The Effects of Profitability Ratio, Liquidity, and

Debt towards Investment Return

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Abstract: This research performed in order to test the influence of fundamental factors toward investment return which was measured by dividend payout ratio in manufacturing companies that listed in Indonesian Stock Exchange (BEI/IDX) during the period 2008-2010. The profitability ratio in this research was measured by Return on Equity, while liquidity ratio in this research used Current Ratio and leverage was measured by Debt to Equity Ratio. The samples were collected using the purposive sampling method and it has 35 companies for the resulting samples. The samples were analyzed using multiple linear regression technique. The result shows that the ROE has negative and significant effects to investment return, while CR and DER have no significant effects towards investment return.

Key words: return on equity; current ratio; debt to equity ratio; dividend payout ratio

JEL code: G1

1. Introduction

Investors invest their funds in order to get the return or income from their invested funds. The investors who invest their funds in the stocks of a company will earn returns in the form of dividends or capital gains. For the investors, fundamental factors are always used as a reference in making investment decisions in the stock market. The analysis is based on the fundamental factors that the company's financial statements can be analyzed through the analysis of financial ratios (Lusiana, 2010).

In this study, the profitability ratio was measured by Return On Equity (ROE) since ROE is one of the important indicators that are often used by investors to assess the profitability of the company before investing. According to a research held by Standard and Poor 500 in the U.S., the average rates of Return On Equity in the American companies are ranged from 10 to 15 percent and the high ROEs affects those companies' stock prices (Panggabean, 2005). If ROE increases, the investors will be more interested to invest their funds into the company, so that the stock prices tend to rise. The empirical evidence that supports the theory is a study conducted by Hanani (2011) in which ROE positively affected the stock returns. However, a different result obtained from a study conducted by Susilowati (2011) which indicated that ROE has no significant effects towards the stock returns.

Liquidity refers to the ability of the company to meet its short-term liabilities. Company liquidity describes

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the company's ability to meet its short-term liabilities (Utomo, 2004). Companies that can meet financial obligations on time means that the company is in a liquid state. A liquid company has a means of payment or current asset which is greater than its debt smoothness. The analysis of short-term liquidity is often important because before assessing the solvency of the company, we are confident in the ability of the short-term success of the company's financial (Wild et al., 2005). In this study, liquidity was measured by using the number of CR Current Ratio owned by the company can show the amount of the company's ability to meet its operational needs, especially working capital which is very important to keep the company's performance that ultimately affects stock price performance. It can give confidence to the investors to own shares of the company so that it can increase the stock return. Ulupui's (2007) empirical evidence shows that CR has positive and significant impacts towards stock returns, but not in line with the results of the study held by Hernendiastoro (2005) in which the CR does not have any significant effects towards stock returns.

Solvency ratios are most often associated with stock return, that is Debt to Equity Ratio (DER) (Aziz, 2012). DER reflects the ability of the company to meet all liabilities represented by what proportion of equity is used to pay debts. The empirical evidence suggested that DER has positive and significant impacts towards stock returns, which are shown from the research conducted by Syahib (2000). However, some researchers such as Anastasia and Wijayanti (2003) and Anwar (2012) actually found an insignificant relationship towards stock return. Manufacturing industry group has the highest dividend payout ratio target compared to other industry groups. The data obtained during the period 1986-1993 showed a high diversity of value debt to equity ratio (DER) in the three industry groups. Manufacturing industry group, financial industry group, and other industries have DER value respectively 110.84%, 607.29% and 77.36%. The high diversity on the DER value based on the industry group becomes interesting and challenging to analyze.

Under these conditions, the company in determining the return of investment will consider the costs and benefits that would be obtained if they increase the amount of debts. Thus, the purpose of the company's management to maximize the wealth of shareholders (owners) can be achieved. Dividend policy in emerging markets in the developing countries is quite different with that in the developed countries (Kurniasih et al., 2011). Firm in developing countries emphasized more on dividend payout ratio than level of dividend they paid. Consequently, the dividend payment tends to be more volatile in emerging market than in developed countries, this being a factor that should be taken care of by investors while they invest in emerging market. Therefore, the researcher is interested in doing a research about some factors that affect the return on investment in the manufacturing companies and raised the title: "The Effects of Profitability Ratio, Liquidity, and Debts towards Investment Return In Manufacturing Companies in Indonesian Stock Exchange (IDX) Period 2008 to 2010".

This study is a replica of the research held by Suharli and Oktorina (2005). But the difference lies in the period of observation and the objects of the research. The previous study examined the public companies in Jakarta, while this study examined all Indonesian manufacturing companies listed on the Indonesian Stock Exchange (IDX). Besides, the previous study used the period 2000 to 2003, while the current study used the period 2008 to 2010. In addition, the measurements of profitability ratios in this study used ROE (Panggabean, 2005). The results of previous studies is the higher profitability, the greater the return on investment in the form of dividend income because they have a positive and significant influences, while liquidity and debt have no signifcant effects towards the return of investment. The research is expected to help the investors to provide information about the financial performance of manufacturing companies through financial ratio analysis as a reference to prospective investors in

making investment decisions related to the rate of return in the form of corporate dividends.

2. Literature Review

2.1 The Investment Return

Return is the result obtained from the investment (Jogiyanto, 2009), Return can also be referred to the rate of return. The rate of return is the result of the income received from the investment, plus changes in the market prices which are usually expressed as a percentage of the market price of early investment. The sources of investment return consist of two main components, namely yield and capital gain. Yield is a return component that reflects the cash flow or income derived from an investment periodically. If we invest in a bond, for example, the amount of yield shown in the bond interests paid. Similarly, if we buy a stock, the yield is indicated by the amount of dividend we earn. While the capital gain (loss) as the second component of the return is the increase (decrease) in the price of securities (can be stocks or long-term bonds), which could provide gains (losses) for the investors.

Therefore, the investors invest in companies in order to get a return in the form of yield or capital gain. However, on the other hand, the company that will distribute dividends is faced with a variety of considerations such as the need to hold back some of the profit for re-investment that may be more profitable, financing needs, the liquidity of the company, the nature of the shareholders, certain targets related to the payment of dividends ratio, and other factors associated with the dividend policy (Brigham & Gapenski, 1996). So the policy of dividend payments affects the shareholders and the companies who pay the dividends. Dividend policy of the company is reflected in the dividend payout ratio, that is the percentage of profit distributed in the form of cash dividends. It means that the size of the dividend payout ratio will affect the investment decisions of the shareholders and on the other hand affects the company's financial condition (Marlina & Danica, 2009).

2.2 The Effects of Return of Equity (ROE) towards the Investment Return

Return on Equity (ROE) is a measure of corporate performance in the terms of its profitability. The ability to generate a net profit after tax of capital owned by the company shows better performances. High ROE reflects the company's efficiency in using its own capital to produce high profits for the company itself. This ratio indicates management's success in maximizing the rate of greater return for the shareholder. The higher the ROE of a company, the better its the performance, so that there will be more and more investors who are interested to invest their funds in the company. As a result, it of course affects the increase in the stock returns. Empirical evidence that supports the theory is that a study conducted by Hanani (2011), in which ROE positively affects the stock returns. Based on this theory, it can be proposed that the first hypothesis is:

H_1: ROE has a significant influence towards the investment return.

2.3 The Effects of Current Ratio (CR) towards the Investment Return

Current Ratio (CR) is one measure of liquidity which aims to measure the company's ability to repay its short-term liabilities with its current assets. Low Current Ratio will cause a decline in the company's stock price. Instead, if the Current Ratio is too high, it is not necessarily good, because in certain circumstances it can cause big amount of companies idle funds that can ultimately reduce the company's profits. High Current Ratio is due to uncollectible claim accounts and unsold inventory, which are certainly can not be used to quickly repay the debt (Prihantini, 2009). On the other hand, companies that have high liquid assets are more likely to have other assets that can be liquidated at any time without decreasing its market value. The liquidity of companies with those

positions are often disrupted, so investors prefer to buy shares of companies with the high value of current assets compared to companies that have a low value of current assets (Ang, 1997).

The larger CR owned by the company, the greater its ability to meet its operational needs, especially working capital which is very important to keep the company's performance that ultimately affect stock price performance. It can give confidence to the investors to own shares of the company so that it can increase the stock return. Ulupui's empirical evidence (2007) shows that CR has positive and significant impacts towards stock returns. Based on this theory, it can be proposed that the second hypothesis is:

H_2: CR has significant impacts towards the investment return.

2.4 The Effects of Debt to Equity Ratio (DER) with Investment Return

Debt to Equity Ratio (DER) is the solvency ratio which is used to measure the ability of the company's own capital as the collateral for all debts of the company. DER is the debt ratio represented by the ratio between the whole debt, both long-term debt and short-term debt, with the company's own capital (Van Horne, 1997). Companies with low DER will have less downside risk when the economy slumped, but when economic conditions improve, the opportunity to obtain profits is low. On the other hand, companies with high leverage ratio, have a risk to bear huge losses when the economy slumped, but it has a chance to make a great profit when the economy improves.

DER will affect the company's performance and cause share price appreciation and depreciation. When DER is too high, it has bad effects towards company's performance, because the higher level of debts means that company's interest expense will be greater and its profits is reduced. But in some extent, the amount of debt can lead to tax savings that can be used to improve cash flow for companies that have an impact on the increasing of the performance and company performance. When performance and company performance increase, the investors' interest towards the company will be high and its impacts towards stock returns will increase (Hernendiastoro, 2005). Based on this concept, it is possible that DER positively affects the stock returns. The empirical evidence suggested that the DER has positive and significant impacts towards the stock returns which are shown from a research conducted by Syahib (2000). Thus, it can be proposed that the third hypothesis is:

H_3: DER has significant influences towards investment return.

3. Research Methods

3.1 Type of Research

Based on the nature of the research problem, it was classified as causality research, as this study attempted to measure the influences among the variables of profitability, liquidity and debt towards return of investments variable. While the basic of data analysis, was an analytical, in which the data used in this research was quantitative data.

3.2 Research object

The objects in this study were manufacturing companies listed on the Indonesia Stock Exchange (BEI/IDX) for the period 2008-2010. While the data obtained directly from the objects of study was the financial statements of each manufacturing companies listed in IDX. Based on those statements, it could be determined the number of companies that have been cinsidered as eligible to be used in this study, and also those financial reports could be used as the guidance to measure the variables in this study.

3.3 Population and Sample

The population used in this study were manufacturing companies located in the Indonesia Stock Exchange (IDX) which actively publish their financial statements during the period 2008-2010. While the sample selection was based on purposive sampling method, that is the selection of the sample companies during the study period based on certain criteria. The purpose of this method is to obtain representative samples which are accordance with the predetermined criteria. Some of the criteria set for obtaining the sample are as follows:

(1) All manufacturing companies that have been go public in the Indonesian Stock Exchange during 2008-2010.

(2) All the companies mentioned above should be qualified in earning profits during the period 2008 to 2010 consecutively.

(3) Have the data which is necessary to measure the variables used in this study, such as data on dividend per share, profits per share, ROE, current assets, current debts, total debt, and total equity.

3.4 Research Variables and Operational Definition

3.4.1 Dependent Variable

(1) Investment Return

Dependent variables used in this study is the result of return earned from the investments. This study used dividends as the return concept.

According to Sartono (2000) in Dewi (2008), dividend policy is the decision whether the profits earned by the company will be distributed to the shareholders as dividends or will be retained in the form of retained profits to pay the future investment. In this case, the dividend policy is measured by using the Dividend Payout Ratio (DPR), that is the ratio between the dividend which is be distributed and the net income earned and is usually expressed in a percentage form. Dividend Pay Out Ratio can be formulated as follows (Suharli & Oktorina, 2005):

$$DPR = \frac{\text{Dividend per share}}{\text{Earnings per share}}$$

3.4.2 Independent Variables

(1) Profitability

Return on equity measures how much net income can be generated from the investment of the shareholders in the company (Riyanto, 2004). A low ratio means that the management is less efficient in using the capital, while a high ratio may indicate that the majority of the capital is obtained from loans or the management is highly efficient. Return on equity is mathematically formulated as follows (Panggabean, 2005):

$$ROE = \frac{\text{Net Income}}{\text{Equity}}$$

(2) Liquidity

Liquidity relates to the ability of the company to pay its financial liabilities that must be fulfilled. The liquidity ratio used in this study is the current ratio. Current ratio is mathematically formulated as follows (Suharli & Oktorina, 2005):

$$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

(3) Debt/Debt to Equity Ratio

Debt to equity ratio is the ratio between total liabilities (current liabilities and long term debt) and its own

capital. This ratio is defined as follows (Suharli & Oktorina, 2005):

$$DER = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

3.5 Models and Data Analysis Techniques

The technique of data analysis performed by using the computer program SPSS 16. This study used mulitple Regression methods to analyze the impacts of the independent variables towards the dependent variable. The model is:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + e$$

Description:

Y = Investment Return

a = Constants

b_1, b_2, b_3 = Regression Coeficient of each independent variable

X_1 = Profitability

X_2 = Liquidity

X_3 = Debt

e = Error Term

4. Analysis and Discussion

From 132 listed companies, only 35 samples that met all the requirements for the study to be used as samples. Some samples were dropped because they did not meet the criteria that have been established and because of the incompleteness of the data.

Table 1   Sample Selection Process

Sampling Criteria	The Numbers of the Company
Manufacturing companies listed on the Stock Exchange Period 2008-2010	132
Manufacturing companies that did not make a profit consecutively during 2008-2010	(54)
Manufacturing companies that had uncomplete data	(43)
The number of companies used for the study	35

Source: IDX data 2008-2010.

4.1 Descriptive Statistics

Descriptive statistics aims to develop or describe the profile of the research data and identify the variables in each hypothesis. Descriptive statistic used were the average (mean), maximum, minimum, and standard deviation. The variables used were Return on Equity (ROE), Current Ratio (CR), and Debt to Equity (DER).

Table 2   Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROE (X1)	105	0.1800	323.6000	26.774476	34.1935104
CR (X2)	105	-0.2132	13.5375	2.989073	2.4031083
DER (X3)	105	-7.6748	17.6567	1.016409	2.1670689
DPR (Y)	105	0.0008	150.7535	2.646348	16.2517315
Valid N (listwise)	105				

Source: Processed secondary data, 2012.

Profitability/ROE (X_1) has a minimum value of 0.1800 at PT Tri Polyta Indonesia Tbk and maximum value of 323.6000 in PT Multi Bintang Indonesia, the average value of 26.774476 (the average of Profitability/ROE of 105 companies engaged in manufacturing industry listed on the Stock Exchange during 2008-2010) and the standard deviation value of 34.1935104 (data variation of Profitability/ROE of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008 to 2010).

Liquidity/CR (X_2) has a minimum value of -0.2132 at PT Colorpak Indonesia Tbk in 2009 and the maximum value of 13.5375 in PT Colorpak Indonesia Tbk in 2008, the average value of 2.989073 (the average of Liquidity/CR of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008-2010) and the standard deviation value of 2.4031083 (variation data from the Liquidity/CR of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008 to 2010).

Debt/DER (X_3) has a minimum value of -7.6748 at PT Colorpak in 2010 and the maximum value of 17.6567 in PT Malindo Feedmill Tbk, the average value of 1.016409 (the average of DER of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008-2010) and the standard deviation value of 2.1670689 (variation data from the Debt/DER (X_3) of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008 to 2010).

Return of investment/DPR (Y) has a minimum value of 0.008 at PT MERCK Tbk and maximum value of 150.7535 in PT Citra TubindoTbk, the average value of 2.646348 (the average of DPR of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008-2010) and the standard deviation value of 16.2517315 (variation data from the DPR of 105 companies engaged in manufacturing listed on the Stock Exchange during 2008 to 2010).

4.2 Regression Results Analysis

The data obtained from the respondents in this study was analyzed by using multiple linear regression model in order to determine the contribution of the independent variables in this study, namely profitability, liquidity, and debt to predict the investment return (Y) variable as the dependent variable. Therefore, in this study, the data which had been obtained then was analyzed by using quantitative methods, that is the statistical methods with multiple regression models. The results of multiple linear regression calculation can be seen in Tables 3-4.

Table 3   Multiple Regression Analysis Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	0.106	0.532		0.199	0.842
1	ROE (X1)	-0.420	0.149	-0.280	-2.825	0.006
	CR (X2)	-0.049	0.061	-0.082	-0.794	0.429
	DER (X3)	0.045	0.066	0.068	0.675	0.501

Note: Dependent Variable: DPR (Y).
Source: Processed secondary data, 2012.

Based on Table 3, the regression model is formed as follows:

$$Y = 0{,}106 - 0{,}420X1 - 0{,}049X2 + 0{,}045X3$$

Simultaneous Test (Test-F)

Table 4   F-Test Result

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.197	3	5.399	2.775	0.045[a]
	Residual	196.491	101	1.945		
	Total	212.688	104			

Note: a. Predictors: (Constant), DER (X3), ROE (X1), CR (X2); b. Dependent Variable: DPR (Y).

Source: Processed secondary data, 2012.

F-test is used to determine the effects of independent variables towards the dependent variable simultaneously. According to Table 4, the influence significance test of ROE, CR, and DER simultaneously towards the return of investment, with the F statistic, it was obtained F_{count} 2.775 and the error probability (p) = 0.045. It shows that the p value (0.045) > significance level (0.05), so it can be concluded that the variable ROE, CR, and DER simultaneously gave significant effects towards the return of investment.

Table 5   The Coefficient of Determination Model Summary[b]

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
dimension0	1	0.276[a]	0.076	0.049	1.3947953	1.976

Note: a. Predictors: (Constant), DER (X3), ROE (X1), CR (X2); b. Dependent Variable: DPR (Y).

Source: Processed secondary data, 2012.

It could also been found that the coeficient of determination (adjusted R^2) is 0.049, which means that about 4.9% of the variation in the return of investment variable is explained by the three variables capable ROE, CR, and DER simultaneously. While the remaining 95.1% is explained by other variables outside the model.

4.3 The Effects of ROE Variable towards the Investment Return

From the results of the calculations in Table 3, the Profitability regression coefficient is -0.420 (negative). This coefficient significance test with the t statistic is t_{count} equal to 2.825 with an error probability of (p) = 0.006, at the significance level of 0.05. It shows that the p value (0.006) < significance level (0.05), so that H_1 is accepted. So it can be concluded that partially, ROE variable is negatively and significantly affects the return of investment.

Thus, the results of ROE hypothesis testing is suitable with the residual theory, that is dividend which is a residual income that is not used for investment activities. The higher the investment opportunities, the higher the earnings retained by the company. Thus, the ROE is a factor that will negatively affect future return of investment. It is also stated by Nuringsih (2005) that profitability has a negative impact towards the dividend policy for the company earned profits are allocated to retained earnings for investment, so that paying dividends is lower.

As happened at PT. Trypolita Indonesia Tbk, which has the lowest ROE, it would have a fairly high return of investment that is 10.59322034. While PT. Multi Bintang Indonesia Tbk with the highest ROE results actually only has an investment return of 1.701899072. The findings in this study supports the research held by Wibowo amd Sugiharti Binastuti, in which ROE negatively affects dividend payout ratio.

4.4 The Effect of CR Variable towards the Investment Return

From the results of the calculations in Table 3, the Liquidity regression coefficient is -0.049 (negative). Coefficient significance test is t_{count} = -0.794 with error probability (p) = 0.429. It shows that the p value (0.429) > 0.05, so that H_2 is rejected. So it can be concluded that partially, the CR variable has negative and unsignificant impacts towards the return of investment.

It can be seen on PT Colorpak Indonesia Tbk, in 2008 it had the highest CR of 13.5375 and in 2009 it had the lowest CR value of -0.2132 but during 2008 and 2009, it had relatively stable return of investment value, that is equal to 0.144728824 and 0.194251 734. It indicates that the Current Ratio is not the only consideration in assessing the company's financial performance but people should consider other financial performances.

In manufacturing companies the return of investment in the company does not see the number of short-term debt which are borne by the company. This result also means that the company is safe enough to carry out its business, however, with high Current Ratio (CR), if it is not used optimally, the company will not be able to obtain the maximum results, particularly company profits. These findings support the results of the study held by Widjaja (2009) which stated that the CR has negative and unsignificant effects towards the stock returns.

4.5 The Effects of DER Variable towards the Investment Return

From the results of the calculations in Table 3, it can be found that the Debt regression coefficient is 0.045 (positive). This coefficient significance test with the t statistic obtained $t_{count} = 0.675$ with the probability error of (p) = 0.501, at the significance level of 0.05. It shows that the p value (0.501) > 0.05, so that H_3 is rejected. Therefore, it can be concluded that partially, DER variable does not significantly affects the return of investment. It means that if the DER is increased or decreased, it will not have any impacts on the increase or decrease in the return of investment on the manufacturing industry sector.

This is because in the manufacturing companies, their capital structure will compare the capitals from the creditors and the shareholders. Higher capital structure is owned by the debt, it will cause the management will pfocus on repayment of liabilities prior to distributing dividends. The company which has a greater debt ratio should distribute smaller dividends because the profit earned is used to pay off the liabilities. Thus, investors can learn the liabilities of the company to estimate the income from the investment in the form of dividends, in the future. Therefore, the level of debt does not have any significant effects towards the returns of investment.

As happened in PT. Goodyear Indonesia Tbk, which has high DER at 2.4453 (above the average of 105 manufacturing companies) has a relatively high return of investment (also above the average) of 4.442200909. And what happened to the PT. Colorpak Indonesia Tbk, which has the lowest DER value of -0.4888 in 2009 has a low return of investment (of 0.194251734). The findings in this study support the research held by Assegaf (2003) which stated that the DER has positive and unsignificant effects towards the stock returns.

5. Conclusion and Implications

5.1 Conclusion

Based on the results of the research and discussion that has been mentioned previously, the conclusions of this research are as follows:

(1) ROE variable has negative but significant effects towards the investment return, CR has negative and unsignificant impacts towards the investment return, and DER has positive and unsignificant impacts towards the investment return.

(2) The Adjusted R Square value in this study is equal to 0.049. It means that 4.9% of the variation in the investment return variable is explained by the three variables ROE, CR, and DER simultaneously. While the remaining 95.1% is explained by other variables outside the model.

5.2 Theoretical Implications

(1) CR and DER variables have no significant effect towards the investment return, but it does not mean that it is not suitable with the theory. The DER variable can still be used for further research, as it still has positive effects towards the investment return, and it is also noted that the value of CR and DER significance variable are still under marginal significance value of 10%, so that the CR and DER can still potentially be used as the variables which affect the investment return.

(2) ROE independent variable significantly influences the investment return. This result theoritically reinforces the ROE concept as described in the previous chapter, and is also consistent with the results of research held by Wibowo and Sugiharti.

5.3 Applied Implications

(1) For the investors, it is suggested to not only consider the investment decision by looking at the dividends, but also consider the size of the capital gain which can be obtained.

(2) For the Finance Manager, it is suggested to give a good impression to the investors that the company has good prospects for the future, by maintaining the amount of dividends distributed.

5.4 Research Limitations and Suggestions

The limitations of this study is that return of investment is measured only by using the ratio of dividend payout ratio devidend, whereas the return of investment can also come from the capital gains if the company has been "go public". Therefore, it is advisable for the future research to measure the return of investment through the dividends and capital gains as well as adding other variables outside the model of this study, such as investment growth and earnings stability.

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