

THE EFFECT OF DEBT TO EQUITY RATIO, DIVIDEND PAYOUT RATIO, AND EARNINGS GROWTH ON PRICE TO EARNINGS RATIO IN INDONESIA'S MINING SECTOR

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Abstract

Investors play an important role in corporate sustainability. To make investors trust and be confident in investing, a company has to have good responsibility to them, especially in reporting the condition of financial performance. One of the analysis that investors will consider in the financial performance is price earnings ratio (PER). It shows how much money investor paid per share relative to the company's net income. Investors' willingness to invest in a company can be measured by calculating the price earnings ratio. This research is conducted to examine whether debt to equity ratio, dividend payout ratio, and earnings growth affect price earnings ratio in mining companies in Indonesia, both in Badan Usaha Milik Negara (BUMN) companies and in private companies. The data is secondary data that is collected from the annual report of the companies. The sample in this analysis is 7 mining companies that are listed in Jakarta Stock Exchange during a five-year period, from 2007 until 2011. The analysis is calculated by using multiple linear regression to test the influence of independent variables to the dependent variables. The significance influence test for hypothesis of independent variables is using T-test and F-test with 5% level of significant.

Keywords: price to earnings ratio, debt to equity ratio, dividend payout ratio, earnings growth, indonesia's mining company

Category: Finance

Introduction

A. Background

The mining sector is one of many sectors that have a good potential to be developed in Indonesia. It is because Indonesia is a country

that has rich natural resources, in this case is metal and mineral. This sector has a big contribution to Indonesia's economic growth. Data shows that the mining sector contributes 11.54% of total GDP in Indonesia. This fact can be used to attract investors, either locally or foreign, to invest in the mining company.

Investor plays an important role in corporate sustainability. Company needs investor to increase the performance of the company itself. Company does not have to spend high amount of money for the capital because if there are many investors that interested to invest in the company, the capital can be gained from the investor's fund. On the other side, investor is also has an interest and expectation while investing in the company. Investor gives fund to the company and expects the advantage, which is profit. If the company can promote a good performance to the investor, it will make the investor believe in investing in the company. To make investors trust and confidence in investing, company has to have good responsibility to them, especially in reporting the condition of financial performance.

The willingness to invest in companies can be measured by looking at Price Earnings Ratio (P/E Ratio) of those companies. It shows how much money investor paid of earnings. High P/E means that investor hoped higher earnings growth. P/E Ratio is more useful to compared one company to another. If one company has high P/E then investor will be more interested in choosing that one rather than company that has low P/E.

While mining sector in Indonesia makes significant growth of Indonesia's economic activity, Indonesia tries to further develop this good potential by maximizing the production of companies. Indonesia has two different types of companies, state owned enterprise or usually called BUMN (*Badan Usaha Milik Negara*) and private company. Indonesia manages BUMN mining companies and private mining companies and both of them contribute good results to Indonesia.

B. Problem Identification

The main problems of this research that will be answered are:

1. Are there any differences between price earnings ratio in BUMN companies and private companies of mining sector in Indonesia?
2. Does the debt to equity ratio, growth of earnings per share, and dividend payout ratio influence price earnings ratio in mining companies in Indonesia?

C. Research Objective

The purposes of this research are:

1. To know whether there are any differences of price earnings ratio between BUMN companies and private companies of mining sector in Indonesia.
2. To determine the effect of debt to equity ratio, growth of earnings per share, and dividend payout ratio for price earnings ratio in mining companies in Indonesia.

D. Scope and Limitation

This research will analyze the Price Earnings Ratio in mining companies, whether in BUMN mining companies and private mining companies, which are listed in Indonesia Stock Exchange (IDX). In mining sector, there are four subsectors of industries. There are 29 different companies listed in these four subsectors. From the listing, 7 companies have been selected for this research. These 7 companies are as follow:

- Coal Mining
 1. Bumi Resources Tbk. (BUMI)
 2. PetroseaTbk. (PTRO)
 3. Tambang Batubara Bukit AsamTbk. (PTBA)
- Crude Petroleum & Natural Gas Production

1. Radiant UtamaInterinscoTbk. (RUIS)
 - Metal And Mineral Mining
 1. Aneka Tambang (Persero) Tbk. (ANTM)
 2. International Nickel Indonesia Tbk. (INCO)
 3. Timah (Persero) Tbk. (TINS)

The data is secondary data that gathered from the audited annual report of each of mining companies from the year of 2007 until 2011.

Literature study

A. Definition of Variables

There are two different variables in this research, which are dependent variable and independent variable. The dependent variable is "Price to Earnings Ratio (PER)" and the independent variables are "Debt to Equity Ratio (DER), Earnings Growth (G), and Dividend Payout Ratio (DPR)".

Independent Variables:

a. Debt to Equity Ratio (DER)

Debt to equity ratio is used to know the comparison of how much a company takes on debt and compare it to its equity.

Formula:

$$\text{Debt to Equity Ratio} = \frac{\text{Debt}}{\text{Equity}}$$

b. Earnings Growth (G)

Earnings growth is a measure of growth in net income over a year.

Formula:

$$\text{Earnings Growth} = \frac{\text{EPS}_t - \text{EPS}_{t-1}}{\text{EPS}_{t-1}}$$

c. Dividend Payout Ratio (DPR)

Dividend payout ratio measures how well the net income of a company to pay the dividend for the shareholders.

Formula:

$$\text{Dividend Payout Ratio} = \frac{\text{Dividend per Year}}{\text{Net Income}}$$

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Dependent Variable:

Price to Earnings Ratio (PER)

Price Earnings Ratio measures the amount of price paid to the earnings per share.

Formula:

$$\text{Price to Earnings Ratio} = \frac{\text{Market Price per Share}}{\text{Earnings per Share}}$$

B. Statistical Test

Multiple regression is the regression for one dependent variable and two or more independent variables to know whether there are any linear relationship between them. The variables for this research are:

PER = Price Earnings Ratio

G = Earnings Growth

DER = Debt to Equity Ratio

DPR = Dividend Payout Ratio

F-test:

F-test is a simultaneous test that is used to know the effect of all independent variables to the dependent variable.

Hypothesis formula:

H_0 = earnings growth, debt to equity ratio, and dividend payout ratio have no influence to the price earnings ratio.

H_1 = earnings growth, debt to equity ratio, and dividend payout ratio have influence the price earnings ratio.

The criteria of F-test:

- If F statistics \leq F table, then H_0 is accepted.
- If F statistics $>$ F table, then H_0 is rejected.

F statistics is the result of the test while F table can be seen in statistic table with significance level of 0.05 and degree of freedom (df_1) = variables - 1 and (df_2) = n - k - 1 (n is the total data, k is the total independent variables)

Significance test:

- If significance $>$ 0.05, so H_0 is accepted.
- If significance $<$ 0.05, so H_0 is rejected.

T-test:

There are three independent variables that are being analyzed. The t-test is used for each independent variable, so there will be three hypotheses in this test.

Hypothesis formula for "earnings growth" variable:

H_0 = earnings growth is not influence the price earnings ratio.

H_1 = earnings growth is influence the price earnings ratio.

Hypothesis formula for "debt to equity ratio" variable:

H_0 = debt to equity ratio is not influence the price earnings ratio.

H_1 = debt to equity ratio is influence the price earnings ratio.

Hypothesis formula for "dividend payout ratio" variable:

H_0 = dividend payout ratio is not influence the price earnings ratio.

H_1 = dividend payout ratio is influence the price earnings ratio.

The criteria of t-test:

- If -t table \leq t statistics \leq t table, so H_0 is accepted.
- If -t statistics $<$ -t table or t statistics $>$ t table, so H_0 is rejected.

T statistics is the result of the test while t table can be seen in statistic table with significance level of 0.05 and degree of freedom (df_1) = n - k - 1 (n is the total data, k is the total independent variables)

Significance test:

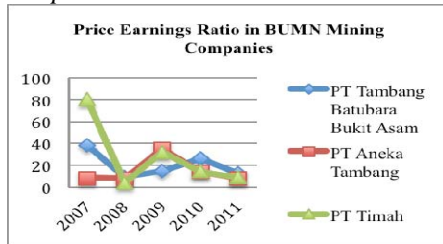
- If significance $>$ 0.05, so H_0 is accepted.
- If significance $<$ 0.05, so H_0 is rejected.

Methodology

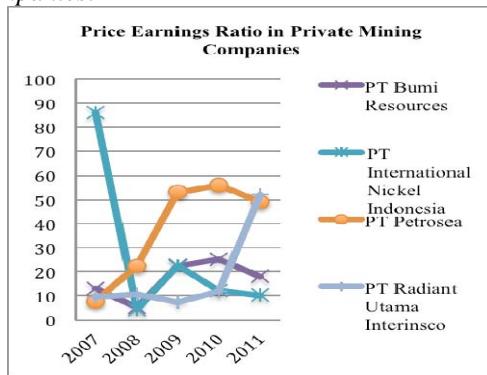
There are seven companies that are being analyzed in this research. Three of them are categorized in BUMN mining companies and four of them are categorized in private mining companies. Both BUMN and private mining companies will be analyzed by multiple regression.

Analysis

A. Price to earnings ratio in BUMN mining companies:



B. Price to earnings ratio in private mining companies:



C. Multiple Regression in BUMN Mining Companies

Dependent Variable: PER
 Method: Least Squares
 Date: 07/05/12 Time: 22:14
 Sample: 1 15
 Included observations: 15

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.389	1.29119	14.98	0.0000
G	2.3737	0.69786	3.40	0.0013
DPR	13.761	4.53234	3.04	0.0038
DER	293.036238	8.05117	36.40	0.0000
R-squared	0.6939	Mean dependent var	20.9916	
Adjusted R-squared	0.6104	S.D. dependent var	19.7865	
S.E. of regression	12.348	Akaike info criterion	8.08818	
Sum squared	1677.4	Schwarz	8.27699	

resid	42	criterion	9
	-		
Log likelihood	56.661	Hannan-Quinn criter.	8.08617
	39		4
	8.3143	Durbin-Watson stat	2.16143
F-statistic	04		2
Prob(F-statistic)	0.0036		
	07		

The value of R-squared is 0.693959. It means that earnings growth, debt to equity ratio, and dividend payout ratio can explained the price earnings ratio by 69.40%, while 30.6% is explained by variables other than earnings growth, debt to equity ratio, and dividend payout ratio.

The F statistic that is shown in the table above is 8.314304. The F table at $df_1=3$ and $df_2=11$ at the significance level of 0.05 is 3.5875. F value is more than F table ($8.31 > 3.58$), it means that H_0 is rejected and do not reject H_1 . So, it means that **earnings growth, debt to equity ratio, and dividend payout ratiocombined have a significant influence on price earnings ratio.**

The relationship of each independent variable with the dependent variable is analyzed by using the t-test. From the table, the t-statistic of earnings growth is -0.697. The t-table with the significance of 0.05 is 2.20. The t value of earnings growth is less than t table ($-0.697 < 2.2$) and significance level is more than 0.05 ($0.499 > 0.05$). It means that H_0 is accepted, so **earnings growth has no significant influence toward price earnings ratio in BUMN mining companies.**

The debt to equity ratio has t value of -0.51 and the significance level is 0.62. The t table with degree of freedom of 11 and significance level of 0.05 is 2.2. Based on that, t value of debt to equity ratio is less than t table ($-0.51 < 2.2$) and the significance level is more than 0.05 ($0.62 > 0.05$), so it means that H_0 is accepted. It can be said that **debt to equity ratio has no significant influence toward price earnings ratio in BUMN mining companies.**

Dividend payout ratio has different result than the other variables. The t value of dividend payout ratio is more than t table ($4.53 > 2.2$) and significance level is less than 0.05 ($0.0009 < 0.05$), so H_0 is rejected and H_1 is not rejected. Based on that, the conclusion is that **dividend**

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payout ratio has significant influence to price earnings ratio in BUMN mining companies.

D. Multiple Regression in Private Mining Companies

Dependent Variable: PER
 Method: Least Squares
 Date: 07/05/12 Time: 23:04
 Sample: 1 20
 Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.98244	7.607966	1.706427	0.1073
G	14.16691	5.615447	2.522847	0.0226
DPR	16.92013	7.317163	2.312390	0.0344
DER	1.438424	2.416299	0.595301	0.5600
Mean dependent var				
R-squared	0.451065		25.04683	
S.D. dependent var				
Adjusted R-squared	0.348139		22.27575	
Akaike info criterion				
S.E. of regression	17.98497		8.793806	
Schwarz criterion				
Sum squared resid	5175.345		8.992953	
Hannan-Quinn criter.				
Log likelihood	83.93806		8.832682	
Durbin-Watson stat				
F-statistic	4.382447		1.682013	
Watson stat				
Prob(F-statistic)	0.019670			

The R-squared is 0.451065. It means that 45.11% of the variation in price earnings ratio is explained by earnings growth, debt to equity ratio, and dividend payout ratio while 54.89% is explained by other variables.

The F statistic that is shown in the table is 4.38. The F table at $df_1=3$ and $df_2=16$ and at the significance level of 0.05 is 3.24. F value is more than F table ($4.38 > 3.24$), it means that H_0 is rejected and H_1 is not rejected, so **earnings growth, debt to equity ratio, and dividend**

payout ratiocombined have an influence to price earnings ratio in private mining companies in Indonesia.

The t table with significance of 0.05 and degree of freedom is 16, as much as 2.12. From the table, the t-statistic of earnings growth is 2.52. Because of t value is more than t table ($2.52 > 2.12$) and significance level is less than 0.05, it can be said that **earnings growth has significant influence to price earnings ratio in private mining companies.**

The debt to equity ratio has t value of 0.59 and significance level of 0.56. Therefore t value of debt to equity ratio is less than t table ($0.59 < 2.12$) and significance level is more than 0.05 ($0.56 > 0.05$), so it means that H_0 is accepted. It can be said that **debt to equity ratio have no significant influence to price earnings ratio in private mining companies.**

Because t value of dividend payout ratio is more than t table ($2.31 > 2.12$) and significance level is less than 0.05 ($0.034 < 0.05$), it means that H_0 is rejected, so it can be said that **dividend payout ratio have significant influence to price earnings ratio in private mining companies.**

Conclusion

The result of multiple regression analysis of dependent variable (price earnings ratio) and independent variables (earnings growth, debt to equity ratio, and dividend payout ratio) is as follows:

1. Hypothesis that earnings growth has a significant influence in BUMN mining companies in Indonesia is rejected.
2. Hypothesis that earnings growth has a significant influence in private mining companies in Indonesia is accepted.
3. Hypothesis that debt to equity ratio has a significant influence in BUMN mining companies in Indonesia is rejected.
4. Hypothesis that debt to equity ratio has a significant influence in private mining companies in Indonesia is rejected.
5. Hypothesis that dividend payout ratio has a significant influence in BUMN mining companies in Indonesia is accepted.
6. Hypothesis that dividend payout ratio has a significant influence in private mining companies in Indonesia is accepted.

As the result above, of the three independent variables researches, dividend payout ratio is the one variable that has a significant influence for both of BUMN and private mining companies. Dividend payout ratio is the biggest aspect that has to be considered in viewing a mining company's performance, especially while it is influencing the price earnings ratio. On the other hand, earnings growth has a significant influence in the private mining companies only. In BUMN mining companies, earnings growth does not significantly influence price earnings ratio.

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