

# Analysis of Factors Affecting Bond Rating of Non-Financial Corporate Traded on Indonesia Stock Exchange in 2018

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**Abstract:-** This study analyzes the influence of the variables of Company Growth, Profitability, Leverage, Bond Age and Auditor's Reputation on the rankings of non-financial corporate bonds traded on the Indonesia Stock Exchange for the period 2018. The sample selection technique was carried out by purposive sampling consisting of 147 of 717 corporate bonds that published by 29 out of 161 companies from all sectors. The research analysis method used is descriptive statistics and Ordinal Logit Regression. The results showed that partially the company growth variable had no effect on bond rating, profitability and auditor reputation had a positive effect on bond rating, while leverage and bond age had a negative effect on bond rating. The implication of this research is that companies need to reduce their debt ratios and issue bonds with a short life in order to increase their bond rating so that investors are interested in the bonds. In addition, companies with high profitability ratios and using Big Four external auditors find it easier to get external sources of funds through bonds. This is because both of them have a positive effect on the Bond Rating. For further research, it is expected to study other variables that affect the bond rating because the coefficient of determination in this study is 18.9%, while the remaining 81.1% is influenced by other variables not explained in this study.

**Keywords:-** Company Growth, Profitability, Leverage, Maturity, Auditor Reputation and Bond Rating.

## I. INTRODUCTION

Bonds are debt securities issued by the government or private companies to investors, where this debt will be paid at a specified period. The main objective of an investor in investing their funds in a security is to obtain a yield from the investment.

Based on Indonesian Capital Market statistical data processed by the Indonesia Bond Pricing Agency (IBPA), and the Directorate General of Financing and Risk Management, Ministry of Finance (DJPPR), the value of government bonds and corporate bonds between 2012-2018 is the value of corporate bonds from 2012 to 2015. increase and decrease, until in 2016 corporate bonds rose rapidly reaching 115.05 trillion, this shows that the bond market has

returned to stability and is in great demand, in 2017 with a value of 161.36 trillion again increased and in 2018 it declined again with a value of 113.64 due to global and domestic factors such as ahead of elections and others.

The existence of this phenomenon indicates that corporate bonds are starting to be in great demand and are becoming increasingly traded in Indonesia. Investor interest in corporate bonds is getting higher because corporate bond prices are also high (Indarsih,2013). In addition, the income provided by bonds tends to be fixed, so the risk of loss to investors is low.

Before an issuer, both a company and a state, issues a bond, the bond testing process will be carried out, which in Indonesia is carried out by Bapepam-LK as the capital market supervisor and a bond rating test is carried out with the overall issuance process taking about 3- 6 months before the bonds are declared to be issued and can be purchased by investors (Manurung et al, 2008).

Based on data from the data Pefindo and the Indonesia Stock Exchange on Average rating bonds as government bonds or corporate bonds in the year 2012-2018 are as follows:

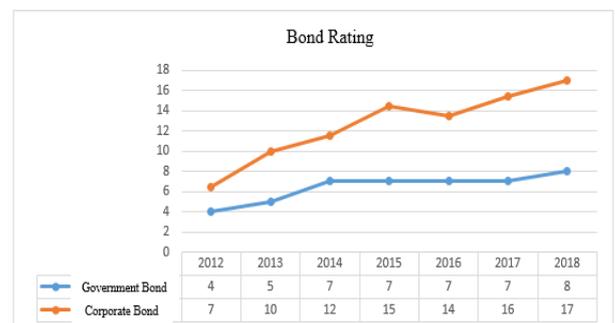


Fig. 1: - Comparison of Government and Corporate Bond Rating  
 Source: Pefindo, BEI, S&P (2019)

Based on figure 1 comparison of bond rating, corporate bonds have a fluctuating average bond rating when compared to government bonds which can be said to have a constant average value in recent years.



Fig. 2: - Rating of Corporate Financial and Non-Financial Bonds

Source: Pefindo & BEI (2019)

Based on figure 2, it can be seen that the average corporate bond rating in the financial sector has tended to increase since 2012 despite constant conditions in 2016 and 2018, inversely proportional to the fluctuating average rating of corporate bonds in the non-financial sector where on average its bond rating increased from 2012 to 2015 but decreased in 2016 and increased again until 2018.

An investor who is interested in buying bonds should pay attention to bond rating because these rating provide information and provide signals about the probability of a company's debt failure. There are several factors that can affect a bond rating. However, the factors used in this study is company Growth, profitability, Leverage, maturity and auditor reputation

Several studies related that growth of the company Growth, profitability, Leverage, maturity and auditor reputation to bond rating is still a research gap where the results of several previous studies tend to differ among researchers that one with other researchers such as the following:

- Research conducted by Henny (2016), Pandutama (2012), Ikhsan et al (2012) and Vina (2017) stated that company growth (Growth) has no effect on bond rating. This is different from the research of Sihombing & Rachmawati (2015) which concluded that growth is significant towards bond rating but negative.
- Research conducted by Kustiyaningrum et al (2016), Pandutama (2012), and Thamida & Lukman (2013) states that profitability has no effect on bond rating. This is different from the research conducted by Henny (2016), Widowati et al (2013), Amran (2015) and Biesa & Dita (2016) concluded that profitability has a positive and significant effect on bond rating.
- Research conducted by Kustiyaningrum et al (2016), Henny (2016), Pandutama (2012), Amran (2015) and Biesa & Dita (2016) concluded that leverage has no effect on bond rating. This is different from the research of Widowati et al (2013) and Sihombing & Rachmawati (2015) concluded that leverage is significant on bond rating but negative.

- Research conducted by Kustiyaningrum et al (2016), Widowati et al (2013), Pandutama (2012), Ikhsan et al (2012) and Biesa & Dita (2016) concluded that the maturity has no effect on bond rating. This is different from the research of Amran (2015) and Vina (2017) concluded that maturity is significant to the bond rating but negative.
- Research conducted by Ikhsan et al (2012), Pandutama (2012) and Biesa & Dita (2016) concluded that auditor reputation has no effect on bond rating. Different things in the research of Widowati et al (2013), Thamida & Lukman (2013) and Vina (2017) that auditor reputation has a positive and significant significant effect on bond rating.

Based on the description of the results of research on the influence of growth, profitability, DER, maturity, and auditor reputation on bond rating, many previous researchers have done this, but the results still show contradictions. So the authors are interested in reviewing the six variables. Thus, the author will conduct research with the title " Analysis of Factor Affecting Bond Rating of Non - Financial Corporate Traded on the Indonesia Stock Exchange in 2018 ".

## II. LITERATURE REVIEW

### A. Bond

Bonds are a source of funding (financing) for the government and companies that can be obtained from the capital market. Simply put, the bond is a securities issued by the issuer to investors (Bondholder), which the publisher will give a yield (return) in the form of coupons payable periodically and the principal amount (principal) when the bonds suffer due (Adler, Desmon, Wilson; 2007). Bonds in general can be grouped into: Coupon Bonds, Pure Discount Bonds, and Consols. Each bond has a different structure. Bonds consist of various classifications.

Some types of bonds may be viewed from the issuer, interest payments systems, redemption rights / options, and the guarantee / collateral . The explanation of the types of bonds is as follows:

- In terms of issuers, they are Corporate bonds, Government bonds, Municipal bonds.
- In terms of interest payments, there are zero coupon bonds, coupon bonds, fixed coupon bonds and floating coupon bonds .
- In terms of exchange rights / options are Convertible bonds, Exchangable bonds, Callable bonds, Putable bonds, Serial bonds, Perpetual bonds.

### Characteristics of Bonds

The Indonesia Stock Exchange (2017) explains that the characteristics of a bond include:

- Face Value
- Interest Rate
- Maturity
- Issuer

### B. Bond Rating

According to Jogiyan to (2015:230), bond rating are symbols of character given by rating agencies to show the risk of bond issued. The bond rating are updated regularly to reflect significant changes in the company's financial and business performance. The rating change has a significant impact on the company's future investing and financing activities as well as its risk profile and future performance.

Rating Symbol	Criteria
AAA	Superior, Highest rating
AA	Very strong
A	Strong
BBB	Adequate
BB	A little weak
B	Weak
CCC	Vulnerable / Inability
D	Default
The ratings from AAA to B can be modified with the addition of a plus (+) or minus (-) sign to indicate the relative strength in the rating category. This is called the rating outlook .	
Positive = Rating could be improved	
Negative = Level can be lowered	
Stable = The rating may not change	
Developing = rating can be increased or decreased	

Table 1: - Criteria for PT. Pefindo

Source: Pefindo

### C. Company Growth

A growing company will use its cash flow for investment, mastery of technology and product development, so there is a possibility that the company cannot pay interest and principal on bonds, so the risk is high which results in a lower rating. Meanwhile, companies in the mature stage have reduced investment and have smooth cash flow so that they can pay interest and principal on bonds smoothly so that the risk is low which causes the bond rating to be high (Immaculatta and Restuti, 2008). The growth of a company can be seen from the increase in the company's assets from time to time (Mouamer, in Pradana, 2013). And according to Hidayat (in Pradana, 2013), company growth can also be measured by the growth in the number of sales.

### D. Profitability

According to Sudana (2011:22) states that "ROA is a ratio that shows the company's ability to use all assets owned in order to generate profit after tax". This ratio is very important for management to evaluate the effectiveness and efficiency of company management in managing all company assets. The greater the ROA, the more efficient the use of company assets, or in other words, with the same number of assets, a greater profit can be generated, and vice versa.

Return on assets (ROA) is also used to assess the extent to which the investment has been able to provide returns as expected. And the investment is actually the same as the invested or determined company assets.

### E. Leverage

According to Hilda (2013), if the leverage is high enough, then it shows the high use of debt, so that it can make the company experience financial difficulties and have a fairly large risk of bankruptcy. Companies with a low level of leverage tend to be preferred by investors, because investors have the confidence that the company will be able to pay off all its obligations when the debt is due. The lower the leverage, the company has a small default risk (Sutrisno, 2012:217).

The debt-to-equity ratio is the ratio used to measure the proportion of debt to equity. According to Hery (2017: 168) this ratio is useful for knowing the size of the ratio between the amount of funds provided by creditors and the amount of funds that come from the company owner. According to Kasmir (2013:157) Debt to Equity Ratio is a ratio used to assess debt to equity. This ratio is sought by comparing all debt, including current debt, and total equity.

The greater the DER ratio, the greater the composition of total debt (short term and long term) compared to the total equity itself, so that it has a greater impact on the company's burden on outsiders (creditors).

### F. Bond Age (Maturity)

Bond Age is the date when bondholders will get the repayment of the principal or the face value of the bonds they own. The maturity period of the bonds varies from 365 days to more than 5 years. Bonds that will mature in 1 year are easier to predict, so they have less risk than bonds with maturities of 5 years. Bonds with shorter bond lives have less risk. So that companies with a high bond rating use a shorter bond life than companies that use a longer bond life (Latumaerissa, 2011: 367).

### G. Auditor Reputation

Auditor reputation is actually a proxy for audit quality. Audit quality can be identified through the KAP size. Large-sized KAPs have more resources than small-sized KAPs so that they will carry out audits effectively and efficiently, resulting in better audit results (Setiawan, in Rhema, 2016). This causes financial reports that are audited by large accounting firms to produce more credible results for users. In Indonesia, KAP is divided into Big Four and non Big Four KAP. KAP affiliated with the Big Four, namely:

- KAP Purwantono, Suherman dan Surja - affiliates of Ernst & Young .
- KAP Osman Bing Satrio and Rekan - affiliates of Deloitte Touche Tohmatsu (DTT).
- KAP Sidharta and Widjaja - affiliates of KPMG
- KAP Tanudiredja, Wibisana & colleagues and KAP Haryanto Sahari & Rekan - affiliate of Pricewaterhouse Coopers (PwC)

**H. Framework**

The framework in this research is as follows:

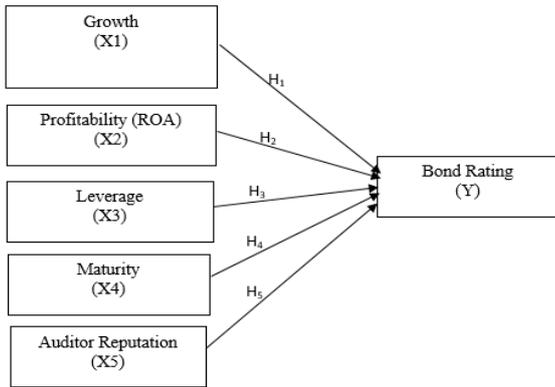


Fig. 3:- Conceptual Framework

**F. Hypothesis**

The hypothesis is a temporary answer or provisional assumption to the research problem that has been formulated based on the theories used and is related to support the discussion of variables. The hypotheses this research :

- H1 : It is assumed that growth has a positive effect on bond rating.
- H2 : It is assumed that profitability has a positive effect on bond rating.
- H3 : It is assumed that leverage has a negative effect on bond rating.
- H4 : It is assumed that the age of the bonds ( Maturity ) has a negative effect on the bond rating.
- H5: It is assumed that Auditor reputation has a positive effect on bond rating.

**III. RESEARCH METHODS**

**A. Type of Research**

This type of research used in this research is quantitative research and based on the characteristics of the problem the researcher uses descriptive analysis research . This study uses two types of variables, namely the dependent variable and the independent variable. Bond Rating (Y) in this study is used as the dependent variable. Growth (X<sub>1</sub>), Profitability (ROA) (X<sub>2</sub>), Leverage (DER) (X<sub>3</sub>), Maturity (X<sub>4</sub>), and Auditor Reputation (KAP) (X<sub>5</sub>).

**B. Population and Sample**

The population in this study are corporate bonds that are traded and have been listed on theIndonesia Stock Exchange (IDX) during 2018. Sampling of this study used purposive sampling or judgment sampling. Based on the sample criteria, 147 corporate bonds were obtained from 29 issuing companies as samples:

No.	Sample Criteria	Company	Bond
1	Listed corporate bonds traded on the Indonesia Stock Exchange during 2018 .	161	717
2	Companies that are included in the financial sector (banking, finance and insurance industry).	(87)	(340)
3	Do not pay coupons in a fixed amount and there is a floating rate effect on the bond price .	(9)	(29)
4	The bonds were issued after 31 December 2017	(19)	(155)
5	The Company did not publish financial reports in 2018 and has a value ratios negatively.	(3)	(11)
6	Bonds are not registered da l am ranking issued by PT. Pefindo during the 2018 period.	(14)	(35)
The total number of samples in the study		<b>29</b>	<b>147</b>

Table 2: - Research Sample Criteria

Source: Processed by researchers

**C. Data Collection Methods**

Data collection methods used in this research are documentation and literature study methods. The data used in this research is secondary data including data corporate bonds listed and traded during 2018 were taken from Bloomberg (www.bloomberg.com), the data period 2018 Bond Rating are taken from the official website of PT. Pefindo (www.pefindo.com) and the Indonesia Stock Exchange (www.idx.co.id ), Information data related to the types of bonds listed and traded during 2018 which were taken from the Bloomberg website (www.bloomberg.com), Term of Maturity The 2018 bond tempo is taken from the Bloomberg website (www.bloomberg.com), Company Growth, 2018 bond issuing companies taken from the Indonesia Stock Exchange website and corporate financial reports, Return on Assets,2018 bond issuing companies taken from Indonesia Stock Exchange website and corporate financial reports, Leverage, bond issuing companies in 2018 which are taken from the Indonesia Stock Exchange website and corporate financial reports, Auditor Reputation, bond issuing companies 2018 which are taken from the Indonesia Stock Exchange website and company financial reports.

**D. Data analysis method**

This study uses Ordinal Logit Analysis because the dependent variable is a dummy variable. The stages of analysis carried out in this study are as follows: Test of the Information Fitting Model in this study using the Logit, this test is to determine how effective the variables used are. Second, use the Goodness of Fit Test, known as the G Test to determine the suitability of the analysis model, Third, use the Pseudo R-Square Test to determine the strength of the relationship between the independent variable and the dependent variable and the last one uses the Parallel Linesc Test to assess all categories have the same parameters or not.

*E. Data Analysis Model*

Hypothesis Testing, to test the hypothesis used Ordinal Logit Analysis. This analysis was carried out to determine the effect of each independent variable on the dependent variable, namely the prediction of the 2018 financial company bond rating, because the dependent variable is a dummy variable, namely a variable that has two alternatives (Sudaryanti, et al., 2014). The models are as follows:

$$\text{Logit } P(\text{BBB}) = \text{Log} \frac{p(\text{BBB})}{1-p(\text{BBB})}$$

Or it could be written,

$$Y = \text{Log} \frac{p(\text{BBB})}{1-p(\text{BBB})} = \alpha_0 + \beta_{11} X_1 + \beta_{12} X_2 + \beta_{13} X_3 + \beta_{14} X_4 + \beta_{15} X_5 + e$$

Information :

Y = Bond rating

P (AA+) = Probability of AA + rating compared to AAA rating (0 and 1)

P (AA) = Probability of AA rating compared to AAA rating (0 and 1)

P (AA-) = Probability of an AA- rating versus a AAA rating (0 and 1)

P (A+) = Probability of an A + rating compared to a AAA rating (0 and 1)

P (A) = Probability of rating A versus AAA rating (0 and 1)

P (A-) = Probability of rating A versus AAA rating (0 and 1)

P (BBB +) = Probability of BBB rating compared to AAA rating (0 and 1)

P (BBB) = Probability of BBB rating compared to AAA rating (0 and 1)

$\alpha_i$  = Constant term

$\beta$  = The respective coefficient on the X prediction.

$X_1$  = Company growth

$X_2$  = Profitability (ROA)

$X_3$  = Leverage

$X_4$  = Age bond (maturity)

$X_5$  = Auditor reputation

Dp = dummy /binaryvariable

e = error

From the formula above, the equation s is made as follows:

$$\text{Logit } (P(\text{idBBB}) + P(\text{idBBB}+) + P(\text{idA-}) + P(\text{idA}) + P(\text{idA}+) + P(\text{idAA-}) + P(\text{idAA}) + P(\text{idAA}+)) = \alpha_i 0 + \beta_{i1} X_1 + \beta_{i2} X_2 + \beta_{i3} X_3 + \beta_{i4} X_4 + \beta_{i5} X_5 + e$$

After the bond estimation parameters come out, the results will be carried out, the fitting information model test will be carried out to see whether the model used is fit or not, the fit results are obtained if the model only with intercept results in a value of -2Log Likelihood with a certain number, whereas if the independent variable is company growth, ROA, leverage, bond life and auditor reputation are entered into the model, then the final -2Log

Likelihood value drops to lower than the Intercept and the Chi-Square number is lower than the final -2Log Likelihood value, after which other tests are carried out, such as the Goodness of Test. fit, Bond Pseudo R-Square Test and Bond Parallel Linesc Test, if the P-value in the Bond Parallel Linesc Test > P = 0.05 then the model is considered suitable and no need to remodeling.

**IV. RESULTS AND DISCUSSION**

*A. Descriptive Analysis Results*

Based on analysis tools using electronic facilitation with Microsoft Excel and SPSS 20.0 programs . obtained the following descriptive statistics :

1. The mean value of growth is 0.11 which is smaller than the standard deviation of 0.12. This shows that the average value of Growth cannot represent the overall Growth data because it has a large distribution and deviation of data that is said to be unfavorable. The maximum value is 0.65 owned by PT Pelabuhan Indonesia I with an AA bond rating and a minimum value of -0.20 owned by PT PP (Persero) Tbk with a BBB bond rating.
2. The mean value of profitability (ROA) is 0.02 smaller than the standard deviation of 0.04. This shows that the average value of profitability (ROA) cannot represent the overall profitability data (ROA) because it has a large distribution and deviation of data that is said to be less good. The maximum value is 0.15 owned by PT Telekomunikasi Indonesia (Persero) Tbk with an AAA bond rating and a minimum value of -0.04 owned by PT Indosat Tbk with a AAA bond rating.
3. The mean value of Leverage (DER) is 1.92, which is greater than the standard deviation of 1.17. This shows that the average value of Leverage (DER) can represent the entire Leverage (DER) data because it has a small distribution and deviation of data that is said to be good. The maximum value is 3.79 owned by PT Adhi Karya (Persero) Tbk with a bond rating of A- and a minimum value of 0.51 owned by PT Nippon Indosari Corporindo Tbk with a bond rating of AA-.
4. The mean value of Maturity is 5.07, which is greater than the standard deviation of 3.12. This shows that the mean value of Maturity can represent the overall Maturity data because it has a small distribution and deviation of data that is said to be good. The maximum value is 27.88 owned by PT Telekomunikasi Indonesia (Persero) Tbk with a bond rating of AAA and a minimum value of 2.00 owned by PT Chandra Asri Petrochemical Tbk with a bond rating of AA-.
5. The mean value of the Bond Rating (Y) is 3.31, which is greater than the standard deviation of 2.76. This shows that the average value of Bond Rating (Y) can represent the entire Bond Rating data (Y) because it has a small distribution and deviation of data that is said to be good.

**B. Results of Ordinal Logistic Regression Analysis**

**1. Testing the Fitting Information Model**

Based on the results of data management using the SPSS 20.0 analysis tool. of table Model Fitting Information shows that the value of the initial -2LL ( intercept only ) equal to 445.657 , while the value -2LL on the model final at 361.306 . This value decreases the value of -2Log Likelihood of 84.351 and is significant at 0.000 , so that the requirements that must be met are a significant value in the table, which is 0.000 smaller than the 0.05 level of confidence . So, the model with the variables Growth (X1), Profitability (ROA) (X2), Leverage (DER) (X3), Maturity (X4) , and Auditor Reputation (KAP) (X5) is more better in determining the effect on the rating of Non-Financial Corporation bonds than the intercept alone. In other words, if seen as a whole, this model is significant so it is worth testing at a later stage.

**2. Testing Goodness Of Fit Test**

Based on the results of data management using the SPSS 20.0 analysis tool. of table Goodness of fit test showed that the Chi-Square statistic value of 941.998 (Pearson) the significance of 0. 115 and 361.306 (Deviance) the

significance of 1000, this making the results of Goodness of Fit fit for use.

**3. Pseudo R-Square Testing**

Based on the results of data management using the SPSS 20.0 analysis tool. from the Pseudo R-Square table explains the variation in bond rating which can be explained by the independent variables Growth (X1), Profitability (ROA) (X2), Leverage (DER) (X3), Maturity (X4) and Auditor Reputation (KAP) (X5) with a value McFadden of 0.189 or 18.9 % , while the rest is explained by the variable - variable others outside the model.

**4. Parallel Lines Testing**

Based on the results of data management using the SPSS 20.0 analysis tool. From the results of the parallel lines it can be seen that the significance value is 0. 120 This means that the p value > 0.05 (0. 120 > 0.05), which means that the model is suitable. This value indicates that the resulting model has the same parameters so that the link function logit model selection is correct.

**5. Ordinal Logit Regression Testing**

Table ordinal logit regression test results or the effect of each - each independent variable on the dependent variable:

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Bond_Rating_Y = 1.00]	,193	,747	,067	1	,796	-1,271	1,657
	[Rating_Obligation_Y = 2.00]	,237	,747	,101	1	,751	-1,227	1,701
	[Rating_Obligation_Y = 3.00]	,568	,747	,579	1	,447	-,896	2,032
	[Rating_Obligation_Y = 4.00]	1,099	,753	2,133	1	,144	-,376	2,574
	[Rating_Obligation_Y = 5.00]	1,902	,775	6,028	1	,014	,384	3,421
	[Bond_Rating_Y = 6.00]	1,970	,777	6,427	1	,011	,447	3,494
	[Bond_Rating_Y = 7.00]	3,793	,878	18,664	1	,000	2,072	5,513
	[Bond_Rating_Y = 8.00]	3,913	,886	19,519	1	,000	2,177	5,650
Location	Growth_X1	-2,428	1,574	2,381	1	,123	-5,513	,656
	ROA_X2	28,520	5,701	25,023	1	,000	17,346	39,695
	DER_X3	-,800	,214	14,017	1	,000	-,381	-1,218
	Maturity_X4	-,518	,113	21,138	1	,000	-,739	-,297
	[Reputation_Auditor_X5 = 1.00]	1,933	,432	20,035	1	,000	1,086	2,779
	[Reputation_Auditor_X5 = 0.00]	0 <sup>a</sup>	.	.	0	.	.	.
Link function: Logit.								
a. This parameter is set to zero because it is redundant.								

Table 3 : - Estimate parameters

Based on table 3 there are four significant independent variables , namely Profitability (ROA) (X2) with a significance of 0.000, Leverage (DER) (X3) with a significance of 0.000 , Maturity (X4) with a significance of 0.000 and Auditor's Reputation (KAP) (X5) with a significance of 0.000. Here is the ordinal logistic regression equation:

Logit (p1) = 0.193 - 2.428 (X1) + 28.520 (X2) + 0.800 (X3) - 0.518 (X4) + 1.933 (X5)  
 Logit (p1 + p2) = 0.237 - 2.428 (X1) + 28.520 (X2) + 0.800 (X3) - 0.518 (X4) + 1.933 (X5)

Logit (p1 + p2 + p3) = 0,568 - 2,428 (X1) + 28,520 (X2) + 0,800 (X3) - 0,518 (X4) + 1,933 (X5)  
 Logit (p1 + p2 + p3 + p4) = 1,099 - 2,428 (X1) + 28,520 (X2) + 0,800 (X3) - 0,518 (X4) + 1,933 (X5)  
 Logit (p1 + p2 + p3 + p4 + p5) = 1,902 - 2,428 (X1) + 28,520 (X2) + 0,800 (X3) - 0,518 (X4) + 1,933 (X5)  
 Logit (p1 + p2 + p3 + p4 + p5 + p6) = 1,970 - 2,428 (X1) + 28,520 (X2) + 0,800 (X3) - 0,518 (X4) + 1,933 (X5)  
 Logit (p1 + p2 + p3 + p4 + p5 + p6 + p7) = 3,793 - 2,428 (X1) + 28,520 (X2) + 0,800 (X3) - 0,518 (X4) + 1,933 (X5)

Logit (p1 + p2 + p3 + p4 + p5 + p6 + p7 + p8) = 3,913 - 2,428 (X1) + 28,520 (X2) + 0,800 (X3) - 0,518 (X4) + 1,933 (X5)

Where:

p1 = Probability of Bond Rating (AAA)  
 p2 = Probability of Bond Rating (AA+)  
 p3 = Probability of Bond Rating (AA)  
 p4 = Probability of Bond Rating (AA-)  
 p5 = Probability of Bond Rating (A+)  
 p6 = Probability of Bond Rating (A)  
 p7 = Probability of Bond Rating (A-)  
 p8 = Probability of Bond Rating (BBB+)

The estimates of the parameters in the table above are the estimation parameters for the ordinal logistic regression model and produce the regression equation as above. In this study, the independent variables that affect the bond rating are Profitability (ROA) (X2), Leverage (DER) (X3), Maturity (X4) and Auditor Reputation (KAP) (X5). Meanwhile, Growth (X1) has no effect.

#### 6. Hypothesis test

Variable Name	Estimate	Sig.	Information
Growth_X1	-2,428	,123	H <sub>1</sub> (Rejected)
ROA_X2	28,520	,000	H <sub>2</sub> (Received)
DER_X3	-,800	,000	H <sub>3</sub> (Received)
Maturity_X4	-,518	,000	H <sub>4</sub> (Received)
Reputation_Auditor_X5	1,933	,000	H <sub>5</sub> (Received)

Table 4 : - Hypothesis Testing Results Partially

From table 4 above, it can be seen that the influence of the dependent variable on the independent variable is significant as follows:

##### 1) The Effect of Company Growth on Bond Rating

The test results using Ordinal Logistic Regression between Company Growth on Bond Rating, obtained a variable coefficient value of -2,428 with a significance value of 0.123. The significance value is greater than 0.05 ( $p > \alpha 5\%$ ). This shows that the Company Growth does not have a significant effect on the Bond Rating.

##### 2) The Effect of Profitability (ROA) on Bond Rating

The test results using the Ordinal Logistic Regression between Profitability (ROA) on Bond Rating obtained a variable coefficient value of 28.520 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that Profitability (ROA) has a significant positive effect on bond rating.

##### 3) The Effect of Leverage on Bond Rating

The test results using Ordinal Logistic Regression between Leverage on Bonds Rating obtained a variable coefficient value of -0.800 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that Leverage has a significant negative effect on the Bond Rating.

##### 4) The Effect of Maturity on Bond Rating

The test results using Ordinal Logistic Regression between Maturity and Bond Rating, obtained a variable coefficient value of -0.518 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that Maturity has a significant negative effect on Bond Rating.

##### 5) The Effect of Auditor Reputation on Bond Rating

The results of the Ordinal Logistic Regression test between the Auditor Reputation and the Bond Rating obtained a variable coefficient value of 1.933 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that the Auditor's Reputation has a significant positive effect on the Bond Rating.

#### C. Discussion

##### 1. The Effect of Growth on Bond Rating

Based on the results of the Ordinal Logistic Regression test between Growth of the Company (Growth) on Bond Rating, the variable coefficient value is -2,428 with a significance value of 0.123. The significance value is greater than 0.05 ( $p > \alpha 5\%$ ). This shows that the Company Growth does not have a significant effect on the Bond Rating. With this company's growth, creditors will feel safe because the company generates profits that are used to pay principal and bond interest smoothly (Restuti 2007). These results are in line with research conducted by Arvian Pandutama (2012) where the partial test results using logistic regression prove that the company's growth variable in this study is measured using the sales growth indicator on bonds rated by PT. PEFINDO from 2012 to 2015 did not have a significant positive effect on the bond rating.

##### 2. The Effect of Profitability on Bond Rating

Based on the results of the Ordinal Logistic regression test between Profitability (ROA) on Bond Rating, the variable coefficient value is 28.520 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that the Profitability (ROA) has a significant effect on the Bond Rating. Harahap (2009:305) states that the greater the ratio the better because the company is considered capable of paying its obligations. The higher the level of profitability, the lower the risk of inability to pay or default risk. The higher the profitability, the higher the rating it will be for the company. These results line in with research conducted by Saputri & Purbawangsa (2016). Based on the results of the analysis and discussion of profitability, it has a significant positive effect on bond rating.

##### 3. The Effect of Leverage on Bond Rating

Based on the test results Ordinal Logistic regression between Leverage to Bond Rating obtained variable coefficient value of -0.800 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This suggests that the leverage has significant influence to bond rating. Proxy ratio leverage used is Debt to Equity Ratio (DER). DER is used to see how much the

company is financed by debt or external parties. The greater the leverage, the greater the risk of corporate default, the lower the leverage, the better the rating assigned to the company. The higher the leverage, the most of the capital owned by the company is financed by debt, so it will make it more difficult for the company to obtain a loan because the company is in default risk, because it is likely that the company will not be able to return the principal and interest periodically because of the large debt it has. the company. So the higher the leverage, the lower the company's bond rating. These results are in line with research conducted by Sihombing & Rachmawati (2015). Based on the results of the analysis and discussion, leverage has a significant negative effect on bond rating.

#### 4. The Effect of Maturity on Bond Rating

Based on the results of the Ordinal Logistic Regression test between Maturity and Bond Rating, the variable coefficient value is -0.518 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that Maturity has a significant effect on the Bond Rating. The shorter the bond size, the higher the bond rating for the company. This condition can be a signal that can influence investors' decisions to invest in the company's bonds. It can be concluded that companies that have a bond age of less than five years will be in the investment grade bond rating. These results are in line with research conducted by Widiastuti & Rahyuda (2016). Based on the results of the analysis and discussion, Maturity has a significant negative effect on bond rating.

#### 5. The Effect of Auditor Reputation on Bond Rating

Based on the results of the Ordinal Logistic Regression test between the Auditor's Reputation on the Bond Rating, the variable coefficient value is 1.933 with a significance value of 0.000. The significance value is smaller than 0.05 ( $p < \alpha 5\%$ ). This shows that the Auditor Reputation has a significant effect on the Bond Rating. With the reputation auditor who both then will give the results of the audit that can be trusted. Meanwhile, in Indonesia, issuers audited by big four auditors will have investment grade bonds because the better the auditor reputation will affect the bond rating. The higher the auditor reputation, it is expected that the better the results of the audit of the financial statements. The financial reports audited by big 4 KAP are considered to be of higher quality when compared to non big 4 KAPs, because the opinions generated by big 4 KAP will be more independent, so that they can reduce agency risk, and reduce default risk which in turn will increase the company's bond rating (Sunarjanto and Tulasi, 2013). This result is in accordance with the research of Vina (2017). Based on the results of the auditor's reputation analysis, which significantly influences the prediction of the company's bond rating

## V. CONCLUSIONS AND SUGGESTIONS

### A. Conclusion

Based on the results of research and discussion, the following conclusions:

1. There is no influence positive between Company Growth on bond rating.
2. There is a positive influence between Profitability on Bond Rating.
3. There is a negative influence between Leverage on Bond Rating.
4. There is a negative influence between Maturity on Bond Rating.
5. There is a positive influence between the Auditor Reputation on the Bond Rating.

### B. Suggestions

Based on the description of the conclusions stated earlier, the suggestions that can be given for further research are as follows:

1. For the company, in order to increase its profitability ratio, because according to this study, the profitability ratio has a large influence on bond rating and reduces its debt ratio. In addition, companies are also advised to appoint an external auditor that is included in the Big Four KAP.
2. For further researchers, researchers, especially those interested in examining variables that have an effect on bond rating, are advised to conduct further research by examining other financial or non-financial variables that have a greater influence on bond rating.

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