

**FUNDAMENTAL FACTORS OF BOND RATING REGISTERED  
IN INDONESIA BOND MARKET DIRECTORY 2008-2012**

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*Abstract*

Investment decision is determined by the quality of the instrument. The quality of Bond as investment instrument is reflected through its rating since it provides signal and information related to the default risk. Bond rating is determined by many factors. Previous researches have shown different conclusion on which factors influence it, therefore further research is needed to be conducted to determine which factors affect it most. The objective of this research is to explain the influence of fundamental factors to the bonds rating listed in Indonesia Bond Market Directory 2008 – 2012, rated by Pefindo. The samples were tested by the Logistic Regression (Stepwise - Backward). The research concluded that only Retained Earnings, Leverage, and Guarantee have effect on the Bonds Rating.

Keywords: Bonds rating, Fundamental factors, Leverage

*Abstrak*

Keputusan investasi ditentukan oleh kualitas instrumen. Kualitas Obligasi sebagai instrumen investasi tercermin melalui rating karena memberikan sinyal dan informasi yang terkait dengan risiko default. Peringkat obligasi ditentukan oleh banyak faktor. Penelitian sebelumnya telah menunjukkan kesimpulan yang berbeda mengenai faktor yang mempengaruhi hal itu, karena itu diperlukan penelitian lebih lanjut untuk menentukan faktor yang paling mempengaruhi rating obligasi. Tujuan dari penelitian ini adalah untuk menjelaskan pengaruh faktor fundamental terhadap rating obligasi yang tercatat di Indonesia Bond Market Directory periode 2008 –2012 yang diperingkat oleh Pefindo. Sampel diuji oleh Regresi Logistik (Stepwise - Backward). Penelitian ini menyimpulkan bahwa hanya Laba Ditahan, Leverage, dan Jaminan memiliki efek pada Peringkat Obligasi.

Kata kunci: Peringkat obligasi, Faktor fundamental, Utang

JEL Classification: G1

**1. Research Background**

Bonds are long-term debt instruments, which are to be repaid at maturity with interest. Bonds are often viewed as a relatively safe investment, but it was likely a good investor losses stemming from factors beyond the company's performance as well as internal factors, such as risk-maturity funds are not paid on time (Brigham *et al.*, 1999).

In the theory of efficient market hypothesis (Scott, 2000), it was stated that in an efficient capital market, security prices are a reflection of the relevant information. In general, this theory suggests that the price of a security is influenced by the information available in the vicinity. In this theory also stated that an efficient market will react to changes in information.

The efficient market hypothesis theory is the background of Agency theory which is described by Jensen and Meckling (Brigham & Houston, 2011). They describe the agency relationship in the agency theory (agency theory) that the company is a collection of contracts (the nexus of contract) between the economical resource owners (principals) and managers (agents) that take care of the use and control of these resources. According to Sweeney (1994), this agency relationship resulted in two problems, namely: (a) the occurrence of asymmetric information (information asymmetry), which generally have more management information and the actual financial position of the entity operating position of the owner; and (b) a conflict of interest (conflict of interest) as a result of inequality destination, where management does not always act in accordance with the interests of the owner. The existence of such a conflict would result in the presence of agency costs (agency cost). Agency costs arising as a result of this conflict of interest is the cost of supervision (monitoring costs), insurance costs (bonding costs), and residual loss (residual loss).

Agency conflicts related to the issuance of bonds can occur between management and creditors. To reduce these conflicts, the management of the bond rating agencies use the services so that in this case can reduce the cost of insurance (bonding costs). Bond ratings are the result of the rating agency is a signal about the probability of failure to pay the debt of a company that declares a security risk scale or level of a bond issued.

Before the offer, the bonds must be rated by the bond rating agencies. The bond's rating will indicate the investment risk scale or investment risk level issued bonds. Bond's rating information is the information obtained through analysis of the company's performance, both financial factors and non-financial factors. In general, information about the bond rating is an indicator of the possibility of debt and interest payments in accordance with a fixed time prior agreement. In other words, it can describe the bond rating default risk of the company's debts.

Signaling theory suggests a link between management asymmetry with various stakeholders in the company information (Wydia, 2005). Information asymmetry occurs because one party has better information than the other party. As the company's internal management has better information than the other party.

Information is necessary for interested parties within a company. Asymmetry of information leads to external parties is very difficult to distinguish between companies that have high quality and low. Before deciding to invest in the bonds of a company, external parties such as potential investors would need information about the condition of the bond. Therefore the expected signal theory gives a signal in the form of management provides information on the quality or condition of the bond, if the bond potential default or not. One such signal is shown with bond ratings. Investors and creditors of the company can determine the condition of a given signal.

Bonds can be done by many rating agencies, such as Fitch, Moody's, Standard & Poor's, etc. Indonesia has bonds rating agency named PT PEFINDO, which is also affiliated with Moody. The ranking is done through a request made by the company that issued the bond, then the agency will analyze the condition of the company either use the information provided by the company as well as information from other parties that can be trusted. The results of the assessment will be ranked and will indicate the likely level of payments from the company. This ranking is one of the information that can affect the price of the bonds issued (Pefindo, 2011).

The existence of bonds of different ratings provides benefits. In this study, the author wanted to examine the influence of factors that affect the rating of bonds listed and circulated in Indonesia Stock Exchange during 2008 – 2012, and which were

published in Indonesian Bond Market Directory. In this research, the problems and objective to be studied specifically are as follows: the operating income, retained earnings, liquidity, leverage, maturity, insurance, auditor reputation, and growth of company are affecting of the bonds rating.

This study is limited only to the non-financial corporate bond is suance which is circulated in the Indonesian Stock Exchange during 2008-2012 and is registered in the Indonesian Bond Market Directory. In addition, the bonds must also be rated by PT PEFINDO, and published audited financial statements in the year of 2007 until 2012. The author chose to use only PEFINDO's data since most of the Company registered in IBMD were rated by PEFINDO. The study is also confined to the beginning of the current bond ratings, when they were first recorded. Ranking changes after the date of publication is not included in the study. This study covers only bond ratings during the first grading.

### **1.1. Bond rating**

Bonds are represented as a promise to pay a sum of money at the time of maturity of added on time to maturity plus certain interest rate periodically based on the value of the bond (Kieso et al. 2005). Meanwhile, according to Darmadji and Fakhrudin (2012), bonds as debt securities issued to the public for a particular purpose. Coupon bond investors are received periodically and they are the principal at maturity, it can be said that the bonds are fixed income securities.

Bond rating is an opinion of rating agencies as well as the source of information for investors on the risks of bonds traded (Based on Securities and Exchange Commission and the Financial Institutions Decree (BAPEPAM-LK) KEP-151 / BL / 2009). The purpose and rationale bond rating companies is to give an opinion about the relative credit risks associated with the debt securities instruments that are rated. In summary, the main process is to assess the ability of the issuer of the notes in question (the issuer) to generate operating cash flow and assess the adequacy of the cash to pay debt obligations of the issuer during the term of the notes.

For issuers, rating helps them to understand the structure of the bond and the positioning of its performance compared to other companies (Darmadji and Fakhrudin, 2012). Thus, numbers of investors who invest in corporate bonds are growing and the source of funds obtained is also getting bigger.

In Indonesia, there are four agency bonds; which are PEFINDO, Fitch Rating Indonesia, the international rating agencies which opened its network in Indonesia, ICRA (Indonesia Credit Rating Agency), and PT Moody's Indonesia (formerly PT Kasnic Credit Rating).

Bond rating agencies provide ratings annually for the outstanding bonds and monitoring every six months. The ranking between one and the other companies are not done simultaneously but separately throughout the enterprise, in accordance with an agreed arrangement with each company rating agencies. There are several things that need to be considered in the analysis of the bond (Darmadji and Fakhrudin, 2012), which are:

- a) Industrial Performance includes industry competition, prospects and market share, availability of raw materials, industrial structure, the influence of government policy and other economic policies.
- b) Financial Performance, covering aspects of asset quality, profitability ratios, asset and liability management, capital adequacy ratio, level of debt management, and the adequacy ratio of interest payments.
- c) Non-Financial Performance consists of management aspect, corporate reputation aspect, as well as the indenture agreement (including sinking fund, debt test, test

dividends, mergers, and sale of assets).

Common benefits of the bond rating are (Wydia, 2005): (1) The transparent market system will ensure a healthy environment for transparent market for bonds. (2) The cost efficiency. Good rating benefit is to avoid financial obligations which usually burdensome requirements such as the provision of a sinking fund company, or asset guarantees. (3) Determine the amount of the coupon, the better the rating the lower the coupon rate tended and vice versa. (4) Provide independent and objective information regarding the debt repayment ability, degree of investment risk that may arise, as well as the types and levels of debt. And (5) Able to describe the condition of the bond markets and economic conditions generally. By analysing financial or management aspect and business fundamentals, each investor will able to assess the business feasibility of the venture issuer.

**1.2. Relevant Studies**

Several studies examine the financial ratios of the bond ratings show different results. Herein is the summary of previous research (Table 1).

**Table 1. Previous Studies**

No	Researcher	Independent Variable	Method	Significant Variable	Research Similarity
1	Widya (2005)	Growth, size, sinking fund, guarantee, maturity, and auditor reputation	Regresi Logit	Growth, sinking fund, maturity, and auditor	Growth, guarantee, maturity
2	Almilia & Devi (2007)	Growth, size, profitability, liquidity, maturity, guarantee, auditor reputation.	Regresi Logit	Growth and liquidity	Growth, maturity, guarantee, auditor reputation
3	Sejati (2010)	Auditor, Profitabilitas, Liquidity, Size, & Growth	Regresi Logit	Growth	Liquidity, Growth
4	Estiyanti & Yasa (2012)	Operating Income, Retained earnings, Operating Cash Flow, Liquidity, Total Asset, Leverage, Maturity, Guarantee	Regresi Ordinal Logistic	Retained earnings	Operating Income, Retained earnings, Liquidity, Leverage, Maturity, Guarantee

Sources: Summary from many sources

**1.3. Hypothesis**

Subramanyam (2010) states that the operating profit (operating income) is a measurement of company's profit in operating activities. The higher the level of profitability, the lower the risk of inability to pay (default risk), so the better the ratings given to the company. Yasa (2007) found the natural log of variables operating profit positive effect on bond ratings.

H1 : Operating profit positive effect on bond ratings in Indonesia Bond Exchange.

Siegel and Shim in Restuti (2007) stated that the retained earnings (retained earnings) is the accumulated earnings of a company after deducting dividends. Retained earnings (retained earnings) is one of the most important sources of funds to

finance the growth of the company (Riyanto, 2011). Yasa (2010) found the positive effect of retained earnings on bond ratings.

H2 : Retained earnings positive effect on bond ratings in Indonesia Bond Exchange.

The liquidity ratio is a company's ability to meet its short-term obligations on a timely basis (Restuti, 2007). Burton et al. (1998) stated that the high level of liquidity will demonstrate strong financial condition that would financially affect the prediction of bond ratings.

H3 : Liquidity positive effect on bond ratings in Indonesia Bond Exchange.

The leverage ratio is a measure of how big the company is financed by debt (Luciana, 2007). If this ratio is high enough, then it shows the high use of debt, so that it can make the company experienced financial difficulties, and usually have a pretty big risk of bankruptcy. Burton et al. (1998) found that the lower the rank the higher the leverage corporate bonds given to the company.

H4 : Leverage negative effect on bond ratings in Indonesia Bond Exchange.

Brigham and Houston (2011) stated that the age of the bond effect on bond ratings. Age bonds (maturity) are the period from the issuance of bonds until the maturity date of the bond. Research Almilia and Devi (2007), bond age effect on bond ratings.

H5 : Age bonds (maturity) negative effect on bond ratings in Indonesia Bond Exchange.

The level of risk inherent in a bond is influenced by the guarantee. Brister et al. (1994) stated that the investors will like the guaranteed bonds compared to bonds that are not guaranteed. Meanwhile, Joseph (2002) in Wydia (2005) stated that the higher the asset as collateral for the bond rating be improved so that the bonds safe to invest.

H6: Security (secure) a positive effect on bond ratings in Indonesia Bond Exchange

Yasa (2007) stated that the financial information users feel that the big eight auditors provide better credit quality for corporate and local government. With a good reputation, the auditor will provide a reliable audit results. While in Indonesia issuers audited by Big 4 auditors will have investment grade bonds because of the better reputation then the auditor will affect the bond rating.

H7 : Good Reputation auditor's positive effect on bond ratings on Indonesia Bond Exchange

The views expressed by Restuti (2007), which looked at the growth of the company's activities as a strong indication of financial health. These arguments support a positive relationship between the growth of the company and the decision to request a rating, as credit ratings contribute to the monitoring agent - an agent (Yasa, 2010). In addition, the growth rate of higher business is associated with a better credit rating.

Based on the previous research and the theoretical basis and the relationship between variables that have been outlined, then the hypothesis proposed in this study as follows:

H8 : Company Growth positive effect on bond ratings in Indonesia Bond Exchange

## **2. Research Method**

The research aims to demonstrate the causal influence of one variable on another variable. In this study, the authors limit the study in the period of 5 years, since the period 2008 – 2012. The subject of this research is the companies listed in Indonesia Stock Exchange that issued bonds during the years 2008 – 2012. Object of this study is the rating of the bonds issued by PT PEFINDO. This study was limited to the first

grading and not to discuss the rating after the first grading nor the further monitoring rating.

The dependent variable used Dummy Variable. It was the result of ranking of the outstanding bonds. The independent variables in this study was the operating income, retained earnings, liquidity, leverage, maturity bonds, collateral factors, the reputation of auditors, company growth. Operationalization of variables research is presented on Table 2.

**Table 2. Operationalization of Variable**

No	Variable	Proxy	Indicator	Scale
1	Bonds Rating	PEFINDO rating	0 for medium investment grade bonds (A-BBB), = 1 for high investment grade bonds (AAA-AA)	Ordinal
2	Operating Income	EBIT	Gross Profit - Operating Expenses	Ratio
3	Retained Earnings	Retained Earning	Total Equity - (Stock + Add. PIC)	Ratio
4	Liquidity	Current Ratio	Current Asset : Current Liabilities	Ratio
5	Leverage	Debt Ratio	Total Debt : Total Asset	Ratio
6	Bonds Maturity	Age of bond since listed until maturity	Age of bond its listed in prospectus	Ratio
7	Guarantee factor	Bond Guarantee	Code = 0 (bonds not guarantee), code = 1 (bonds guaranty whit special asset).	Ordinal
8	Auditor Reputation	Perform integrity of auditor	Code = 0 (non-Big Four Auditor group), and Code = 1 (Big Four Auditor group)	Ordinal
9	Company Growth	Sales Growth	(Sales this year - sales last year) : sales last year	Ratio

Source: Summary from Many journals

Sampling method used purposive sampling in selecting the sample to be studied. The sampling criteria used are as follows:

- a) Non-financial companies listed on Indonesian Stock Exchange in the period 2008-2012 and published audited financial statements each year during the study period.
- b) Bonds issued by the listed company published and circulated during the 2008-2012.
- c) Bonds issued rating by PEFINDO

This study uses logit regression. Logit analysis is used to analyze quantitative data reflecting two options are often called binary logistic regression. This analysis technique does not require the assumption of normality in the independent variable (Ghozali, 2011). Logistic regression was used to test whether a variable operating income, retained earnings, liquidity, leverage, maturity bonds, collateral factors, research & development, company growth affect the bond ratings. The following hypothesis models:

$$\text{Ln}(p/1-p) = \beta_0 + \beta_1 \text{LnOI} + \beta_2 \text{LnRE} + \beta_3 \text{LI} + \beta_4 \text{LE} + \beta_5 \text{M} + \beta_6 \text{D} + \beta_7 \text{RA} + \beta_8 \text{G} + \varepsilon$$

Description:

BR	: Bond Rating	$\beta_0$	: Constanta
$\beta_1-8$	: Coefficient of regression	OI	: <i>operating income</i>
LnRE	: Log natural of <i>retained earnings</i>	LI	: <i>liquidity</i>
LE	: <i>leverage (LE)</i> ,	M	: <i>bonds maturity (M)</i> ,
G	: <i>company growth</i> .	$\varepsilon$	: Error term
D	: factor Guarantee (dummy, 1 = had Guarantee, and 0 = unguarantee)		
RA	: Reputation of Auditor ( <i>Code = 0, non-Big Four Auditors group, and Code = 1, Big Four Auditors group</i> )		

### 3. Results and Discussion

#### 3.1. Statistical Analysis

The data analyze of this study uses logistic regression. The logistic regression test requires the data that do not need to be normally distributed, as if the combination of independent variables between metric and nominal (non-metric), then the assumption of multivariate normality cannot be satisfied (Ghozali, 2011). The testing of regression logistic method used some statistical tools, it is done in six steps:

##### 3.1.1. Classical assumption

Multi collinearity test aims to test whether the regression model found a correlation between independent variables. The criteria for decision making are:

Variable value  $<0.9$  : there is no multicollinearity

Variable value  $>0.9$  : there is multicollinearity

The result of this test shown correlation coefficient less than 0.9. The conclusion is there is no multicollinearity between the independent variables.

Logistic regression was ignoring the problem Heteroscedasticity, meaning it does not require homoscedasticity for each of the independent variables. Regression logistic model is not test the normality of the data, because it does not require the assumption of normality in independent variable. It means that independent variable does not have normal distribution and linear, and has the same variance in each group (Ghozali, 2011)

##### 3.1.2. Hosmer and Lemeshow's Goodness of Fit Test

Feasibility regression model is determined based on the value of Hosmer and Lemeshow's Goodness of Fit Test. If the statistical value of Hosmer & Lemeshow's Fit Test is greater than 0.05, the null hypothesis cannot be rejected, it means that the model is able to predict the value of observation or it can be said that the model is acceptable based on the observation of data. Basis for decision making:

a. If probability  $>0,05$   $H_0$  accepted/not rejected

b. If probability  $<0,05$   $H_0$  rejected

If the null hypothesis is not rejected, it means that the model is able to predict the value of observation, or may be acceptable because the data observations are fit. The result of Hosmer and Lemeshow's Goodness of Fit Test is shown in Table 3.

In Table 3, it is seen that the value of statistical Hosmer and Lemeshow Goodness of fit was 15,115 with a probability of significance of 0.057, the value is above 0.05, thus  $H_0$  is accepted. It means that there is no difference between classifications of premises predicted classification. This means that the regression model is unfit for further analysis (fit).

##### 3.1.3. Fit model Test

The testing was conducted to assess the hypothesized model fit to the data or not. This testing is done by comparing the values between -2 log likelihood at the

beginning (block number = 0) with a value of -2 log likelihood at the end (block number = 1). Reduction in the value between -2LL early (initial -2LL function) with -2LL value at the beginning of the next step showed that the hypothesized variables fit the data. This is because the log likelihood on logistic regression similar to the "sum of square error" in the regression model showed that a decrease in log likelihood regression model, the better.

**Table 3. Hosmer and Lemeshow's Goodness of Fit Test**

Step	Chi-square	Df	Sig.
1	14.020	8	.081
2	6.893	8	.0548
3	23.105	8	.003
4	65.959	8	.000
5	21.856	8	.005
6	11.820	8	.0159
7	15.115	8	.057

Table 4 shows the comparison between the value of the starting blocks with a -2 -2LL LL final block. From the calculation of the value of -2LL seen that the initial value of the block is equal to 109.097 and -2LL value at the end of the block is equal to 36,725. This impairment regression model showed a better one.

**Table 4. Model Fit Test Result, Block 0 and Block 1**

<b>Block 0: Beginning Block</b>		
<b>Iteration History</b> a,b,c		
Iteration	-2 Log likelihood	Coefficients Constant
<b>Step 0</b> 1	109.097	.300
2	109.097	.302
3	109.097	.302

- a. Constant is included in the model
- b. Initial -2 Log Likelihood : 109.097
- c. Estimation terminated a iteration number 3 because parameter estimates changed by less than : 001

<b>Block 1: Method = Enter</b>			
<b>Model Summary</b>			
Step	- 2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
<b>1</b>	32.644 <sup>a</sup>	.615	.827
<b>2</b>	32.835 <sup>a</sup>	.615	.826
<b>3</b>	33.275 <sup>a</sup>	.612	.823
<b>4</b>	34.058 <sup>a</sup>	.609	.818
<b>5</b>	39.556 <sup>a</sup>	.581	.780
<b>6</b>	43.025 <sup>b</sup>	.562	.755
<b>7</b>	36.725 <sup>b</sup>	.595	.800

- a. Estimation terminated at iteration number 9 because parameter estimates chaged by less than .001.
- b. Estimation terminated at iteration numer 8 because parameter estimates chaged by less than .001.

### 3.1.4. Summary Model

Summary in logistic regression models is the same with testing the R square in the linear regression model. The summary of the model purpose is to determine how large a combination of independent variables is to be able to explain the dependent variable. This test used Nagelkerke R Square indicator.

The purpose of this test is to know how large a combination of independent variables can explain the dependent variable. The result of Nagelkerke's R Square value is equal to 0.800 (Table 4, Blok 1) which shows this model has predictive power of 80.0% which can be explained by the independent variables, while 20.0% is explained by other variables.

### 3.1.5. Classification Table

This Order determines the percentage of successful credit application. Table 5 on Step 7 is used to calculate the estimated value of the true (correct) and the wrong (incorrect). According to predictions, numbers of bonds that fall into the category of medium-grade investment bonds was 34 bonds. However, in the observation of course, there are only 31 bonds, so that the classification accuracy is equal to 91.2% (31/34). While the prediction of high-grade investment bonds are 46 bonds. However, the results of observations show that there are only 44 bonds alone, so the classification accuracy is 95.7% (44/46). Overall classification accuracy was 93.8% (75/80).

### 3.1.6. Statistic Hypothesis Testing

The first step, performed Omnibus Test of Model Coefficient (Table 6) is to test whether variable of operating income, retained earnings, liquidity, leverage, maturity bonds, guarantees, reputation auditors, and company growth simultaneously affect the bond rating variable. Omnibus test results are as follows:

**Tabel 5. Classification Table of Bond Rating**

	Observed	Predicted		Percentage Correct	
		Bonds Rating			
		Medium Investment Grade	High Investment Grade		
Step 1	Bonds	Medium Investment Grade	32	2	94.1
	Rating	High Investment Gade	2	44	95.7
	Overall Percentage				95.0
Step 2	Bonds	Medium Investment Grade	32	2	94.1
	Rating	High Investment Gade	2	44	95.7
	Overall Percentage				95.0
Step 3	Bonds	Medium Investment Grade	32	2	94.1
	Rating	High Investment Gade	4	42	91.3
	Overall Percentage				92.5
Step 4	Bonds	Medium Investment Grade	32	2	94.1
	Rating	High Investment Gade	2	44	95.7
	Overall Percentage				95.0
Step 5	Bonds	Medium Investment Grade	30	4	88.2
	Rating	High Investment Gade	5	41	89.1
	Overall Percentage				88.8
Step 6	Bonds	Medium Investment Grade	28	6	82.4
	Rating	High Investment Gade	4	42	91.3
	Overall Percentage				87.5
Step 7	Bonds	Medium Investment Grade	31	3	91.2
	Rating	High Investment Gade	2	44	95.7
	Overall Percentage				93.8

a. The cut value is 500

**Tabel 6. Omnibus Test of Model Coefficients**

		Chi-square	df	Sig.
Step 1	Step	76.453	8	.000
	Block	76.453	8	.000
	Model	76.453	8	.000
Step 2 <sup>a</sup>	Step	-.191	1	.662
	Block	76.261	7	.000
	Model	76.261	7	.000
Step 3 <sup>a</sup>	Step	-.440	1	.507
	Block	75.822	6	.000
	Model	75.822	6	.000
Step 4 <sup>a</sup>	Step	-.784	1	.376
	Block	75.038	5	.000
	Model	75.038	5	.000
Step 5 <sup>a</sup>	Step	-.5498	1	.019
	Block	69.540	4	.000
	Model	69.450	4	.000
Step 6 <sup>a</sup>	Step	-3.469	1	.063
	Block	66.072	3	.000
	Model	66.072	3	.000
Step 7	Step	6.300	1	.012
	Block	72.372	4	.000
	Model	72.372	4	.000

a. A Negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Table 6 shows the Omnibus test result a sig value is less than 0.05, so it can be concluded that all the independent variables together affect the bond rating. The second step from the step of wise regression analysis, which is formed logistic regression equation, is as follows:

$$\ln(p/1-p) = -24.265 + 2.523 \ln RE - 16,873 LE - 2,712 D - 2,869 RA$$

From the regression equation formed, it can be explained as follows:

- 1) Constants of -24.265, which mean that without the influence of variables, the bond rating is -24.265.
- 2) If the RE is increased by 1 unit, the bond rating will be increased by 2,523 units, assuming other variables remain.
- 3) If leverage is increased by 1 unit, the bond ratings decline by 16,873 units, assuming other variables remain.
- 4) If the warranty is increased by 1 unit, the bond rating will be decreased by 2,712 units, assuming other variables remain.
- 5) If the auditor is increased by 1 unit, the bond rating will be decreased by 2,869 units, assuming other variables remain.

From the equation, it is shown those were only Retained Earning (Ln RE), Leverage (LE), guarantee factor (D = Dummy), and reputation of auditor (RA) affected Bond Rating.

### 3.1.7. Discussion

Retained Earnings (use proxy Ln RE) affect positively to Bond Rating. It means RE is accumulated earning after deducting dividend. It is the first and important source of fund to finance companies assets for growing [(Restuti, 2007); (Estiyanti&Yasa, 2012)]. Greater Retained Earnings would give smaller great risk of bankruptcy, because of that, the rating agencies will give a higher rating. This research was supported by the results of research conducted by Wansley et al. (1992).

Leverage has negative effect on Bond Rating. The proxy of Leverage is the ratio between total debts to total assets. If this ratio is high enough, then it shows the high use of debt, so that it can make the company experience financial difficulties, and usually has a pretty high risk of bankruptcy. Burton et al., (1998) founded that the higher corporate leverage given to the company, the lower bond rating was.

Low leverage demonstrates the value of corporate debt is low, so that the financial burden due to debt remains relatively small. As a result, the company's financial risk is also small. It means the risk of bankruptcy becomes low. Low bankruptcy risk will pass judgment to rating agencies with a high value.

Warranty used proxy Dummy variable ( $D = 0$ , bonds not guarantee, and  $D = 1$ , bonds guarantee with special asset). The findings showed collateral negative effect on bond ratings. From this discovery it is suspected that the guarantees have given a value that is not good reputation for the rating agencies. If the guarantee is in the form of real assets, asset votes rating agencies serve that collateral is overvalued. Other research found that guarantee did not affect Bond Rating (Widya 2005; Almilia & Devi, 2007; Estiyanti & Yasa, 2012]

Auditor Reputation (RA) is meant to perform integrity of auditor. This research used proxy Dummy Variabel. There is: Code = 0 as *nonBig Four Auditor group*, and Code = 1 as *Big Four Auditor group*.

Amilia and Devi (2007) stated that the financial information users feel that the big eight auditors provide better credit quality for corporate and local government. With a good reputation, the auditor will provide a reliable audit results. While in Indonesia issuers audited by Big four auditors will have investment bonds grade because of better reputation than the other auditors.

Other variables, those are Operating Income (OI), Liquidity (LI), Bond Maturity (M), and Company growth (G), do not have effect on Bond Rating. This is due to four factors as necessary preconditions that must be met before the company's Management will register the bonds. Without the fulfillment of four variables, automatically default bonds will be issued.

#### **4. Conclusion**

Based on the research results of the effect of operating income, retained earnings, liquidity, leverage, maturity bonds, guarantees, reputation of the auditor, and the growth of the company's bond rating on the author, it can be deduced as follows:

1. Retained earnings have positive effect on bond ratings.
2. Operating Profit does not have effect on bond ratings
3. *Leverage* has negative effect on Bond Rating
4. *Liquidity* does not have effect on Bond Rating
5. *Maturity* does not have effect on Bond Rating
6. *Guarantee* has negative effect on Bond Rating
7. Auditor's reputation has negative effect on Bond Rating.
8. Company's Growth does not have effect on Bond Rating.

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