

## **THE EFFECT OF PROFITABILITY RATIO, SOLVABILITY RATIO, MARKET RATIO ON STOCK RETURN**

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### **ABSTRACT**

*This research performed in order to test influence of fundamental factor (ROA, DER and PER) on stock return both simultaneously and partially, on Property, Real Estate and Construction companies that listed in Indonesia Stock Exchange for period 2010-2014.*

*Secondary data is used and collected based on time series and cross section from 2010 up to 2014. The total study sample was 38 Property, Real Estate and Construction companies that is determined through purposive sampling. The research uses panel data regression model and processed with the EVIEWS 9 program. Hausman test used in this study shows Random Effect Model (REM) as data estimation technique.*

*The result of this research, the partial inferred Debt to Equity Ratio (DER) have significant effect on stock return. Return on Asset (ROA) and Price Earning Ratio (PER) don't have significance effect on stock return. Result of this research indicate that fundamental factor performance Debt to Equity Ratio (DER) used by investor to predict stock return of Property, Real Estate and Construction companies that listed in Indonesia Stock Exchange at period 2010-2014.*

*Simultaneously the fundamental factors Return on Assets (ROA), Debt to Equity Ratio (DER) and Price Earning Ratio (PER) significantly effect the stock return on the Property, Real Estate and Construction companies.*

*The sample in this study only Property, Real Estate and Construction companies that only has a specification in the type of business sample firms, then the influence of the independent variables only describe the affect specifically on the Property, Real Estate and Construction sectors.*

*Keywords: Return on Asset, Debt to Equity Ratio, Price Earning Ratio and Stock Return*

## INTRODUCTIONS

The presence of capital markets have an important influence in supporting the economy of a country. The stock market is a tool that can be used to mobilize funds, both from within and abroad. The continued development of advances in technology, information, and communication in this era of globalization does not make the distance and time as things that can hamper a person to be seeking to make profits from stock investing. With advances in technology, information, and communication, the businessmen take advantage of opportunities by offering and trading in the capital market. The capital market is a very beneficial tool for both the companies and investors who are equally profit-oriented. With this opportunity, companies are vying to trade their shares in the capital market. By publicly traded in the capital market, companies can obtain funding for their survival. When viewed from the side of investors, the capital market is one of the effective means for them to invest in order to make a profit.

Stocks often avoided because it is considered at high risk, especially when there is a fluctuation. However, in the long run, the instrument is actually quite favorable for investors, including young people who have a long-term investment goals. The objects used in this study is the property, real estate and construction industries are listed in the Indonesia Stock Exchange.

This is because the property business in Indonesia continues to grow positively and public interest in business is even higher. Plus the decision of Bank Indonesia (BI) to lower the interest rate (BI Rate) by 25 basis points at 7 percent. The decline is expected to support the property sector, especially from the mortgage sector. In addition, policies to encourage property sector such as Loan To Value (LTV) rules in mid-2015 has been loosened, the tax fund real estate investments (DIRE), the policy of the luxury tax, the policy on foreign ownership in the property so that it is expected to create a growth at property sector is increasing.

Indonesia is towards a great country that automatically requires a large infrastructure development as well the period of 2015 many economic prospects encourage Indonesia to move forward. Oli Fuel Subsidy (BBM) had been removed so the space to expenditures on the infrastructure side wide open. Along vigorous infrastructure development by the government, shares of state-owned construction sector is considered very prospective, because Indonesia is currently being intensively prioritized infrastructure development. In terms of price trends, the construction sector stocks gained due to these stocks are including secure sector.

Judging from the condition of the property, real estate and construction sector has a bright prospect in the future, so it opens up many opportunities for anyone who wants to become an investor, especially in the form of shares. So investing in stocks based on the property, real estate and construction sector possibilities can provide positive returns for market participants.

The aim of the investor to invest in stocks securities is to gain high return (rate of return) with a certain risk level or obtain a certain return with low risk level. Therefore, in making investment securities investors will prefer stocks of companies that can provide returns tend to be higher.

To perform the analysis of the stock return, required the existence of information that is fundamental and technical. Fundamental analysis is based on information published by issuers and

companies in general, further to the industrial sector, finally to evaluate the price of the shares issued. While technical analysis is based on data (changes) stock price in the past in an attempt to estimate stock prices in the future. (Halim, 2005).

The financial statements are important information for potential investors, because of the financial statements of this can be seen the performance of a company. Measurement of company performance is one of the indicators used by investors to assess a company from the stock market price on the Indonesian stock exchange. The better the performance of the company, the higher the return that will be earned by the investor. Generally, investors will be looking for companies that have the best performance and to invest in the company. It said the acquisition of the company's capital and the company's value would increase if the company has a good reputation which is reflected in its financial statements. According to Horne (2005), measurement of financial performance include the results of the calculation of financial ratios based on the company's financial statements has been published and audited public accountant. The ratios are designed to help the analysts or investors in evaluating a company based on its financial statements. Investors who do not speculate will certainly take into account and assess the financial performance consisting of financial ratios in imposing his choice of a stock.

Fundamental analysis is affected by financial ratio which is one indicator of financial performance. Measurement of conventional financial performance is important and usually the center of attention of investors and financial analysts include an analysis of the position of the competitive advantage of the company, the liquidity of the company's assets is mainly related to the financial capability of the company in implement short-term liabilities, the level of leverage against shareholders' equity, composition and growth sales operations based on the company's historical financial statements. Furthermore known financial ratios and other measures associated with the market model.

According to Hanafi (2010) financial ratios consists of several types: liquidity, activity, solvency, profitability and market ratio. The liquidity ratio is the ratio that measures a company's ability to implement its short term liabilities by viewing current assets relative to current liabilities. The solvency ratio is a ratio that measures the extent to which a company's ability to implement its long term liabilities. Activity ratio is a ratio that measures a company's ability to use its assets more efficiently. Profitability ratio is a ratio that sees the company's ability to generate profits in relation to the total sales of assets or equity capital. And the market ratio sees the development of the firm's value relative to the book value of the firm. These ratios would like to see the future prospects and risks of the firm. The prospects factors in those ratio will affect investors expectations in the future.

Financial ratios are commonly served by the Indonesia Stock Exchange (IDX) Statistics include profitability ratio, solvency ratio and market ratio with interim reporting period (quarterly) and annual reports. The profitability ratios presented in both quarterly and annual reports consist of return on assets (ROA), the solvency ratio is the much publicized debt to equity ratio (DER), while market ratio is often publicized is the price earnings ratio (PER).

One ratio that is widely used for making investment decisions is the Return on Assets (ROA) which describes the firm's financial performance in generating net income from assets used for company operations. Return on Assets (ROA) is often also referred to as return on investment,

because the ROA sees the extent of the investments made capable of providing returns as expected and the investment is actually the same as the firm's assets are invested or placed (Irham Fahmi, 2015). The financial performance of the firm in generating net income from assets used will affect the firm's shareholders. This ratio is the ratio of the most important ratio among the profitability ratio. ROA was obtained by comparing the net income to total assets. The greater the ROA, the greater the level of profit achieved by the firm and better the firm position in terms of asset utilization. Vice versa if small ROA, then the level of profit achieved by the firm will be small and the firm's position will be less well.

The theory is supported by empirical evidence as in fact conducted by Pancawati Hardiningsih et al. (2002) on the research results indicate that ROA significant and positive impact on stock returns. Subalno (2010) also showed ROA significant effect on stock returns. Firms with a large ROA will attract investors to invest in the firm, because of the large return they will receive a large, and vice versa if ROA is low, then the investment interest fell, and the stock price drops.

Debt to Equity Ratio (DER) describes the firm's ability to implement all liabilities indicated by how much a part of their own capital to reduce debt. DER shows the ratio of debt to equity and provide a guarantee of how much firm's debt secured its owned capital. DER describes the proportion of the amount of resources in the long-term financing of the firm's assets. The higher the DER shows the firm's financial risk is higher, which means that the risk borne by investors as a result of inability to implement liabilities of issuers stock dividend or interest and loan principal. Firm with high financial risk tends to be avoided by potential investors due to the low value of its stock return (Riyanto, 2008).

The empirical evidence shows that the DER has a positive influence comes from Ari Chadina Astiti et al. (2014) and Yeye Susilowati (2011) showed that the DER positive and significant effect on stock returns.

The market ratio is the ratio that measures the market price relative to the book value. The viewpoint of this ratio is more based on the point of view of investors (potential investors), although the management is also concerned about this ratio. The most commonly used market ratio is Price Earning Ratio (Mamduh M. Hanafi, 2010). Price earnings ratio (PER) is the ratio between share prices to earning. Firms with high growth rate opportunities typically have high PER, whereas low-growth firms tend to have a low PER (Prastowo and Juliaty, 2005).

For investors this ratio is used to predict the ability of firms in generating profits in the future. Investors who want to buy shares of a firm prefer a lower PER, the smaller PER will get better because the stock price is cheap so when the price rises investors expect to get a bigger return. Research on the effect of PER on stock return has been done by Farah Margaretha and Irma Damayanti (2008), the results of this study show that PER has a significant effect on stock return. The results were consistent with the results of research conducted by Tendi Haruman, Stevanus Adree Cipto S and Maya Ariyanti (2005) which shows a significant positive effect on stock return.

From some empirical evidence of research result and the underlying theory as described above, hence still found problems associated with the approach of profitability, solvency and marketability to stock returns, so it needs further research on stocks in the industrial sector of property, real estate

and construction in Indonesia Stock Exchange for the period 2010-2014.

Research problems that arise can be formulated as follows:

- 1) Is there a significant influence of Return On Asset (ROA) on stock return of property, Real Estate and Construction sector at IDX?
- 2) Is there a significant influence of Debt to Equity Ratio (DER) on stock return of property, Real Estate and Construction sector at IDX?
- 3) Is there a significant influence of Price Earnings Ratio (PER) on stock returns in Property, Real Estate and Construction sector in IDX?
- 4) How is the significant influence of return on assets (ROA), debt to equity ratio (DER) and price earning ratio (PER) on stock returns in Property, Real Estate and Construction sector in IDX?

## **THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT**

### **Capital Market**

In Indonesia, the Capital Market has been stipulated in the Capital Market Law Number 8 of 1995 which provides a more specific understanding of the capital market, namely “the activities concerned with the public offering and securities trading, the public company relating to the securities issuance, as well as institutions and professions relating to securities (Anoraga and Pakarti, 2008). “According to Samsul (2006), capital markets are the place or means of meeting between demand and supply of long-term financial instruments, generally more than one year. Meanwhile, according to Fahmi and Hadi (2009), the stock market is a place where various parties, especially companies sell shares and bonds with the purpose of the sale proceeds will be used as an additional fund or to strengthen the company’s funds. From these two definitions, it can be concluded that the capital market is the meeting place between the demand and supply of long-term financial instruments that are usually traded generally more than one year and used as an additional fund or to strengthen corporate funds.

Capital Market provides its services that is to bridge the relationship between the owners of capital in this case referred to as investors by lending funds to parties who need capital, in this case, referred to as issuers (companies go public). As market activity in general, in addition to involving sellers and buyers, certain goods and services are traded. In the capital market, which is traded is securities. The securities may be debt that is generally known as bonds or securities that are called stock ownership. The place where brokers and dealers meet to make buying and selling shares is called a stock exchange. Currently, there is only one stock exchange operating in Indonesia, namely the Indonesia Stock Exchange, where the shareholders are also members of the stock exchange (Anoraga and Pakarti, 2008).

### **Capital Market Investment**

In implementing its economic, the capital market provides the facility to transfer funds from parties who have excess funds (investor) to those in need of funds (issuer). By investing excess funds at their disposal, funders expect to get in return for giving up the fund. For borrowers, the

availability of funds on the capital markets allowing them to conduct business without having to wait for the funds they receive from the operating results of the firm (Tendi et al., 2005). Due to increased investment, the production capacity will increase, which means adding goods and services needed by the community and expanding employment. The private sector became more competitive and developed capital markets, especially the securities enabling individuals, however small their contribution, enjoyed prosperity for their competitive private sector (Jusuf Anwar, 2005).

Investment always contains an element of risk, due to the expected earnings will be accepted in the future, the risk also arises because the return received may be greater or less than the funds invested (Tendi et al., 2005).

### **Concept Stock Return**

Return is the profit earned by the firms, individuals and institutions of the investment policy results it does (Fahmi and Hadi, 2009). Without the level of benefits enjoyed from an investment, of course, investors will not invest. Shares constitute proof of ownership in a company. According to Horne and John (2005) "stock returns or commonly referred to as returns are payments received due to their ownership, plus changes in market prices divided by the initial price". Brigham and Houston (2006) state that "return or rate of return is the difference between the amount received and the amount invested".

According to Eduardus Tandelilin (2010) sources of return consists of two main components, namely:

#### **1. Yield**

Yield is a component of a return that reflects the cash flow or income derived periodically from an investment. For example, if we invest in a bond, then the amount of the yield is shown from the interest of the bonds paid. Similarly, if we buy shares, the yield is shown by the amount of dividends we earn. Yield is expressed as a percentage of the invested capital.

Dividends paid in the form of shares can be converted into cash, whereas cash equivalents are bonus shares or stock dividends. Dividend is the net income of the company after tax less retained earnings (retained earnings), the amount of which is decided by the General Meeting of Shareholders (GMS). The dividend paid can be cash dividend and stock dividend. Cash dividends are dividends paid in cash, while the stock dividend is a dividend paid in shares with certain proportions. The value of a cash dividend in accordance with the cash value paid, while the value of the stock dividend is calculated from the ratio between the dividend per share (DPS) to the market price per share.

#### **2. Capital Gain (Loss)**

Capital gain (loss) represent the increase (decrease) in the price of a securities (stock or long-term debt), which can provide gain (loss) for investors. In other words, capital gain (loss) is defined as a changes in securities price. Gains (losses) for investors obtained from excess selling price (purchase price) above the purchase price (selling price) which both occur in the secondary market.

According to Jogiyanto Hartono (2010) the types of stock returns are divided into two namely:

1. Realized Return

Realized return is a return that has occurred, which is calculated based on data. Realized return is important because it is used as a measure of the firm performance.

2. Expected Return

Expected return is expected return will be obtained by investor in the future. In contrast to the realized returns that have already occurred, the expected return of its nature has not occurred.

From these two concepts (dividend yield and capital gain), then the concept of return used in this study is the capital gain that commonly also referred to as the actual capital. The reason for using capital gains, because not all firms distribute dividends. If the data used is monthly data then dividend yield can not be known every month, because dividend yield usually can be known once every year.

Dividend yield (DY) is one of the indicators that securities analysts often use to measure firm performance in distributing profit on returns stock returns traded in the capital market.

## PREVIOUS RESEARCH STUDY

**1. Chadina Ari Astiti, Ni Kadek Sinarwati and Nyoman Ari Surya Darmawan (2014)**

Analyze the effect of the financial performance of companies on stock returns. This study examined the effect of Cash ratio, Debt to Equity Ratio (DER) and the Net Profit Margin (NPM) to return stock in Automotive and Parts Company listed on the Indonesia Stock Exchange for the period 2010-2011. The samples are 10 companies Automotive and Components listed on the Indonesia Stock Exchange. The method used in this research is multiple linear regression analysis using SPSS (Statistics Package for Social Science) for windows version 18.0.

The results showed that the liquidity ratio (Cash Ratio) has no effect on stock returns, while Solvency Ratio (Debt to Equity Ratio) and Profitability Ratio (Net Profit Margin) has a significant positive effect on stock returns.

**2. Yeye Susilowati (2011)**

Analyzing the signal reaction profitability ratios and solvency ratios on stock returns. This study examined the influence of fundamental factors EPS, NPM, ROA, ROE, and DER on stock returns of companies listed on the Indonesian Stock Exchange for the period 2006-2008. The sampling technique used this research is purposive sampling, while analysis technique used is multiple linear regression analysis with Ordinary Least Square method (OLS).

The results showed that the EPS, NPM, ROA, and ROE no effect on stock returns, while the DER has a significant positive effect on stock returns.

**3. Subalno (2010)**

Analyzing the influence of fundamental factors and economic conditions to return stock to the company's automotive and components listed in the Indonesia Stock Exchange for the period 2003-2007. Analysis technique used this research is multiple linear regression. The independent variables such as CR, DER, ROA, TATO, Exchange Rate and Interest Rates while the dependent variable is the stock return.

The results showed that ROA, Exchange Rate and Interest Rate SBI partially influence on stock returns, while CR, DER, and TATO has no effect on stock returns.

**4. Farah Margaretha and Irma Damayanti (2008)**

Analyzing the Effect of Price Earning Ratio, Dividend Yield and Market to Book Ratio of Stock Return in the Indonesia Stock Exchange. Sample companies used were 108 non-financial companies that went public and was listed as a publicly-listed companies from 2004 to 2007 continuously. Analysis technique used this research is multiple linear regression.

The results showed that only PER, dividend yield and market-to-book ratio has significant influence on stock returns.

**5. Tendi Haruman, Stevanus Adree Cipto S and Maya Ariyanti (2005)**

Analyzing the Effects of Fundamentals and Systematic Risk of Stock Return to the JSE. This study analyzes the influence of EPS, PER, exchange rates, inflation rates and the systematic risk of the stock returns from January 2001 to December 2003 (monthly data). The object of the study was 33 companies from 45 companies that have gone public on the JSE and incorporated in the LQ 45. The sampling method used is Simple Random Sampling (SRS), where the population of members selected randomly from all the companies in the stock LQ 45.

The research method is using multiple regression analysis. Based on t-test results of this study indicate that the EPS, PER, Beta and the exchange rate has a positive and significant impact on the return of individual stocks, while inflation has a negative and significant impact on the return of individual stocks.

**6. Pancawati Hardiningsih, L. Suryanto and Anis Chariri (2001)**

Conducting research on Fundamental Factors Influence and Economic Risk Return against Shares in the Jakarta Stock Exchange Company (case study of Basic Industry and Chemical). Sampling technique used is purposive sampling, especially stocks of basic industry and chemical groups that are listed and actively traded on the JSE as well as companies that are always present interim financial statements since Quarter 3-1993 through 3-2000 quarter. The criteria chosen from a sample of 30 companies. The analysis used is multiple regression analysis to the equation least squares (OLS).

Based on the results of the analysis that has been conducted shows that ROA positive effect on stock returns, variable PBV positive effect on stock returns, while exchange rates had a negative direction and significant coefficient on stock returns and inflation has a positive direction.

From the test results also found that ROA consistently dominant influence on stock return of manufacturing sector. Based on t-test showed that ROA, PBV, inflation, and exchange rates have significant influence partially on the level of 5 per cent on stock returns basic and chemical industry on the JSE. Similarly, based on the F-test results showed that ROA, PBV, inflation and exchange rate simultaneously significant effect on stock returns.

## HYPOTHESIS FORMULATION

Based on previous theories and studies that analyze the effect of ROA, DER and PER on stock return can be explained as follows:

### **Influence Return on Assets (ROA) toward Return Equity**

Return on assets is one of the important indicator to assess the future prospects of the company, which saw the extent of the growth of the company's profitability. ROA is the ratio used to measure a company's ability on the overall funds invested in assets used in the operations of the company to generate profits. The higher this ratio, the better the state of a company, and vice versa, low ROA can be caused by a number of the company's assets are idle, excess inventory, excess money, fixed assets that operate below normal and others (Kashmir, 2012).

If Return on Asset became greater, indicate better performance, because it is considered able to provide firm's profit consequently increased the company's stock price. With the stock price increases, the stock returns of the firm concerned has also increased. Thus ROA positively related to stock return. This will attract investors to buy stocks. Conversely, if the Return on Asset is smaller, it indicates that the total assets used by the company suffered losses, the investor is less interested in company's share and the stock price will decrease.

Pancawati Hardiningsih et al. (2001) research result shows that there is positive and significant influence of ROA with stock return (case study of Basic and Chemical industry). The findings of Subalno (2010) also show that ROA has a significant effect on stock returns on automotive and Components companies listed on the IDX.

Based on the theoretical concept, it can be proposed first alternative hypotheses ( $H_1$ ) as follows:  
*H<sub>1</sub>: Return on Asset has significant effect on stock return*

### **The Effect of Debt to Equity Ratio (DER) on Stock Return**

Debt to Equity Ratio (DER) is the ratio of total debt to total shareholders' equity of the company. Total debt represents total short-term debt and total long-term debt. While shareholders equity is the total paid-up share capital and retained earnings, which is owned by the company. This ratio illustrates the extent to which the owners of capital to cover the debts to outside parties. The smaller the ratio is the better. This ratio is also called leverage ratio.

Balancing theory states that the decision to increase to the debt not only have a negative impact, but also have a positive impact, because the company must seek to balance the benefits with the costs incurred due to debt. To fund operations, growing and emerging firms will require funding sources of

that could not be fulfilled only from the company's own capital.

Company sources of funding from the debt because the debt has advantages such as; 1) interest tax deductible so that the cost of debt is low, 2) the creditor obtaining a limited return, so that shareholders do not have to share the profits when business conditions are being developed, 3) the creditor does not discount the voting rights so that shareholders can control the company with the inclusion of a small fund.

The larger DER reflects the increasing use of debt, on the same earnings before interest and tax (EBIT) will result in greater earnings per share. If earnings per share increase, resulting in increasing stock prices or stock returns, so theoretically DER will have a positive effect on stock returns. The understanding and interpretation of the role of DER for the company from investors makes the reaction given by investors may have a positive direction toward stock returns.

The results of research from Chadina Ari Astiti et al. (2014) show that there is a positive and significant influence DER with stock return (case study of Automotive and Component). The findings of Yeye Susilowati (2011) also showed that the DER has a significant influence on stock returns in manufacturing companies listed on the Stock Exchange.

Based on the above theoretical concepts, it can be proposed the second alternative hypothesis ( $H_2$ ) as follows:

*H<sub>2</sub>: Debt to Equity Ratio has significant effect on stock return*

### **The Effect of Price Earning Ratio (PER) on Stock Return**

PER measures how investors assess future growth prospects as reflected in stock prices, which investors are willing to pay for every penny profits from the company. The higher this ratio indicates that investors have good expectations about future developments in the company, so for certain earnings per share, investors are willing to pay a high price (I made, 2011).

According Jogiyanto (2010) understanding of the price earnings ratio is: "The ratio of stock price to earnings. This ratio indicates how much investors assess the price of the shares on a multiple of earnings". It concluded that the price earnings ratio is a ratio that compares the stock price to earnings per share and describe the availability of investor pay a certain amount for every penny profits. For example, the price earnings ratio of a stock is 3 times, the price of the shares is equal to three times the earnings of the company. Price earnings ratio also provides information on how much money from earnings per share. (Eduardus Tandelilin, 2010).

If the PER value rises, the stock price has increased and stock returns also increased. Vice versa if the value of PER decreased then stock prices and stock return decreased. The higher the PER, the market appreciation on the company's stock will be higher so that the stock price tends to rise.

Result of research from Tendi Haruman et al (2005) showed that there are positive and significant influence between PER with stock return (case study of go public companies and incorporated in LQ45). The findings of Farah Margaretha and Irma Damayanti (2008) also showed that PER has a significant influence on stock return on non-financial companies listed on the Stock Exchange.

Based on the above theoretical concepts, it can be submitted the third alternative hypothesis ( $H_3$ ) as follows:

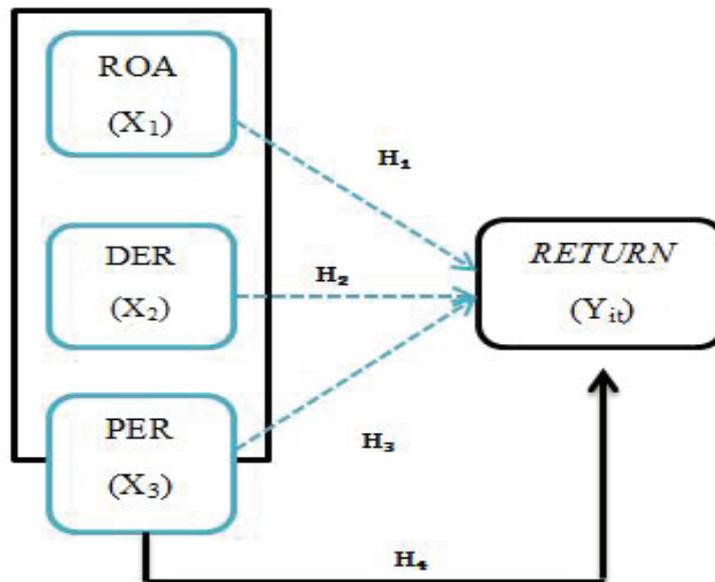
$H_2$ : Price Earning Ratio has significant effect on stock return

### The Effect of Return on Asset (ROA), Debt to Equity Ratio (DER) and Price Earning Ratio (PER) on Stock Return

To measure whether the independent variables jointly or simultaneously have a significant effect on the dependent variable, can be submitted four alternative hypotheses ( $H_4$ ) as follows:

$H_4$ : Return on Asset (ROA), Debt to Equity Ratio (DER) and Price Earning Ratio have significant effect on stock return

#### THEORETICAL FRAMEWORK



The figure above describing the effect of profitability ratio, solvability ratio and market ratio on stock returns. The independent variable in this study is ROA, DER and PER, while the dependent variable is the stock return. In this study objectives to be achieved is to determine the profitability ratio, solvability ratio and market ratio consisting of ROA, DER and PER either jointly or partially to return stock at sector companies Property and Real Estate listed in Indonesia Stock Exchange (IDX) in the period of 2010-2014.

#### Mathematical Model

The equation used is:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + e_{it}$$

Where:

$Y_{it}$  = stock return

- $\beta_0$  = constants  
 $\beta_1 - \beta_3$  = regression coefficient of the independent variable  
 $X_{1it}$  = ROA (Return On Assets)  
 $X_{2it}$  = DER (Debt to Equity Ratio)  
 $X_{3it}$  = PER (Price Earning Ratio)  
 $e_{it}$  = an error that has award value of 0

### Operational Definition and Measurement of Variables

The research variables tested in this study are dependent variable that is stock return and independent variable include ROA (Return on Asset), DER (Debt to Equity Ratio) and PER (Price Earning Ratio).

Table 1: The operational definition of the variables

Variable	Measurement	Formula	Refference
Stock Return	Return	$R_t = \frac{D_t + (P_t - P_{t-1})}{P_{t-1}}$	Jogiyanto, 2010
Profitability	ROA	$ROA = \frac{\text{Net Income}}{\text{Total Asset}} \times 100\%$	Mamduh M.Hanafi, 2007:84
Solvability	DER	$DER = \frac{\text{Total Debt}}{\text{Total Equity}} \times 100\%$	Agus Sartono, 2008:121
Market	PER	$PER = \frac{\text{Stock Price}}{\text{Earning per Share}}$	Eduardus Tandelilin, 2010:320

## RESULTS AND DISCUSSION

In this study the sample taken are companies in the Property, Real Estate and Construction sector which are listed on the Indonesia Stock Exchange from 2010 to 2014. Based on data obtained from ICMD 2014 discovered that the number of listed companies of property, Real Estate and Construction on the IDX are 54 companies. Sampling was done by purposive sampling method, of 54 listed companies, only 38 companies that meet all the requirements of the research to be used as a sample. These companies periodically issue financial statements annually, as of December 31, from 2010 to 2014. Having completeness of data during the observation period, its shares are always actively traded on the Stock Exchange, did not experience any displacement of the sector during the years 2010-2014, and not be delisted in the period 2010-2014.

### Descriptive Statistics

Descriptive statistics provide a view or description of a data seen from the minimum value, maximum, average (mean), standard deviation of each variable of the study. The variable data research include dependent variable is stock returns and independent variables include ROA (Return on Assets), DER (Debt to Equity Ratio) and PER (Price Earning Ratio). Descriptive statistical analysis results shown in table 2 (in annex).

### Descriptive statistics

Descriptive statistics provide an overview of the data, as seen from the minimum, maximum, average (mean), standard deviation value of each variable of the study. The data of research variables include dependent variable that is stock return and independent variable include ROA (Return on Asset), DER (Debt to Equity Ratio) and PER (Price Earning Ratio). Descriptive statistical analysis results are shown in Table 2.

Table 2: Descriptive statistical

	RETURN?	ROA?	DER?	PER?
Mean	0.490842	4.932632	1.161053	14.65879
Median	0.260000	4.450000	0.900000	13.10000
Maximum	10.29000	25.40000	6.600000	644.7000
Minimum	-0.810000	-10.30000	0.000000	-590.0000
Std. Dev.	1.009060	4.968950	1.059879	89.42513
Skewness	5.296007	0.240787	2.552928	0.521047
Kurtosis	48.65474	5.349509	10.91031	31.64963
Jarque-Bera	17389.32	45.53751	701.7556	6506.609
Probability	0.000000	0.000000	0.000000	0.000000
Sum	93.26000	937.2000	220.6000	2785.170
Sum Sq. Dev.	192.4401	4666.498	212.3118	1511405.
Observations	190	190	190	190
Cross sections	38	38	38	38

### Testing Chow Test (Common Effect or Fixed Effect)

Chow test / Likelihood Ratio Test is also commonly called the fixed effect signification test (F test). F test is a test for differences in the two regressions were used to make decisions about whether to add a dummy variable to determine the intercepts vary between companies with Fixed Effect or not. Chow test performed with a significance level of 5% or 0.05 seen in 3.

Hypothesis testing using chow-test / likelihood ratio test:

$H_0$ : model follows Pool / Common Effect

$H_1$ : model follows Fixed Effect

Table 3 : Chow-Test

Redundant Fixed Effects Tests  
Pool: EST\_FIXED  
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.915319	(37,149)	0.6119
Cross-section Chi-square	38.914237	37	0.3836

Based on the output reviews 3 shows that the F test was significant (p-value) 0.6119 greater than 5%, so that  $H_0$  is accepted. Then the PLS / Common Effect model is better than the Fixed Effect model, but in this study using the stack data are composed accumulated down, starting from the cross section-the individual and the time series while the PLS / Common Effect model has unstack data structure, as result Hausman test for determine the better models between Fixed Effect or Random Effect.

### Testing Hausman (Random Effect vs. Fixed Effect)

This test was developed by Hausman to choose whether it is better to use Fixed Effect or Random Effect Model. Hausman test statistic follows the Chi Square distribution with a Degree Of Freedom as k, where k is the number of independent variables, if the value of the Hausman statistic is greater than the critical value, then the right model is a Fixed Effect model, and vice versa (Widarjono, 2009).

The hypothesis of the Hausman test is:

$H_0$ : Random Effect

$H_1$ : Fixed Effect

Table 4: Hausman- Test

Correlated Random Effects - Hausman Test  
Pool: EST\_RANDOM  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	6.239878	3	0.1005

Based on 4 of Hausman test output, Chi Square count < Chi Square is 6.239878 < 222.0756. Of the result p-value = 0.1005 > 5% then  $H_0$  is accepted. Thus it can be concluded that the Random Effect model is better than Fixed Effect model.

### Testing LM (Common Effect vs. Random Effect)

LM test is used to select Pooled Least Square or Random Effect model.

Hypothesis testing using LM test, which

$H_0$ : Pool / Common Effect

$H_1$ : Random Effect

Table 5: LM - Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	4.991846	Prob. F(2,184)	0.0077
Obs*R-squared	9.778664	Prob. Chi-Square(2)	0.0075

Based on 5 of LM test output from eviews, it looks  $p\text{-value} = 0.0075 < 5\%$ , so  $H_1$  is accepted. Thus it can be concluded that the Random Effect model is better than Pool / Common Effect model. REM models are estimated using GLS (Generalized Least Square) then the resulting estimates already anticipated for violation of classical assumption, such as heteroscedasticity and autocorrelation.

## Model Testing

### 1. Testing The Coefficient Of Determination (Adjusted R Square)

The coefficient of determination ( $R^2$ ) to measure how far the model's ability to explain variations in the dependent variable. The fundamental weakness of using the coefficient of determination is the bias against the number of independent variables, which are incorporated into the model. Each additional one independent variable then  $R^2$  would rise regardless whether the variable significantly influence the dependent variable (has significant t value or not). Therefore, many researchers recommend using adjusted  $R^2$  value when evaluating what the best regression model. Unlike  $R^2$ , adjusted R Square values can rise or fall if one independent variable is added to the model.

Regression model of this study using more than one independent variable, then this study using adjusted R Square to know percentage contribution of independent variables simultaneously influence on the dependent variable. The prediction ability of the ratios reflected through ROA, DER and PER variables indicate a lower impact on stock returns, this is based on 6, the adjusted R Square value is 0.0442. This value means that 4.42% change in dependent variable can be explained by the determinant variable in the model, while the remaining 95.58% is influenced by other variables outside the model.

### 2. Testing In Jointly (Test F)

F test statistics basically indicates whether all the independent variables in the model have jointly influence the dependent variable (Ghozali, 2011). The significance level used alpha ( $\alpha$ ) of 5%.

Table 6: F-Test

R-squared	0.059410	Mean dependent var	0.490842
Adjusted R-squared	0.044239	S.D. dependent var	1.009060
S.E. of regression	0.986487	Sum squared resid	181.0072
F-statistic	3.916057	Durbin-Watson stat	2.749890
Prob(F-statistic)	0.009648		

Based on F test results in 6 shows that the value of F count  $3.916057 > F_{2.653165}$  and significance level is 0.009648. Using the level of  $\alpha = 0.05$  or 5%, then  $H_0$  is successfully rejected and  $H_1$  is accepted. Rejection of  $H_0$  is proved by the calculation result that sig value (0.009648)  $< \alpha = 0,05$ , so it can be concluded that ROA, DER and PER jointly influence to stock return, but because based on R Square test shows Adjusted R Square value 0.044239 (4.42%) or still below 50%, then it is feasible to do further research.

In the decision making process, the fundamental factor of the company plays an important role. Investors will buy shares if their intrinsic value is more than the market price because intrinsic value is the real value of the company's stock (Jogiyanto, 2010). Investors need to take into account how the soundness of the issuer, its future growth prospects, and its liquidity capabilities and most importantly in making fundamental analysis decisions must be strong. Before making an investment decision, a rational investor should consider the expected return and risk.

### Hypothesis Testing and Discussion

The results of estimation using Random Effect models with the help of a computer program Eviews version 9 in Table 7 can be formed the following equation:

$$\text{RETURN}_t = 0.151493 + 0.026073 \text{ROA}_{t-1} + 0.175180 \text{DER}_{t-1} + 0.000501 \text{PER}_{t-1} + e$$

Table 7. T-Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.151493	0.124075	1.220980	0.2236
ROA?	0.026073	0.014701	1.773568	0.0778
DER?	0.175180	0.068886	2.543029	0.0118
PER?	0.000501	0.000810	0.618846	0.5368

The result of regression equation denotes that the regression coefficient of all independent variables: ROA, DER and PER are positive. Therefore the increase of ROA, DER and PER will be able to increase stock return.

The result of the equation formed from the regression calculations aimed to determine the effect of independent variables on the dependent variable above are then still require more statistical testing to determine the validity of the model has been formed. Tests were conducted to determine the validity of the model includes each coefficient partial, overall test of independent variables and testing of the coefficient of determination (adjusted R<sup>2</sup>).

Hypothesis testing otherwise known as statistical t-test indicate how far the influence of the independent variables individually in explaining the dependent variable.

### The Influence of ROA on Stock Return

Hypothesis testing results denotes that the regression coefficient of 0.026073 with a significance value of 0.0778 (greater than 0.05), which means that the ROA has no effect on stock returns. The results of this study showed that changes in the value of ROA does not contribute significantly to stock return of firms in property, real estate and construction sector, which is an increase or decrease in the value of ROA will have no impact on the increase or decrease in stock returns, the higher ROA will not contributing to the higher stock returns of firms in the property, real estate and construction sectors or the lower ROA values will not contribute to the lower stocks returns of firms in property, real estate and construction.

Based on these results, ROA has no appeal as a predictor in predicting stock returns, especially for firms in the Property, Real Estate and Construction sectors for investors. ROA has no effect on stock returns due to Indonesia's emerging stock market is still heavily laden with government interventions, especially in the property, real estate and construction sectors which resulted in stock market rules are not working properly. Therefore investors in predicting stock returns of firms in the property sector, real estate and construction should not pay attention to firm performance in terms of profitability ratios, especially ROA generated by the company. Investors tend to believe the state of firm's shares will improve, even though profitability being less well. This makes stock prices could climb up.

The results support the research conducted by Agus Harjito and Rangga Aryayoga (2009) and Yeye Susilowati (2011) which showed that the return on assets (ROA) has no significant effect on stock returns.

### **The Influence of DER On Stock Return**

Hypothesis testing results show that the regression coefficient of 0.175180 with a significance value of 0.0118 (less than 0.05), which means that DER positive and significant effect on stock returns. The results of this study indicate that the information of DER changes from the financial statements, affects the decision on stock returns of property, real estate and construction firms in the Indonesian capital market.

In view of DER, some investors have different considerations, namely DER seen as the magnitude of its responsibility to creditors that lend to the company. The greater the value of DER will increase the firm's responsibility. Some investors observe that the company would need loans to expand its business in additional funds to meet its financing so it will require a lot of operational funds that could not be fulfilled only from the firm's own capital. As a result of these conditions can lead to the possibility of the development of the company in the future to increase in stock returns.

The results support the research conducted by Ari Chadina Astiti et al. (2014) and Yeye Susilowati (2011) showing that DER positive and significant effect on stock returns.

### **The Influence of PER On Stock Return**

The result of hypothesis testing shows that the regression coefficient value is 0.000501 with the significance value of 0.5368 (greater than 0.05) which means that PER has positive effect but not significant on stock return. The results of this study indicate that changes in the value of PER contributed positively but not significant to stock returns of firms in the property, real estate and construction sector, the increase or decrease in the value of PER will have no impact on the increase or decrease in stock returns. The higher PER value will not contribute to the higher stock returns of firms in property, real estate and construction sectors or vice versa. This may occur because in investing, investors do not emphasize the level of corporate profit growth, ultimately does not affect the perception of investors on stock returns in the future. For investors who invest in capital markets, PER can not be used as a reference in determining investment strategy especially for firms shares of property, real estate and construction sector.

The results of this study support the research conducted by Michael Aldo Carlo (2014), which states that PER does not have significantly effect on stock return. But the results of this study contrast with the results of research conducted by Farah Margaretha and Irma Damayanti (2008), Tendi Haruman, Stevanus Adree Cipto S and Maya Ariyanti (2005) showing PER significant effect on stock returns.

### **The Influence of ROA, DER and PER On Stock Return**

Hypothesis testing results show that the significance value of 0.009648 (less than 0.05), which means that the ROA, DER and PER simultaneously affect the stock return. The results showed that the variables ROA, DER and PER, have the ability to predict firms stock return in the property, real estate and construction sector listed on the IDX from 2010 to 2014.

## **CONCLUSION**

Based on the analysis obtained the following conclusions:

1. Partially ROA has positive but not significant effect on stock return. Thus  $H_1$  failed to be accepted, which means that an increase in ROA does not affect stock returns.
2. Partially DER has a positive and significant effect on stock returns. Thus  $H_2$  accepted, which means that an increase in the DER could affect stock returns.
3. Partially PER has positive but not significant effect on stock return. Thus  $H_3$  failed to be accepted, which means that an increase in PER does not affect stock returns.
4. The results showed that simultaneously ROA, DER and PER variables have the ability to predict stock return of property, real estate and construction firms that listed on the IDX from 2010 to 2014.

### **Theory Implications**

Theoretically this research provides scientific justification whether the variable ROA, DER and PER have influence on stock return. Based on the test results as described in the previous chapters, the results of this study may contribute the following theoretical implications:

1. The independent variable ROA has no significant effect on stock returns, however that does not mean theoretically diverge. The independent variables can still be used for further research, because it still has a positive effect on stock returns, and also note that the significant value of ROA is still below the 10% value of marginal significance, then ROA is still potentially be used as variables that affect stock returns.
2. The independent variable DER has positive and significant effect on stock returns, these results confirm the concept DER theoretically, also consistent with the results of research conducted by Ari Chadina Astiti et al (2014) and Yeye Susilowati (2011).
3. For academics, the results of this study can be used as a reference for further research in the field of financial management, especially related to fundamental factors and stock returns.

## Policy Implications

This study will provide benefits for certain parties are used for their intended purpose, especially for investors and companies is as follows:

1. For investors, in addition to observing stock returns, are expected before deciding to invest should be considered fundamental financial factors that reflect the financial performance of the company itself. From the results of this study indicate that jointly ROA, DER and PER have the ability to predict stock returns, particularly from the solvency ratio that is the DER value, because only DER that significantly affect the stock return. But in general, almost all investments contain elements of uncertainty. Investors do not know the exact results to be obtained from the investment made. Investors are faced with risky investment opportunities, therefore investment options can not rely on profit levels but investors should be willing to bear the risk on their investment.

Property, real estate and construction sectors are vulnerable to economic conditions, investors should consider other factors beyond company's policy such as market conditions occurring in Indonesia, regionally and globally; as well as external factors are: inflation rate, the increase in BI rate, fluctuation of Rupiah exchange rate against the US Dollar and the determination of LTV (Loan to Value), it will indirectly affect the return earned on investment.

2. For companies, the fundamental factors presented on the financial statements is required by investors, because it can be used to assess the stock return. Financial ratios such as ROA, DER and PER due to a positive effect on stock returns, can be additional information and consideration for companies in conducting investment-related policies, controlling the performance of the company and to increase the prosperity of shareholders.

## LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The results have shown only the DER variable, whose hypothesis is accepted, while the other variables (ROA and PER) of the hypothesis are rejected, this will provide further research opportunities:

1. Research samples are only companies in the property, real estate and construction sectors, it is possible to expand the scope of the sectors examined such as the financial, manufacturing, transportation and service sector, it can provide better and more accurate results.
2. Research on stock returns is limited to internal information of each property, real estate and construction firm. Therefore, it is suggested that future research also use external variables as independent variables, especially regarding the macro-economic conditions such as inflation, interest rates, gross domestic product / GDP and the exchange rate. Because in recent months the government issued new policies concerning inflation and interest rates, which have great impact on the Property and Real Estate sector, is rising mortgage rates that are expected to reduce the growth rate of property and real estate business in Indonesia.

The declining exchange rate of the rupiah to penetrate up to Rp 13,000 per US dollar is badly

affecting the performance of listed property, real estate and construction issuers, especially in issuers with debts in US Dollar, in which the interest expense to be paid and the value principal debt itself being strongly influenced by the rise and fall of the Rupiah against the US dollar, this could lower the net profit which mean lower shareholder returns.

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