0.309, while the value t-table on $\alpha = 0.05$ and $df = nk = 980-13 = 967$ is 1.646. Therefore t-estimates (0.309) < t table value (1.646), then the effect of the growth opportunities on debt maturity is not significant. Thus, the hypothesis that growth opportunities have a negative impact on debt maturity, was rejected. Although the estimated valuenya opposite direction than expected value is negative (-), and not significantly so that it can be ignored. This indicates that the growth opportunities does not effect to debt maturity.

The research result is in line with Terra et.al (2011); Insignificant in French, Germany, Antoniou, Guney, and Paudyal, 2002, in which no significant influence the growth opportunities on debt maturity. This Result is not in line with Fan, Titman, and Twite, 2012, in the USA; Stephan et.al (2011) which states that the negative effect on growth opportunities for maturing debt, Fan, Titman, and Twite, 2012 at 28 country of 39 country; Hajiha & Akhlaghi (2012), significant positive and in the UK, Antoniou, Guney, and Paudyal, 2002, which states that there is a positive influence between growth opportunities with maturing debt.

Relation between firm size and Debt Maturity.

Regression coefficient was -0.0251. That is, there is the negative influence size on debt maturity. t-estimated obtained at -2.728, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore $t_{count} (2.728) > t_{table} \text{ value} (1.646)$, then the effect of firm size on the maturity of the debt is significant. Thus, the hypothesis that firm size has positive influence on maturing debt, accepted. But its estimated value has a different direction than expected value is positive (+). This means that the firm size a negatively effect on debt maturity. Meaning, the greater firm size will shorten debt maturity.

These results are not in line with Fan, Titman, and Twite, 2012; Terra et.al (2011). Brick and Liao (2013); Tsapin (2011); Hajiha & Akhlaghi (2012); Positive and significant in the UK, Antoniou, Guney, and Paudyal, 2002, which states that there is a positive influence between firm size and maturity of the debt.

Relation between Profitability and Debt Maturity.

Regression coefficient was -0.0454. That is, there is a negative effect on the profitability of maturing debt. t-estimated obtained at -1.511, while the value ttable on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore $t_{estimated} (-1.511) < \text{value } t\text{-table} (1.646)$, then the influence of the profitability of the maturing debt is not significant. Thus, the hypothesis that the positive effect on the profitability of maturing debt, was rejected. Although the its estimated value opposite direction than expected is positive (+), and not significantly so that it can be ignored.

These results are not in line with Fan, Titman, and Twite, 2012; Terra (2011); Huang and Song (2006); Hajiha & Akhlaghi (2012) which states that the positive effect on the profitability of the maturing debt. Rajan and Zingales (1985); Myers and Majluf (1983)., Which states that there is a negative influence between profitability and debt maturities.

Relation between Tangibility and Debt Maturity.

Regression coefficient was -0.0182. That is, there is a negative effect tangibility on debt maturity. t-estimated obtained at -3.2486, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore $t_{estimated} (3.249) > t_{table} \text{ value} (1.646)$, then the influence of tangibility to debt maturity is significant. Thus, the hypothesis that tangibility positively effect on debt maturity, accepted. But its estimated value opposite direction than expected is positive (+). This means that tangibility has a negatively effect on debt maturity. It would mean, the higher firm' tangibility will reduce the firm's long-term debt.

These results are not in line with Fan, Titman, and Twite, (2012). Rajan and

Zingales 1995; Frank & Goyal, 2000, Titman Wessel (1998); Hajiha & Akhlaghi (2012), which states that the tangibility associated positively with debt maturities.

Relation between Business Risk and Debt Maturity.

Regression coefficient is 0.00004. That is, there is a positive influence on the business risk of debt maturities. t-estimated obtained at 0.128, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (0.128) < t-table value (1.646), then the influence of the business risk to debt maturity is not significant. Thus, the hypothesis that the positive effect on the business risk of debt maturities, declined. This shows that the business risks does not give effect to the maturity of the debt. The higher business risk of the company does not necessarily extend the maturity of debt.

These results are not in line with Terra et.al (2011); Tsapin 2010; Stoch & Mauer 1996 Terra et.al (2011); Tsapin 2010; Stoch and Mauer (1996), which suggested a positive correlation between business risk and debt maturity structure.

Relation between Taxes and Debt Maturity.

Regression coefficient was 0.0007. That is, there is a positively effect tax on debt maturity. t-estimated obtained at 1,748, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (1.748) > t-table value (1.646), then tax effect debt maturity, is not significant. Thus, the hypothesis that tax has positive influence on maturing debt, was rejected. This suggests that tax does not effect to the debt maturities.

These results are not in line with Huang and Song, 2006 (agency theory); Tsapin 2010. Hajiha & Akhlaghi (2012); in Germany (Antoniou, Guney, and Paudyal, 2002), which states that the tax is positively correlated with the maturity of the debt.

Relation between Assets Maturity and Debt Maturity.

Regression coefficient was 0.0008. That is, there is a positive effect assets maturity on debt maturities. t-estimated obtained at 1,991, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (1.991) > t-table value (1.646), then the effect of assets maturity to debt maturity, is significant. Thus, the hypothesis that assets maturity has a positively influence on maturing debt, accepted. This shows that assets maturity has an impact on maturing debt. In other words, the greater assets maturity will extend debt maturity.

The research result is in line with Brick & Liao, 2013, Laureano, 2013, Terra and Kirch 2011. Positive and significant in the UK, Antoniou, Guney, and Paudyal, 2002. Brick and Liao (2013) which stated maturity long debt significantly positively

related to the maturity of the asset. Similarly, the results of research Custódio, Ferreira and Laureano (2013) also found a significant positive relationship between the maturity of assets and debt maturities.

Relation between Cash Flow and Debt Maturity. à S

Regression coefficient was 0.0037. That is, there is positive cash flow to debt maturities. t-estimated obtained at 3.040, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (3.040) > t-table value (1.646), then the effect of cash flow to debt maturities is significant. Thus, the hypothesis that cash flow positively influence on debt maturity, is accepted. This means that there is positively effect cash flow to debt maturities. Meaning, the higher cash flow, the longer debt maturity.

The research result is consistent with Brick and Liao (2013) which states that a firm with more cash also holds more long-term debt and vice versa.

Relation between Leverage and Debt Maturity.

Regression coefficient was 0.0309. That is, there is positive leverage on debt maturity. t-estimated obtained at 2,959, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (2.959) > t-table value (1.646), then leverage effect on debt maturity, is significant. Thus, the hypothesis that leverage positively effect on debt maturity, is accepted. This means that there is a positively impact leverage on debt maturity. Meaning, the higher leverage will increase the long-term debt.

The research result is in line with Brick & Liao, 2013, Leland and Toft, 1996, Tsapin 2010. French, UK, Germany, Antoniou, Guney, and Paudyal, 2002), which stated that the leverage effect positively to maturity debt. However, this study contrast with Hajiha & Akhlaghi (2012); Terra (2011), which stated that the leverage effect negatively to loan maturity.

Relation between Inflation Rate and Debt Maturity.

Regression coefficient was 0.0488. That is, there is a positive influence inflation rate on debt maturity. t-estimated obtained at 4.849, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (4.849) > t-table value (1.646), then the effect of inflation on debt maturity, is significant. Thus, the hypothesis that inflation rate negatively affect debt maturities, accepted. But the its estimated value has a different direction than expected is negative (-). This means that there is a positively influence the inflation rate on debt maturity. Meaning, the higher inflation rate will longer debt maturity.

The results support Fan, Titman, and Twite, (2012), which states that the inflation rate has positive effects on the maturing debt in developing countries. On the other hand, this study is not in line with Pescetto et.al (2007), Maksimovic and Kunt (1999), Detragiache et.al (2007), which states that the rate of inflation affects negatively to fall maturity debt. Pescetto et.al (2007) states that high inflation negatively associated with the use of long-term debt in countries highly affected by the crisis. In addition, research Agca, Nicolo, Detragiache (2007) who found that high inflation in developing countries negatively related to debt maturity. Likewise Demirgüç-Kunt and Maksimovic (1999) states that inflation negatively related to debt maturity.

Relation between GDP growth and Debt Maturity.

Regression coefficient was 0.0762. That is, there is a positive effect of GDP growth towards debt maturity. t-estimated obtained at 1,563, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (1.563) < t-table value (1.646), then the effect of GDP growth to debt maturity, is not significant. Thus, the hypothesis that there is a positive effect GDP growth on debt maturity, was rejected. This means that there is no positive influence between GDP growth and debt maturity. Meaning, the higher GDP growth does not necessarily extend the maturity of debt.

These results are not in line with De Haas Peter, 2006, Sorge & Zhang, 2006, Maksimovic 1999. De Haas and Peters (2006) which states that the company is likely to use more long-term debt at the time of economic growth improved. Research Sorge and Zhang (2006) also states that the rate of GDP growth lower in touch with shortening debt maturities. Likewise Demirgüç-Kunt and Maksimovic (1999) states that the high GDP growth rates to encourage firms to plan debt maturities longer.

Relation between Level of Corruption and Debt Maturity.

Regression coefficient was 0.0001. That is, there is a positively effect between level of corruption and debt maturity. t-estimated obtained at 0.345, while the value t-table on $\alpha = 0.05$ and $df = 967$ is 1.646. Therefore t-estimated (0.345) < t-table value (1.646), the effect of level of corruption on the debt maturity, is not significant. Thus, the hypothesis that the level of corruption negatively affect the maturity of the debt, was rejected. Although the estimated valuenya has a different direction than expected is negative (-), so that it can be ignored. This means that there is no negative influence level of corruption on debt maturity.

These results are not in line with Fan, Titman, and Twite, 2012, Maksimovic, 1999, Pescetto 2007, Fan, Titman, and Twite (2006), Rajan and Zingales, 1995, Booth et.al, 2001, which states that the level of corruption affects negatively to

loan maturity. Fan, Titman, and Twite, 2012, which states that the debt maturity negatively associated with the level of corruption in a country. Sorge and Zhang (2006) who found that the ratio of short-term debt associated positively with the level of corruption in a country. Pescetto et.al (2007) which supports Fan, Titman, and Twite (2004) and Demirguc- Kunt and Maksimovic (1999), that the level of corruption associated with the debt maturity negative. In addition, Fan, Titman, and Twite (2006); Rajan and Zingales (1995) and Booth, et.al (2001) which states that a shorter maturity in corrupt countries.

CONCLUSIONS AND RECOMMENDATIONS

1. Conclusions

This study is a hypothesis testing study in which i examine the relationship between variables determinants of debt maturity sample of 98 non-financial companies during the period 2004 to 2013 are listed in the Indonesia Stock Exchange. Independent variables determinant of debt maturities come from firm-specific factors such as variable assets maturities, business risk, leverage, firm size, tangibility, growth opportunities, profitability, cash flow, taxes, as well as country-specific factors such as GDP growth, inflation rate, and the level of corruption. I used panel data and applied to estimate the fixed effect model parameters as a result of the chow test and Hausman test. Panel method used is EGLS (Cross-section weights) with Linear estimation after one-step weighting matrix and Cross-section SUR (PCSE) standard errors and covariance (df corrected). I found that firm size, tangibility, assets maturity, leverage, cash flow, and inflation rate have a significant influence on debt maturity. Meanwhile, growth opportunities, profitability, business risk, tax, GDP growth, and the level of corruption do not affect debt maturity.

Firm size has a significant negatively effect on debt maturity. Because its estimated value has a different direction than expected value is negative (-). Meaning, the greater firm size will shorten debt maturity. Tangibility has a significant impact negatively on debt maturity. Because its estimated valuenya has a different direction than expected value is positive (+). It would mean, the higher firm' tangibility will reduce the firm's long-term debt. Assets maturity has a significant positively effect on debt maturity. This shows that assets maturity has an impact on maturing debt. In other words, the greater assets maturity will extend debt maturity. Cash flow has a positively significant impact on debt maturity. it would mean the higher cash flow, the longer debt maturity. Leverage has a positively significant impact on debt maturity. This means that there is a positively impact leverage on debt maturity. Meaning, the higher leverage will increase the long-term debt. Inflation rate has a positively significant effect on debt

maturity. Because its estimated value has a different direction than expected value is negative (-). This means that there is a positive influence the inflation rate on debt maturity. Meaning, the higher inflation rate will longer debt maturity.

Whereas growth opportunity, profitability, business risk, tax, GDP Growth, and level of corruption do not have a significant impact on debt maturity.

The estimation results indicate that the determination coefficient (R^2) 0.891 (89.1%). It shows that 89.1% of debt maturing variation can be explained by variables of growth opportunities, firm size, profitability, tangibility, business risk, tax, assets maturity, cash flow, leverage, inflation rate, GDP growth, and the level corruption; while the rest (10.9%) is explained by other variables outside the model.

2. Theoretical Suggestions

Based on the above conclusions, the recommended suggestions as follows:

1. Subsequent research in order to use the model studies and other measurements to obtain better results.
2. It should be further research involving more variables, both firm specific variable or country-specific variables, which indicated an effect on debt maturity..

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Appendix 1

| <i>Variable</i> | <i>Coefficient</i> | <i>Std. Error</i> | <i>t-Statistic</i> | <i>Prob.</i> |
|------------------------------|--------------------|--------------------|--------------------|--------------|
| C | 0.639204 | 0.131830 | 4.848714 | 0.0000 |
| GROWTH | 0.000534 | 0.001729 | 0.309006 | 0.7574 |
| SIZE | -0.025099 | 0.009202 | -2.727619 | 0.0065 |
| PROFIT | -0.045360 | 0.030016 | -1.511226 | 0.1311 |
| TANGIB | -0.018211 | 0.005606 | -3.248601 | 0.0012 |
| BRISK | 4.20E-06 | 3.29E-05 | 0.127710 | 0.8984 |
| TAX | 0.000672 | 0.000384 | 1.747720 | 0.0809 |
| ASMAT | 0.000795 | 0.000399 | 1.990583 | 0.0468 |
| LEV | 0.030936 | 0.010456 | 2.958654 | 0.0032 |
| CF | 0.003671 | 0.001207 | 3.040113 | 0.0024 |
| GDPGR | 0.076164 | 0.048743 | 1.562567 | 0.1185 |
| CORRUPT | 5.14E-05 | 0.000149 | 0.344864 | 0.7303 |
| INFLAT | 0.048788 | 0.010061 | 4.849040 | 0.0000 |
| <i>Effects Specification</i> | | | | |
| <i>Weighted Statistics</i> | | | | |
| R-squared | 0.890863 | Mean dependent var | 0.515529 | |
| Adjusted R-squared | 0.877189 | S.D. dependent var | 0.422998 | |
| S.E. of regression | 0.158680 | Sum squared resid | 21.90612 | |
| F-statistic | 65.15242 | Durbin-Watson stat | 1.311194 | |
| Prob (F-statistic) | 0.000000 | | | |