THE INFLUENCE OF DEBT TO EQUITY RATIO AND INVENTORY TURNOVER TO PROFITABILITY (ROA)
(*Survey of Industrial Mining Companies Listed in Indonesia Stock Exchange Period* 2010-2016)

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Pembimbing

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ABSTRACT

This research aims to know the magnitude of the influence of Debt to Equity Ratio and Inventory Turn Over of the Profitability That measured by ROA, either simultaneously or partial. The unit of analysis that is examined is the Industrial Mining Companies that listed on Indonesia Stock Exchange (IDX) . The research method used is descriptive verificative. The dependent variabel is Profitability (ROA), while its independent variable is Debt to Equity Ratio and Inventory Tur Over. Based on the results of this study it was concluded that simultaneously, Debt to Equity Ratio and Inventory Turn Over has significant effect of the Profitability (ROA).

Keyword : Debt to Equity Ratio, Inventory Turnover, Profitability ,(ROA)

I Preliminary

1.1 Researchs Background

To run its operations, every company has a variety of needs, especially with regard to funds for the company to run properly. Funds are always required to cover all or part of the required costs, both short-term and long-term funds. And also needed for expansion or expansion of new business or investment (Cashmere, 2016: 150). The financial statements are basically the result of an accounting process that can be used as a tool to communicate financial data or corporate activities to interested parties. In other words, this financial report serves as an information tool that connects the company with the parties concerned, which shows the condition of corporate financial health and corporate performance (Hery, 2016 : 3).

Financial analysis includes selection, evaluation, and interpretation of financial data and relating it to other information to assist in decision making. Financial analysis is slightly different from the analysis of financial statements. Analysis of financial statements is the decomposition of financial statement material to the things that are important for easy to understand the meaning implied in it, so it can be used for certain decision-making (Pirmatua, 2017 : 32).

Ratio analysis is one of the most popular and widely used financial analysis tool. Although the ratio calculation is only a simple arithmetic operation, but the result requires an interpretation that is not easy. In order for the ratio results to be meaningful, a ratio should refer to an important economic relationship. The ratio should be interpreted with caution because the factors affecting the numerator can correlate with the factors that influence the denominator. This financial ratio analysis can reveal important relationships between financial statement estimates and can be used to evaluate the company's financial condition and performance Hery (2016:139).

One of the most popular financial ratios is profitability ratios, some theories suggest profitability is influenced by several factors. According Fahmi (2011: 2) Financial performance is an analysis conducted to see the extent to which a company has implemented by using the rules of financial implementation properly and correctly. Meanwhile, according to Cashmir (2016: 196), profitability ratio is the ratio to assess the ability of companies in the search for profit. This ratio also provides a measure of the effectiveness of a company's management. This is shown by the profits generated from sales and investment income. The bottom line is the use of this ratio indicates the efficiency of a company.

The ratio that describes the success and ability of a company to use its assets productively can be explained by Hery's (2016: 193) theory, which states that: "Return on assets (ROA) is a ratio that shows how much the contribution of assets in creating net income" .

Debt to Equity Ratio (DER) is the ratio chosen to represent the solvency ratio to find out the financial stability picture of the company from the entire debt of the company. How much capital can overcome the entire debt company to move the company's operations so often called leverage or solvency. If the company is able to pay all its debts is called Solvabel, whereas if it can not afford to pay all its debts called Insolvabel. (Kasmir, 2016:134).

1.2 Problems Identification

1) Decrease of ROA for 3 years in a row in 2014-2016 experienced by PT. ELNUSA Tbk which is indicated as a result of the weakening of inventory turnover. It is feared that if inventory turns continue to weaken, then the ability of companies to get a profit decreases if profits continue to decline then the ratio of return on assets will also decrease.
2) Decrease of DER and Increase Inventory Turnover in 2015 at PT. ANTAM Tbk which is not followed by increase of ROA which actually decrease. Supposedly, by decreasing DER, PT. ANTAM Tbk has a smaller risk of loss which then will have an impact on the increase of return on assets (ROA), and then increase inventory turnover at PT. ANTAM Tbk in 2015 should reflect an increase in inventory productivity as it is assumed that inventory intensity is being sold increasingly which then contributes to an increase in return on assets (ROA).
3) Decrease of DER and Increase Involvement Turnover in 2016 at PT. SAMINDO RESOURCES Tbk which is not followed by increase of ROA which actually decrease. Supposedly, by decreasing DER, PT. SAMINDO RESOURCES Tbk has a smaller risk of loss which then will have an impact on the increase of return on assets (ROA), and then increase inventory turnover at PT. SAMINDO RESOURCES Tbk in 2015 should reflect an increase in inventory productivity as it is assumed that inventory intensity is being sold increasing, which then contributes to an increase in return on assets (ROA).
4) Differences of research results on the effect of DER on Profitability (ROA) and the influence of Inventory Turnover on Profitability (ROA).

1.3 Problem Formulation

1) How much influence Debt to Equity Ratio to profitability (ROA) in Mining Sector Companies listed in Indonesia Stock Exchange.
2) How much influence Involvement Turnover to profitability (ROA) on Mining Sector Companies listed in Indonesia Stock Exchange.

1.4 Purpose and Goal Research

1.4.1 Purpose Research

The purpose of this study is to find the truth of the influence of Debt to Equity Ratio and Inventory Turnover to profitability measured by ROA in mining sector companies listed on the Indonesia Stock Exchange.

1.4.2 Goal Research

1) To obtain empirical evidence of the influence of debt to equity ratio (DER) on profitability (ROA) in mining sector companies listed on the Indonesia Stock Exchange.
2) To obtain empirical evidence of the effect of inventory turnover on profitability (ROA) in mining sector companies listed on the Indonesia Stock Exchange.

1.5 Usefulness of Research

1.5.1 Practice Usefulness

The results of this study are expected to solve the problems that occur in the debt to equity ratio and inventory turnover and profitability of the mining sector companies. Based on built theory and empirical evidence, the phenomenon of profitability (ROA) can be improved by increasing inventory turnover and efficiency of debt to capital ratio (DER).

1.5.2 Academical Usefulness

1) For the Authors
2) For the authors of this study is useful to add insight and develop knowledge about financial analysis, especially about the influence of debt to capital ratio (DER) and inventory turnover to profitability (ROA) in mining sector companies listed in Indonesia Stock Exchange.
3) Next Researcher
   For the next researcher, this research is expected to be a reference and guidance in further research on the influence of debt to capital ratio (DER) and inventory turnover to profitability (ROA) in mining sector companies listed in Indonesia Stock Exchange.

II Theoretical Studies, Framework for Thinking, and Hypotheses

2.1 Theoretical Study

2.1.1 Profitability

According to Kasmir (2012: 279) Profitability ratio is often called profitability of the business. This ratio is used to measure the level of business efficiency and profitability achieved by the bank concerned.

According to Arifiandy Permata Veithzal (2013: 480) states profitability is the company's ability to earn profits during a certain period.

Meanwhile, according to Malayu S. P. Hasibuan (2011: 100) profitability is the ability of a bank to earn profits expressed in percentages. Profitability is basically the profit (rupiah) expressed in the percentage of profit.

2.1.1.1 Measurement of Profitability Ratio

Return on Total Assets (ROA)

This ratio is used to measure the ability of bank management in obtaining profit (profit) as a whole.

$$\text{ROA} = \frac{\text{Earning After Tax}}{\text{Total Asset}}\ x\ 100\%$$

2.1.2 *Debt Equity Ratio (DER)*

According to Cashmere (2014: 157) Debt to Equity Ratio is the ratio used to assess debt with equity. This ratio is sought by comparing between all debts, including current debt with total equity. This ratio is used to determine the amount of funds provided by the borrower (creditor) with the owner of the company. In other words, this ratio serves to find out each rupiah own capital that is used as debt security.

Then according to Gitman and Zutter in Irhami Fahmi (2015: 126) DER is a ratio to measure the proportion of liabilities and equity in financing the company's assets.**2.1.2.1 Indikator *Debt Equity Ratio (DER)***

In this study the ratio used is the ratio of Debt to Equity Ratio (DER) presented by Cashmere (2014: 157), Debt to Equity Ratio can be calculated by the following formula:

$$DER = \frac{Total\ Debt}{Total\ Equity} X\ 100\%$$

2.1.3 Inventory Turn Over

The definition of inventory turnover by Hongren and Themin Suwardy (2012: 355) is as follows: "Inventory turnover is the cost of goods sold against the average inventory, which indicates how quickly inventory is sold".

Then according to Amin Widjaya Tunggal (2012: 15) defines the inventory turnover as follows:

"Inventory turnover is a clue about the speed of moving goods through effort".

Then according to Sofyan Safri Harahap (2011: 308) defines the inventory turnover as follows:

"Inventory turnover is how fast the inventory turns in the normal production cycle, the faster the turnaround the better because it is considered fast running sales.

2.1.3.1 Measurement of Inventory Turnover

In this study the ratio used is the ratio of Inventory Turnover proposed according to Amin Widjaya Tunggal (2012: 15), the ratio of Inventory Turnover can be calculated by the following formula:

$$Inventory\ Turnover = \frac{COGS}{Inventory\ Average}$$

Meanwhile, according to Horngren & Themin Suwardy (2012: 355), this ratio can be calculated using the formula:

$$Inventory\ Turnover = \frac{COGS}{Inventory\ Average}$$

$$Inventory\ Average = \frac{Inventory\ Beginning + Ending}{2}$$

This ratio is used to find out how quickly inventory is sold in the production cycle. From the above two formulas, in this study using the formula proposed by Hongren and Themin Suwardy.

2.2 Framework

2.2.1 The Influence of *Debt to Equity Ratio* (*DER*) To Profitability (ROA)

According to research conducted Yasir M. Pidu (2015) and research conducted by Dian Pramesti, et al (2016), states that DER affects profitability as measured by ROA. Then the results of research conducted by Listyorini Wahyu Widati (2012) and research conducted by Dwi Hari Priyatno (2016) states that DER has a significant positive effect on the performance of banking ROA. This is in accordance with the theory put forward by Kasmir (2013: 152) states that companies that have a high debt ratio (DER) will impact the risk of greater losses, on the contrary if the company has a lower debt ratio certainly has a smaller risk of loss especially in times of economic decline, and may result in low returns (ROAs) when the economy is high. Then the theory in accordance with the results of the study was delivered by Primatua (2017: 135) which states that the higher the ratio the worse and the lower the ratio the better the better. The worst ratio is when reaching 100% whereas according to Irhami Fahmi (2014: 43) there is no limit on how much debt to equity ratio or debt ratio to secure capital for the company, but usually debt to equity ratio passing 66% or 2/3 already is considered risky because the lower the debt to equity ratio the better for the company because it is safe for creditors at the time of liquidation.

2.2.2 The Influence of Inventory Turn Over To Profitability (ROA)

According to research conducted by Cintya Dewi farhana, et al (2016), and research conducted by Marlina Widyanti, et al (2014), states that inventory turnover has a positive and significant impact on profitability (ROA).

This is in accordance with the theory put forward by Hery (2016: 182) which states that the higher the inventory turnover ratio shows that the working capital embedded in the inventory of merchandise is getting smaller this means the better for the company. Conversely, the lower the inventory turnover ratio indicates that the working capital embedded in the merchandise inventory is over (investment) and this means the less good for the company.

Then the theory expressed by Cashmere (2016: 180), if the ratio obtained is high, it shows the company is working efficiently and the inventory liquid is getting better or productive. Similarly, if the lower inventory turnover means the company is working inefficiently or unproductively and many stockpiles are piled up. This will result in investment in low returns.

2.3 Hipotesys

Based on the description of the above framework, the author tries to formulate a hypothesis which is a temporary estimate of research as follows:

(H_1) : The debt-to-equity ratio (DER) affects profitability (ROA) in the mining sector listed in the Indonesia Stock Exchange.

(H2): Inventory Turnover affects profitability (ROA) in mining sector companies listed in Indonesia Stock Exchange.

III. Research Methode

3.1 Research Methode

According Umi Narimawati (2010: 127) Research method is a research method used to obtain data to achieve certain goals. This research is done by using quantitative approach. Understanding quantitative research according to Bambang Prasetyo and Lina Miftahul Jannah (2012: 24) is called as a positivistic method because it is based on positivism philosophy, this method as a method of scientific rule that is concrete / empirical, objective, measurable, rational, and systematic, discovery, because with this method can be found and developed various new science and technology, this method is called quantitative because the research data in the form of numbers and analysis using statistics.

In this research the researcher use descriptive method, descriptive method is used to know deeper ratio of debt to capital and inventory turnover to profitability (ROA) at mining sector company listed in Indonesia Stock Exchange year 2010-2016. According to Moh. Nazir (2013: 54) defines descriptive method as a method of researching the status of a human group, an object, a set of conditions, a system of thought, or a class of events in the present.

While, in this research verifikatif method used to test the hypothesis by using statistical test tool that is Statistical Package for Social Sciences (SPSS). The verification method is used to test the effect of X1 (Debt to Equity Ratio (DER)) and X2 (Inventory Turnover) to Y (Profitability (ROA)). According to Masyhuri (2008: 45) in Umi Narimawati (2010: 29) defines the verification method of checking whether it is correct to explain a way with or without improvements that have been implemented elsewhere by overcoming problems similar to life.

Based on the title that has been stated above is "Effect of Debt to Equity Ratio and Inventory Turnover to Profitability (ROA)" then the method used in this research is descriptive and verifikatif with quantitative approach.

3.2 Variable Operationalization

1. Independen (Variabel X)

The independent variables in this study are two, first (X1) is the ratio of debt to capital and the second variable (X2) is the inventory turnover.

1) Debt to Equity Ratio

According to Gitman and Zutter in Irhami Fahmi (2015: 126) Debt to Equity Ratio (DER) is a ratio to measure the proportion of liabilities and equity in financing the company's assets.

2) Inventory Turnover

According to Amin Widjaya Tunggal (2012: 12) inventory turnover is a clue about the speed of moving goods through business.**Variabel Tergantung / Dependen (Variabel Y)**

According to Bambang Prasetyo and Lina Miftahul Jannah (2012: 68) the dependent variable is the variable that is caused or influenced by the independent variable, the existence of this variable as the variable described in the focus / research topic.

In this study the dependent variable (Y) is profitability (ROA).

According to Gitman and Zutter in Irhami Fahmi (2015: 1126) Return on Assets is a ratio used to measure the overall effectiveness of management in generating profits by using existing assets.

3.3 Data Sources and Data Collection Techniques

Sources of data used in research on the effect of the ratio of debt to capital and inventory turnover on profitability (ROA) is secondary data obtained indirectly or through intermediary media. The data is quantitative about the annual financial statements of mining sector companies listed on the Indonesia Stock Exchange 2010-2016.

3.4 Population, Sample and Place and Time of Research

3.4.1 Research Population

Sources of data used in research on the effect of the ratio of debt to capital and inventory turnover on profitability (ROA) is secondary data obtained indirectly or through intermediary media. The data is quantitative about the annual financial statements of mining sector companies listed on the Indonesia Stock Exchange 2010-2016.

3.4.2 Research Sample

According Sugiyono (2013: 81) sample is part of the number and characteristics possessed by the population. Determination of the number of samples to be processed from the population should be done with the appropriate sampling technique. The sampling technique used in this research is nonprobability sampling (purposive sampling).

According Sugiyono (2013: 84) nonprobability sampling is a sampling technique that does not provide opportunities / equal opportunity for each element or member of the population to be selected to be sampled.

According Sugiyono (2013: 84) purposive sampling is a technique of determining the sample with certain considerations. The criteria selected by the author in determining the sampling in this study is :

1) Mining Companies' Main Group "which has been listed on the Indonesia Stock Exchange since before 2009.
2) The data taken shall be the data of annual financial statements (Comprehensive Income Statement and Consolidated Financial Position Report) of a Commercial Bank listed on the Indonesia Stock Exchange.
3) There is a complete annual financial report for 7 periods namely 2010 - 2016.
4) The annual financial statements have been audited by an independent auditor with an unqualified opinion audit opinion.

Based on the theory and table above, then selected 12 companies in accordance with the sample criteria used in this study, the financial statements consisting of comprehensive income, consolidated statements of financial position and notes to the financial statements. The observation year used in this research for 7 consecutive years that is starting in 2010 - 2016 because the amount according to the theory has been considered representative or representative for the test research to determine the effect of Debt to Equity Ratio and Inventory Turnover to profitability (ROA). So the sample used in this study as much as 84 (12 x 7) financial statements.

3.4.3 Time and Place Research

To obtain data and information relating to the problems studied, the authors conducted a study at the Representative Office of Indonesia Stock Exchange Bandung, located on Jl. PH. H. Mustofa No. 33, Neglasari, Cibeunying Kaler, Bandung 40124 Tel. (022) 20524208. The time of the research started in January 2017 until August 2017.

3.5 Method of Collecting Data

1) Field Study

Field study is a research design that combines literature study, experience-based survey and / or case study in which the researcher attempts to identify the important variables and relationships among those variables in a particular problem situation (Jonathan Sarwono, 2006: 82). At this stage, the authors take secondary data in the form of documents in the form of annual financial statements consisting of comprehensive income, consolidated statements of financial position and notes on financial statements of banking sector companies listed on the Indonesia Stock Exchange 2010-2016.

2) Literature Study

According to Moh. Nazir (2013: 112) literature study is an important step where a researcher is a subject of research, in the search theorists will collect as much information from the related literature. Data collection at this stage is done by reading the reading of existing libraries in the library and using internet media as supporting media in tracking additional information about the theory and data required in this research.

3.6 Data Testing Method

3.6.1 Analysist Plann

According to Umi Narimawati (2010: 41) The design of analysis is the process of searching and arranging systematically data that has been obtained from field observations, and documentation by organizing data into

categories, describe into units, synthesize, arrange into the pattern , choose which yag is more important and that will be learned and make conclusions so easily understood by yourself and others.

The researcher analyzed the data that has been described by using the quantitative approach method by using the analysis of classical assumption test, multiple linear regression analysis, pearson correlation coefficient analysis and coefficient of determination test.

3.6.1.1 Quantitative Analysist

In this case the authors do an analysis on financial statement data contained in mining sector companies listed on the Indonesia Stock Exchange with the period of 2010-2016. From the results of the analysis will be obtained the analysis of the ratio of debt to capital and inventory turnover and its effects on profitability (ROA). In addition, this method is used to determine the effect of the ratio of debt to capital and inventory turnover as well as its effect on the profitability (ROA) of mining companies listed on the Indonesia Stock Exchange for the period 2010-2016 using the following analysis:

A. Classic Assume Testing

According to Imam Ghozali (2011: 57) classical assumption test is used to obtain a good regression model, free of data deviation consisting of normality test, multicolinearity test, heteroscedasticity test and autocorrelation test.

B. Double Linear Regression Testing

According to Rahmat Trijono (2015: 70) multiple linear regression analysis is an analytical technique used to see the relationship / influence of some predictors of criterium. The measurement scale of two or more varabel predictors is an interval or ratio. Multiple linear regression is calculated as follows:

$$Y = a + b_1X_1 + b_2X_2 + e$$

C. Coefficient of Corelation Pearson Analysist

According to Sujana in Umi Narimawati (2010: 49), correlation test is used to determine the strength of the relationship between variables X and Y, which in this study is the effect of DER and Inventory Turnover on profitability (ROA) using Pearson correlation coefficient approach with the formula:

$$r = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{n \sum X^2 - (\sum X^2)\}\{n \sum Y^2 - (\sum Y)^2\}}}$$

Sumber : Umi Narimawati (2010:50)

D. Coefficient of Determination

According to Imam Ghozali (2011: 97) the coefficient of determination (R2) is a tool to measure how far the model's ability to explain variations of dependent variables, the coefficient of determination is between 0 and 1, the greater the R2 (close to 1), the better the result for the regression model and the closer 0 then the independent variable as a whole can not explain the dependent variable .. To see how much influence each of them will be used the square of the coefficient of determination, namely:

$$KD = r^2 \, x \, 100\%$$

E. Double Corelation Analysist

Multiple correlation analysis is used to measure the weakness of the relationship between DER variables and Inventory Turnover on profitability (ROA). The formula of multiple correlation:

$$RY.X_1X_2 = \frac{b_1 \sum X_1Y + b_2 \sum X_2Y}{\sum Y^2}$$

3.6.2 Hipotesys Testing

According to Moh. Nazir (2013: 151) hypothesis is a statement received temporarily as a truth as it is, when the phenomenon is known and is the basis of work and guidance in verification. The hypothesis to be used in this study relates to the presence or absence of correlation and the influence of independent variables X1 and X2 significantly to the dependent variable (Y).

3.6.2.1 Partial Testing (Statistik T)

In this study t test is done to find out how far the influence of the ratio of debt to capital and inventory turnover to profitability (ROA) mining companies partially or separately. According to Imam Ghozali (2011: 98) t test is used to test the influence of each independent variable used in this study to the dependent variable partially. Hypothesis zero (H0) there is no significant influence and alternative hypothesis (Ha) shows the influence between independent variables and dependent variables.

Calculate the value of tcount and compare it with ttable. The tcount, can be searched with the following equation:

$$t_{hitung} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Sumber : Sugiyono (2012:230)

3.6.2.1 Conclusion

Based on the picture above, the shaded area is the rejection area H0, and the reverse is true. If thitung falls in the area of rejection (acceptance), then H0 is rejected (accepted) and Ha accepted (rejected). This means the coefficient of regression is significant (not significant). The significance level is 5% (α = 0.05), meaning that if the null hypothesis is rejected (accepted) with 95% confidence level, then it is likely that the result of conclusion has 95% truth and this indicates the presence (absence) of persuasive effect (significant) between dependent variable with independents variable.

IV Researchs Result and Discussion

4.1 Research Result

In this section will present the results of research and discussion about the influence of Debt to Equity Ratio (DER) and Involvement Turnover (ITO) to Profitability (ROA). The method of analysis used to process the data in this research is descriptive and verifikatif analysis, and multiple linear regression analysis as a tool in making conclusion also to know how big direct influence of internal factor or external factor.

4.1.1 Descriptive Analysist Result

This research is conducted on mining companies listed in Indonesia Stock Exchange during 7 periods of financial statements, from 2010 until 2016. Before discussing the influence of Debt to Equity Ratio (DER) and Involving Turnover (ITO) to Profitability (ROA), first we will discuss the data of Debt to Equity Ratio (DER), Involving Turnover (ITO) and Profitability (ROA) at mining companies listed in Indonesia Stock Exchange 2010-2016 period. Data used and analyzed in this research is secondary data, because it is data collected and obtained from Indonesia Stock Exchange and has undergone processing in the form of annual financial report.

4.1.1.1 Descriptive Analysist of *Debt to Equity Ratio* (DER)

Debt to Equity Ratio (DER) is a ratio to measure the proportion of liabilities and equity in financing the company's assets (Gitman and Zutter, 2015: 126). When a company has a low debt ratio then the company has a smaller risk of loss, especially when the economy declines will cause the return on assets increased, but otherwise when the economy is high then the return on assets will decline.

From the data, it can be concluded that the average Debt to Equity Ratio (DER) value of Mining Companies listed on the IDX for 2010-2016 period is -5.1417E3 with standard deviation value of 48087,52032. The lowest percentage of DER is -4,41E5 is owned by PT. Samindo Resources Tbk in 2010, while the highest percentage of DER with PT. Bayan Resources Tbk. at 444.76 by 2015.

4.1.1.2 Descriptive Analysist of Inventory Turn Over (ITO)

Inventory turnover is the cost of goods sold against the average inventory, which indicates how quickly inventory is sold (Hongren and Themin Suwardy, 2012: 355). Excess inventory due to slow inventory turnover is, of course, unproductive and reflects investment with low or zero return on assets (ROA).

From the data, it can be concluded that the average value of inventory turnover (ITO) in Mining Companies listed on IDX for 2010-2016 period is 1,7091E3 with standard deviation value of 1520,29561. The lowest number of ITOs is owned by PT. International Nickel Indonesia Tbk of 327.12 in 2011, while the highest

number of ITOs is owned by PT. Samindo Resources Tbk. which amounted to 9106.88 in 2010. As for knowing the average development of Inventory Turnover (ITO) on Mining Companies listed on the IDX period 2010-2016.

4.1.1.3 Descriptive Analysist of Profitability (ROA)

Return On Assets (ROA) is a ratio to measure the overall effectiveness of management in generating profits using existing assets (Gitman and Zutter, 2015: 161). Return on Asset (ROA) is able to measure the overall ability of the company in generating profits with the total assets available in the company, the higher the ratio, the better the state of a company. To calculate Return on Assets (ROA), then used information contained in the income statement and statement of financial position to know the profit before tax and total assets.
From the data that can be that the average value of profitability (ROA) on the Mining Companies listed on the IDX Period 2010-2016 amounted to 7.5223 with a standard deviation of 10.49745. The lowest profitability (ROA) is owned by PT. Bayan Resources Tbk of -16.32 in 2014, while the highest profitability (ROA) is owned by PT. Resource Alam Indonesia Tbk. by 46.04 in 2011.

4.1.2 Verivicative Analysist Result

4.1.2.1 Classic Assume Test

Prior to hypothesis testing using multiple linear regression analysis, there are several assumptions that must be fulfilled so that the conclusion of the regression is not biased, such as normality test, multicollinearity test (for multiple linear regression), heteroscedasticity test and autocorrelation test (for time series data) . In this study the four assumptions mentioned above are tested because the independent variables used in this study are more than one (multiple) and the data collected contain time series element (7 years of observation) with 13 Mining Sector Companies as research objects

1) Normality Test

A good regression model should be normally distributed or near normal. Detects whether the data is normally distributed or can not be known by describing the spread of data through a graph. If the data spreads around the diagonal line and follows the direction of the diagonal line, the regression model meets the assumption of normality. Here is the result of normality test using Kolmogorov - Smirnov method.

Tabel Uji Normalitas

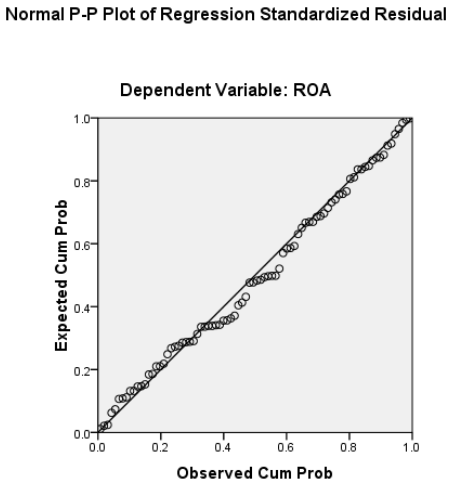
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		84
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	8.71875889
Most Extreme Differences	Absolute	.073
	Positive	.073
	Negative	-.044
Kolmogorov-Smirnov Z		.672
Asymp. Sig. (2-tailed)		.757

a. Test distribution is Normal.

Normality test results in the above table shows that the regression model has residual value that is normally distributed if the significance value of Kolmogorov Smirnov test is berniali 0.757 where the result is greater than 0.05. Based on the concept can be seen that the data distribution is normal if the value Asymp.Sig

value above 0.05. There is also a result of the validity test seen in graphical form, that is as follows:



Gambar P-Plot Uji Normalitas

Residuals are normally distributed when the unstandarized residual spreads around the diagonal line and follows the direction of the diagonal line. From the Normal Q-Q plot above it can be seen that the unstandardized residual distribution follows and spreads around the diagonal line, it can be concluded that the residual model of the regression equation is normally distributed or satisfies the normality assumption.

2) Multicolinearity Test

Multicollinearity test is a condition where the regression model found a perfect or near perfect correlation between independent variables. In a good regression model there should be no perfect or near perfect correlation between the independent variables (correlation 1 or near 1). To know a free regression model of multicolinearity, that is by looking at the VIF (Variance Inflation Factor) number should be less than 10 and tolerance rate more than 0.1.**Tabel Uji Multikolinearitas**

Coefficients[a]

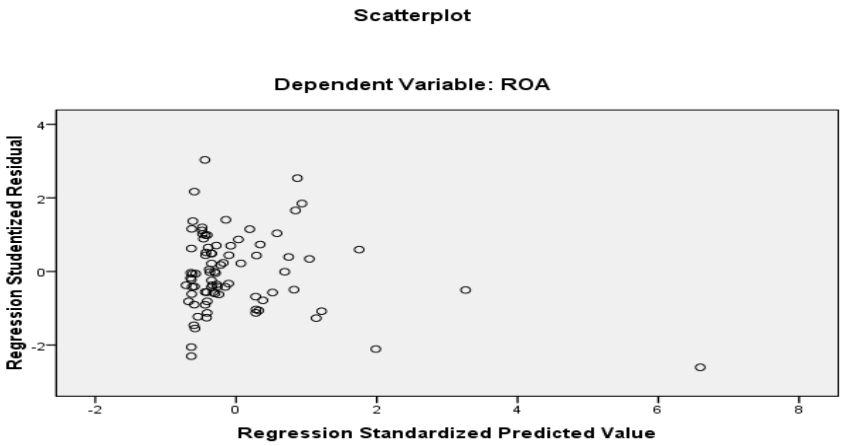
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	DER	.991	1.009
	ITO	.991	1.009

a. Dependent Variable: ROA

Based on SPSS output table above, seen tolerance values obtained for both independent variables is equal to 0.991> 0.10 with VIF value of 1.009 <10. These results indicate that the independent variables in the regression model free from multicolinearity problem, then the model has fulfilled one condition for regression testing.

3) Heteroscedastisity Test

In multiple regression equations need to be tested about the same or not variant of the residual from one observation with another observation. The analysis of heteroscedasticity assay result of SPSS output through scatterplot graph between Z prediction (ZPRED) which is independent variable (X = Y axis predicted result) and its residual value (SRESID) is dependent variable (Y = Y axis Y real prediction).



Gambar Grafik Scatterplots

In the Figure above 4.5 it appears that the dots spread randomly and spread both above and below the number 0 on the Y axis. It can be concluded that there is no heteroskedasitas on the regression model, so the regression model is feasible to use.

4) Autocorrelation Test

Autocorrelation test is used to determine whether or not the deviation of classical autocorrelation assumption is the correlation that occurs between residuals in one observation with other observations on the regression model so for a good regression equation is that does not have autocorrelation problems, if there is an autocorrelation of the equation is not good or not worthy of prediction (Danang Sunyoto, 2013: 97)

Tabel Hasil Uji Autokorelasi

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.557[a]	.310	.293	8.82574	1.161

a. Predictors: (Constant), ITO, DER

b. Dependent Variable: ROA

Based on the above table obtained Durbin-Watson value of 1.719 Because the value of DW is between -2 and +2 or -2 <1.161 <+2, it can be concluded there is no autocorrelation. Based on all test results that have been done above, then concluded the data in this study did not get a violation of the regression assumption.

4.1.2.2 Double Linear Regression Test

After the proposed regression model passes from the classical assumption test, then further multiple regression analysis can be done in order to test the hypothesis proposed in this study and the determination of multiple linear regression equations. According Danang Sunyoto (2013: 98), multiple linear regression equation in this study formulated in the regression model as follows:

$$Y = \beta o + \beta_1 X_1 + \beta_2 X_2$$

The purpose of multiple linear regression analysis is to determine the magnitude of the influence of independent variables on the dependent variable (Danang Sunyoto, 2013: 47). In this study, multiple linear regression analysis aims to test the magnitude of the influence of Debt to Equity Ratio (DER) and Involvement Turnover (ITO) to Profitability (ROA).

Results of calculation of multiple linear regression coefficient using SPSS software version 16.0 as follows:

Tabel Analisis Regresi Linier Berganda

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.502	1.469		1.704	.092
	DER	-9.657E-5	.000	-.442	-4.771	.000
	ITO	.003	.001	.383	4.135	.000

a. Dependent Variable: ROA

4.1.2.3 Correlation Analysist

Correlation analysis serves to find strong relation between independent variable (X) with dependent variable (Y). As for giving interpretation on the correlation coefficient obtained, the researcher refers to correlation interpretation guidelines as follows:

Tabel Pedoman Interpretasi Koefisien Korelasi

Interval Koefisien Korelasi	Keeratan Hubungan
0,00 - 0,199	Sangat Rendah
0,20 - 0,399	Rendah
0,40 - 0,599	Sedang
0,60 - 0,799	Kuat
0,80 - 1,000	Sangat Kuat

Sumber: Sugiyono (2012;250)

The following correlation results of each - each variable in this study.

A) Korelasi antara *Debt to Equity Ratio* (DER) dengan Profitabilitas (ROA)

To calculate the correlation between the Debt to Equity Ratio (DER) with Profitability (ROA), if the Invoice Invoice (ITO) variable is considered to be a constant used calculation as follows:

Tabel Koefisien Korelasi *Debt to Equity Ratio* (DER) dengan Profitabilitas (ROA)

Correlations

Control Variables			DER	ROA
ITO	DER	Correlation	1.000	-.468
		Significance (2-tailed)	.	.000
		Df	0	81
	ROA	Correlation	-.468	1.000
		Significance (2-tailed)	.000	.
		Df	81	0

Based on the above table, obtained correlation coefficient value for Debt to Equity Ratio (DER) with Profitability (ROA) of -0.468 which results in the score interval between 0.40 - 0.599. This shows that there is a moderate relationship between Debt to Equity Ratio (DER) with Profitability (ROA).

B) Korelasi antara Perputaran Persediaan (ITO) dengan Profitabilitas (ROA)

To calculate the correlation between Inventory Turnover (ITO) and Profitability (ROA), if the Debt to Equity Ratio (DER) variable is considered constant, the following calculation is used:

Tabel Koefisien Korelasi Perputaran Persediaan (ITO) dengan Profitabilitas (ROA)

Correlations

Control Variables			ITO	ROA
DER	ITO	Correlation	1.000	.417
		Significance (2-tailed)	.	.000
		Df	0	81
	ROA	Correlation	.417	1.000
		Significance (2-tailed)	.000	.
		Df	81	0

Based on the table above data, obtained value of correlation coefficient for Involvement Turnover (ITO) with Profitability (ROA) of 0.417 which results in the score interval between 0.40-0.599. This indicates that there is a moderate relationship between Involvement Turnover (ITO) and Profitability (ROA).

4.1.2.4 Determination Coefficient Analysist

The magnitude of the coefficient of determination is calculated by using the following formula :

$$Kd = r^2 \times 100\%$$

(Umi Narimawati, 2010:50)

Based on the table of correlation coefficient of Debt to Equity Ratio (DER) with Profitability (ROA), the value of coefficient of partial determination of Debit to Equity Ratio (DER) effect to Profitability (ROA) is as follows:

$Kd = (-0,468)^2 \times 100\%$

$= 21,9\%$

While based on table of Coefficient of Involvement Cycle Turnover (ITO) with Profitability (ROA) then obtained partial determination of variable Involvement Turnover (ITO) to Profitability (ROA) as follows:

$Kd = (0,417)^2 \times 100\%$

$= 17,4\%$

Based on the above calculation, it can be seen that the influence of Inventory Turnover (ITO) on Profitability (ROA) is 17.4%, while the rest of 82.6% is the influence given by other factors not examined in this research such as company policy, PER , profit, and others.

4.1.2.5 Hipotesys Test

a) Hipotesys Test of *Debt to Equity Ratio* (DER) To Profitability (ROA)

Ho : β = 0 : There is no influence between Debt to Equity Ratio (DER) to Profitability (ROA)

Ha : β ≠ 0 : There is influence between Debt to Equity Ratio (DER) to Profitability (ROA)

By using SPSS version.16.0, obtained the results of hypothesis X1 test as follows:

Tabel Koefisien Uji Hipotesis *Debt to Equity Ratio* (DER) Terhadap Profitabilitas (ROA)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.502	1.469		1.704	.092
	DER	-9.657E-5	.000	-.442	-4.771	.000
	ITO	.003	.001	.383	4.135	.000

a. Dependent Variable: ROA

Based on the above table, it can be known thitung value for Debt to Equity Ratio (DER) variable equal to -4.771. This value will be compared with the ttable value in the t distribution table. With α = 0.05, df = n-k-1 = 84-2-1 = 81, the value of ttable is ± 1.990. It is known that thitung for X1 is -4,771> ttable value -1,990, then H0 is rejected means that Debt to Equity Ratio (DER) variable has significant effect to Profitability (ROA).

b) Hipotesys Test of Inventory Turn Over (ITO) To Profitability (ROA)

Ho : β = 0 : There is no effect between Inventory Turnover (ITO) on Profitability (ROA)

Ha : β ≠ 0 : There is an influence between Inventory Turnover (ITO) on Profitability (ROA)

By using SPSS version.16.0, obtained the results of hypothesis X2 test as follows:

Tabel Koefisien Uji Hipotesis Perputaran Persediaan (ITO) Terhadap Profitabilitas (ROA)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.502	1.469		1.704	.092
	DER	-9.657E-5	.000	-.442	-4.771	.000
	ITO	.003	.001	.383	4.135	.000

a. Dependent Variable: ROA

Based on table 4:15 above, can be known thitung value for the Involvement Turnover (ITO) of 4.135. This value will be compared with the ttable value in the t distribution table. With α = 0.05, df = n-k-1 = 84-2-1 = 81, the value of ttable is ± 1.990. It is known that thitung for X2 is 4,135> ttable value 1,990, then H0 is rejected meaning that Involvement Turnover (ITO) has significant effect to Profitability (ROA).

4.2 Discussion

4.2.1 The Influence of *Debt to Equity Ratio* (DER) To Profitability (ROA)

There is a relationship between Debt to Equity Ratio (DER) with profitability (ROA) which is of negative value. That is, Debt to Equity Ratio (DER) has a moderate relationship to profitability (ROA) and it can be said that Debt to Equity Ratio (DER) is not in the same direction as inversely proportional to profitability (ROA). Where if Debt to Equity Ratio (DER) increases then profitability (ROA) will decrease. So there is an influence between Debt to Equity Ratio (DER) to profitability (ROA) of 21.9% in Mining Companies listed in Indonesia Stock Exchange, while the influence on profitability (ROA) of variables not examined in this study amounted to 78.1 % such as liquidity, inflation, capital, corporate control, financial performance, and so on. Companies with high debt ratios (DERs) will have a greater risk of loss, whereas if the company has lower debt ratios, the risk of losses is smaller, especially in times of economic downturn, and may result in lower returns (ROA) when the economy is high (Cashmere, 2013: 152).

4.2.2 The Influence of Inventory Turn Over (ITO) To Profitability (ROA)

There is a relationship between inventory turnover (ITO) with profitability (ROA) is a positive value is. That is, inventory turnover (ITO) has a very weak relationship to profitability (ROA) and it can be said that inventory turnover (ITO) has a direct relationship with profitability (ROA), where if inventory turnover (ITO)

increases then profitability (ROA) will rise and vice versa. So there is an influence between the inventory turnover (ITO) on profitability (ROA) of 17.4% in Mining Companies listed on the Indonesia Stock Exchange, while the influence on profitability (ROA) of variables not examined in this study amounted to 82.6% company policy, PER, profit, and others. The higher the inventory turnover ratio shows that the working capital embedded in the merchandise inventory is getting smaller this means the better for the company. Conversely, the lower the inventory turnover ratio indicates that working capital is embedded in an inventory of over-the-board merchandise and this means less good for the company (Hery, 2016: 182).

V Conclusion and Recomendation

5.1 Conclusion

1) *Debt to Equity Ratio (DER) affects profitability (ROA) in Mining Companies listed in Indonesia Stock Exchange 2010-2016 period, where every increase of Debt to Equity Ratio (DER) will decrease profitability (ROA).*
2) *Inventory turnover (ITO) affects profitability (ROA) in Mining Companies listed in Indonesia Stock Exchange 2010-2016 period, where every increase of inventory turnover (ITO) will increase profitability (ROA).*

5.2 Recomendation

5.2.1 Practice Recomendation

a. For Companies:

1) For Mining Companies listed on the Indonesia Stock Exchange that get low profitability (ROA) caused by the high acquisition of Debt to Equity Ratio (DER) due to decreased profits, increased debt or current liabilities, decreased capital, increased long-term debt, and increased burden borne by the company. It is best to overcome this, then the company must improve the company's performance by increasing the sales volume in order to generate revenue and greater profit so that earnings obtained can be used to reduce corporate debt.

2) For Mining Companies listed on the Indonesia Stock Exchange that get low profitability (ROA) caused by the lack of acquisition of inventory turnover (ITO) due to increased cost of goods sold, decreased sales volume, production cycle deceleration, non-efficiency of raw materials, maintenance, and decrease in corporate capital. We recommend that the company increase sales volume and reduce the amount of costs and should not store too much or buy unnecessary inventory so that the company can maximize the existing inventory and do not cost for the warehouse.

b. For Investor

Investors can use Debt to Equity Ratio (DER) and inventory turnover (ITO) as reference in making investment. But investors should also analyze other indicators because there are many other indicators that can affect profitability (ROA), although in this study Debt to Equity Ratio (DER) and inventory turnover (ITO) have an effect on profitability (ROA), so investors can be more right in choosing his investment decision.

5.2.2 Academic Recomendation

1) For Developer of Science

This study is expected to provide additional knowledge, as a source of information and as a contribution of thought in developing financial accounting disciplines, and contribute in the development of research, especially on Debt to Equity Ratio (DER), inventory turnover (ITO) and profitability (ROA) as well as input and additional references for readers especially in cost accounting, management accounting and portfolios.

2) For THE Next Researcher

It is suggested in subsequent research to conduct research with the same method but with variable, different unit of analyst and sample in order to obtain conclusion supporting the theory and concept accepted generally.

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