Supply Chain Strategy for Assessing the Stock Prices of Property Sector Companies in Indonesia Stock Exchange

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Abstract— **The global crisis in 2008 has a tremendous impact on Indonesian economic stability. It ultimately led to increases in asset prices including property. It drives investors to invest in property companies namely stock. Thus, this study aims to examine the effect of Economic Value Added, Return on Equity, and Earnings per Share toward Stock Price. Also, the role of Price Earnings Ratio as a Moderating Variable in the relationship among variables studied. The secondary data obtained from annual reports, financial statements. The data source is the property sector companies issued on the Indonesia Stock Exchange. There are 30 companies involved in this study. The data analyzed by using the multiple linear regression analysis and moderating test applied the residual method. The results of this study indicate that partially Economic Value Added has a positive and significant effect on stock prices, Return on Equity has a negative and significant effect on stock prices, and Earning per Share has a positive and significant effect on stock prices. Variable Price Earnings Ratio does not moderate the relationship of Economic Value Added, Return on Equity and Earnings per Share to stock prices both partially and simultaneously.**

***Keywords*—** *Economic value-added, return on equity, earning per share, price-earnings ratio, the stock price*

1. Introduction

A capital market is a meeting place for sellers and buyers, where the form traded is securities or securities such as stocks, bonds and others. Capital Market has a vital role for the economy of a country because the capital market operates two functions, namely the first as a means for business funding or as a means for companies to get funds from investors [1]. Kristiana and Sriwidodo [2] state that stocks are the most popular securities among other securities in the capital market because when compared to other investments, stocks allow investors to get a higher return or profit in a relatively short time (high return) even though shares also have high-risk properties, which is when stocks can also decline rapidly. So the stock has the characteristics of high-risk high returns.

In developed and developing countries, development and the property and real estate business is experiencing rapid growth, this is also happening in Indonesia. In the Indonesia Stock Exchange, property sector companies include two sub-sectors, namely the property and real estate sub-sector and the construction sub-sector. The shares of property sector companies in Indonesia began to be in demand when in 2000, and as the year progressed the property sector was one of the sectors that signaled a fall or the development of a country's economy. Investment in property and real estate in general is long-term in nature and will grow in line with economic growth and promising investment.

Rudy Santoso [3] examines the effect of Return on Equity, Earning per Share and Price Earnings Ratio on the stock prices of Property and Real Estate. The results prove that only the Price Earnings Ratio affects stock prices. However, research conducted by Priatnah and Kusuma [4] states that Earning per Share has a positive and significant influence on stock prices.

Paskah Lia Theresia [5] conducted a study of the effect of Debt to Equity Ratio, Current Ratio and Net Profit Margin on stock prices with Price Earnings Ratio as the moderating variable of the manufacturing sector listed on the Indonesia Stock Exchange from 2012 - 2014. The research shows that the Price Earnings Ratio is significant in moderating the relationship between Debt to Equity Ratio, Current Ratio, Net Profit Margin and Stock Price.

IJSCM, ISSN: 2050-7399 (Online), 2051-3771 (Print)

1.2 Research Questions

Based on the background of the study and problem above, there two research questions formulated in this study i.e. Do the Economic Value Added, Return on Equity, the effect on Earning per Share toward Stock Price? Moreover, does the price-earnings ratio moderates the relationship between Economic Value Added, Return On Equity and Price Earnings Ratio towards the stock price of listed property companies sector in the Indonesia Stock Exchange?

1.3 Research Objectives

The primary purpose of this study is to investigate and examine the effect of Economic Value Added, Return on Equity, effect on Earning per Share toward Stock Price and the earnings ratio moderates the relationship between Economic Value Added, Return on Equity and Price Earnings Ratio towards the stock price of listed property companies sector in the Indonesia Stock Exchange.

2. Literature Review

2.1 Financial Management

Financial management is one of the areas of functional management in a company, which studies the use of funds, obtains funds and distributes the results of the company's operations. The main tasks of financial management include: decisions about investment, financing business activities and dividend distribution of a company. Financial managers have an interest in determining the amount of appropriate assets from investments in various assets and the selection of sources of funds to finance the assets of the asset. To purchase these funds, financial managers can fulfill them from sources from outside the company and can also come from within the company

2.2 Economic Value Added (EVA)

The Economic Value Added method was first developed by Stewart & Stern, a financial analyst from the Stern Stewart & Co company in 1993. In Indonesia the method is known as the NITAMI (Economic Value Added) method. Young and O'Byrne (2002) [6], state that Economic Value Added is based on the idea of economic profit which states that wealth is only created when a company includes operating costs and capital costs

2.3 Return on Equity (ROE)

Return On Equity or often abbreviated as abbreviation ROE is a ratio that divides profit after tax with the average capital in a company According to Gaspersz [7]. This ratio is used to see the level of efficiency of the company in managing its equity to produce a company's net profit. Hanafi and Halim [8] say that Return on Equity measures a company's ability to generate profits based on certain stock capital. This is in line with the statement of Ang [9] that return on Equity measures the level of company returns or company effectiveness in generating profits by utilizing the equity owned by the company. This ratio is a measure of profitability from the perspective of the shareholders.

2.3 Earning per Share (EPS)

In investing in exchanges, investors will pay attention to various aspects, one of which is income per share (earnings per share or EPS). Earnings per share is one indicator that can show company performance, because the size of Earning per Share will be determined by the company's profit. Dividends are profits given by issuers to shareholders. From the company's net income, some of it is distributed to shareholders in the form of dividends, while others are set aside as retained earnings. Retained earnings are one of the most important sources of funds to finance the company's growth. However, dividends form a flow of money that increasingly flows into the hands of shareholders. The shareholders certainly expect to get large amounts of dividends. For this reason, companies must be able to allocate their net profits wisely.

2.4 Price Earnings Ratio (PER)

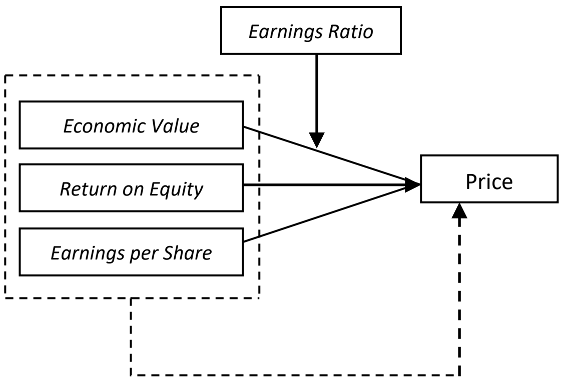
The profit and dividend growth and expected rate of return of a stock change in value, Price Earnings Ratio is expected to change over time and ultimately lead to an average price earnings ratio of shares that has the same level of risk. Stock prices are expressions of earnings multipliers to evaluate the attractiveness of ordinary shares and as a tool to determine whether to invest or not. This measurement is called the price ratio compared to profit (Price Earnings Ratio).

2.5 Stock Price

Stock (stock) is the most popular financial market instrument. Publishing shares is the company's choice when deciding on company funding. On the other hand, stocks are investment instruments that are chosen by investors because stocks are able to provide an attractive level of profit. Shares can be defined as a sign of the participation of a person or party (business entity) in a company or limited liability company. By including this capital, the party has a claim on the company's income, claims on the company's assets, and has the right to attend the General Meeting of Shareholders (GMS), [10].

2.6 Research Framework

Based on previous explanations, the research framework formulated as seen as below:



Picture 2.1. Framework

2.2 Hypothesis

Based on the theory and framework described above, the research hypothesis is formulated as shown below:
H1: Economic Value Added has a positive and significant influence on stock prices in property sector companies listed on the Indonesia Stock Exchange.

H2: Return On Equity has a positive and significant influence on stock prices in property sector companies listed on the Indonesia Stock Exchange.
H3: Earning Per Share has a positive and significant influence on stock prices in property sector companies listed on the Indonesia Stock Exchange.

H4: Economic Value Added, Return on Equity, and Earning per Share have a positive and significant effect on stock prices in property sector companies listed on the Indonesia Stock Exchange.

H5: Price Earnings Ratio moderates the effect of Economic Value Added on stock prices in property sector companies listed on the Indonesia Stock Exchange.

H6: Price Earnings Ratio moderates the effect of Return on Equity on stock prices in property sector companies listed on the Indonesia Stock Exchange.

H7: Price Earnings Ratio moderates the effect of Earning per Share on stock prices in property sector companies listed on the Indonesia Stock Exchange.

H8: Price Earnings Ratio moderates the effect of Economic Value Added, Return on Equity, and Earning per Share on stock prices in property sector companies listed on the Indonesia Stock Exchange.

3. Research Method

The The scope of this study is limited to Economic Value Added, Return on Equity, Earning per Share, Price Earnings Ratio, Stock Prices in Property Sector Companies listed on the Indonesia Stock Exchange. The type of data used in this study is quantitative data. Quantitative data are data in the form of numbers or qualitative data that are predicted. Research data is secondary data obtained from annual financial reports at www.idx.co.id.

The population in this study were all property, real estate and construction companies listed on the Indonesia Stock Exchange (IDX) in 2012-2016. The sampling method is done by purposive sampling method. Some of the considerations determined by the researcher are as follows: (i) the company is listed on the Indonesia Stock Exchange the main board in 2012-2016. (ii) The company issues financial reports every year of observation. (iii) Registered companies have stock prices during 2012-2016. (iv) the companies are not in the process of delisting in 2012-2016. And (v) Is a property, real estate and construction company whose data on all variables, both the dependent variable, moderating and independent variables are available and can be obtained, both from financial reports taken from other sources and the Indonesia Stock Exchange (IDX) website.

Of the 65 issuers made into the population, only 30 met the criteria to be determined as research samples. And of the 35 issuers that do not meet the criteria, 15 issuers are companies that have not been listed on the Indonesia Stock Exchange during the period of 2012-2016 and 20 issuers are companies that are not listed on the main board and some that do not have complete data needed for research.

Table 3.3: Definition of operational variables

Variable	Definition	Measurement
Economic Value Added	The concept of assessing company performance by reducing operating profit after tax with capital costs.	Ratio
Return on Equity	ROE is the ratio that divides profits after tax with the average capital in a company.	Ratio
Earnings Per Share	The ability of the company to generate profits per share owner.	Ratio
Price Earnings Ratio	Price Earnings Ratio is the ratio between Price Per Share divided by earnings	Ratio
Stock Price	Stock price based on book value at the end of the year	Ratio

3.5. Method of Data Analysis

Data testing is done using SPSS assistance. The purpose of data analysis is to simplify data into forms that are easier to read and interpret. There are four statistical formulas used in this study, namely:

Normality test - In this study to test the normality of the data used the One Sample Kolmogrov-Smirnov Test. In the test variables that have asymp. values. Sig (2 tailed) with a probability of significance below 0.05 (probability <0.05) means that these variables are not normally distributed. Multicollinearity Test - is the presence of more than one definite linear relationship. Where a situation with one or more independent variables has a correlation with other independent variables.

Heteroscedasticity test - used to determine whether or not there are variances in the variance of the residuals in the regression model. Heterocedasticity arises when the error or residual of the observed model does not have the variance of the constants from another observation. Autocorrelation Test - is a statistical analysis conducted to find out whether there are variable correlations in the prediction model with changes in time. One of the common tests used to determine autocorrelation is to use the Durbin – Watson statistical test developed by J Durbin and G Watson in 1951.

Multiple Linear Regression Analysis

The test tool used is the Moderating Regression Analysis using the residual method. This model uses the concept of lack of fit, ie the moderating hypothesis is accepted to occur if there is a mismatch of the deviation of the linear relationship between the independent variables. This model is free from multicollinearity disorders compared to other MRA methods. The equation used by multiple regression equations is as follows: Regression Model I for multiple linear regression models:

$$\mathbf{Y = \beta_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \varepsilon} \quad \textbf{(1)}$$

Regression Model II for the moderation regression model with residual test:

$$\mathbf{Z = \beta_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + \varepsilon} \quad \textbf{(2)}$$

$$\mathbf{|\varepsilon| = \beta_0 + \beta_i Y + \varepsilon} \quad \textbf{(3)}$$

Where, Y = Stock Price, β_0 = intercept, β_1 to β_7 = regression coefficient, X1 = *Economic Value Added* (EVA), X2 = *Return on Equity* (ROE) , X3 = *Earnings Per Share* (EPS), Z = *Price Earnings Ratio* (PER, ε = error residual and |ε| = Absolute residual

Test the Hypothesis - Statistical t-test, to test the partial effect of independent variables on non-independent variables assuming that other variables are considered constant, with a 95% confidence level ($\alpha = 0.05$). Test F, with the intention of testing whether the independent variables simultaneously influence the non-independent variables, with a 95% confidence level ($\alpha = 0.05$).

Test the Hypothesis with Moderation Regression Analysis - The purpose of the moderation regression analysis is to see whether the moderating variable can moderate / strengthen the relationship between the independent variables on the dependent variable.

Determination Coefficient Test (R^2) - This test looks at the proportion of variations of the independent variables together in influencing non-independent variables.

4. Results and Discussion

Economic Value Added (EVA) has a positive and significant effect on stock prices.

The significant value of the effect of the variable Economic Value Added (EVA) on stock prices is 0,000 with a regression coefficient marked positive which means Ho is rejected and it can be concluded that the variable Economic Value Added (EVA) has a positive and significant effect on stock returns. The higher the Economic Value Added (EVA), the higher the stock price is vice versa.

Return on Equity (ROE) has a negative and significant effect on stock prices.

The significant value of the effect of the Return on Equity variable on stock prices is 0,000 with a regression coefficient marked negative which means that Ho is rejected and it is concluded that the variable Return on Equity has a negative and significant effect on stock prices. The higher the Return on Equity (ROE), the lower the stock price, and vice versa.

Earnings per Share (EPS) has a positive and significant effect on stock prices.

The significant value of the effect of the Earning Per Share (EPS) variable on stock prices is 0,000 with a regression coefficient marked positive which means that the Earning per Share variable has a positive and significant effect on stock prices. The higher the Earning per Share, the higher the stock price, and vice versa.

Price Earnings Ratio (PER) cannot moderate the effect of Economic Value Added (EVA) on stock prices.

The results of the regression model II and residual test for moderating regression analysis indicate that Price Earnings Ratio (PER) is not a moderating variable because the significant value (p sig) of the Stock Price is 0.404 with the value of Standardized Coefficients Beta of - 0.074, it can be concluded that Price Earnings Ratio (PER) cannot moderate the relationship of Economic Value Added (EVA) to stock prices. This is because the significance value is greater than 0.05 even though the parameter coefficient value is negative (which means there is no match between the independent variable and the moderating variable).

Price Earnings Ratio (PER) cannot moderate the effect of Return on Equity (ROE) on stock prices.

The results of the regression model II and the residual test for moderating regression analysis show that Price Earnings Ratio (PER) is not a moderating variable because the significant value (p sig) of the Stock Price is 0.642 with the value of Standardized Coefficients Beta of - 0.039 so it can be concluded that Price Earnings Ratio (PER) cannot moderate the relationship of Return On Equity (ROE) to stock prices. This is because the significance value is greater than 0.05 even though the parameter coefficient value is negative (which means there is no match between the independent variable and the moderating variable).

Price Earnings Ratio (PER) cannot moderate the effect Earnings per Share (EPS) on stock prices.

The results of the regression model II and residual test for moderating regression analysis show that Price Earnings Ratio (PER) is not a moderating variable because the significant value (p sig) of the Stock Price is 0.100 with the value of Standardized Coefficients Beta of - 0.137 so it can be concluded that Price Earnings Ratio (PER) cannot moderate the relationship of Earning Per Share (EPS) to stock prices. This is because the significance value is greater than 0.05 even though the parameter coefficient value is negative (which means there is no match between the independent variable and the moderating variable)

Price Earnings Ratio (PER) cannot moderate the effect of Economic Value Added (EVA), Return on Equity (ROE), and Earning Per Share (EPS) on stock prices.

The results of the regression model II and residual test for moderating regression analysis indicate that Price Earnings Ratio (PER) is not a moderating variable because the significant value (p sig) of the Stock Price is 0.159 with the value of Standardized Coefficients Beta of - 0.124 so it can be concluded that Price Earnings Ratio (PER) cannot moderate the relationship of Economic Value Added (EVA), Return On Equity (ROE) and Earning Per Share (EPS) to stock prices. This is because the significance value is greater than 0.05 even though the parameter coefficient value is negative (which means there is no match between the independent variable and the moderating variable).

Conclusions, policy implications and Suggestions for future research

5. Conclusions

This study concludes that the Economic Value Added partially has a positive and significant effect on stock prices, Return on Equity has a negative and significant effect on stock prices, and Earning per Share has a positive and significant effect on stock prices. Further, the variable of Price Earnings Ratio does not moderate the relationship of Economic Value Added, Return on Equity and Earnings per Share to stock prices both partially and simultaneously.

5.2 Policy Implications

For the companies – can consider using the technique of Economic Value Added to improve company performance. The technique of Economic Value Added (EVA) is a technique of measuring company performance based on the value that needs to be considered by the company, because the company has still been using conventional techniques. Economic Value Added has a role as a measure of company performance that is more accurate, comprehensive, and provides a reasonable assessment of the company's financial condition. By using the concept of Economic Value Added, the company obtains benefits related to the company's internal interests such as knowing and evaluating the success of a project or investment, knowing the success of management in managing the company.

For the investors and potential investors - can be used as input for investors and investors that financial ratios are Return on Equity (ROE) and Earning per Share (EPS), as well as Economic Value Added (EVA) proven empirically to have a significant effect on stock prices. Financial ratios are considered as important indicators in the company's history and projected levels of future performance. However, the variable Price Earnings Ratio cannot be used as a comparison in assessing stock prices. This study only examines the company's fundamental factors. Because by conducting an analysis of internal factors analysts or investors can estimate future stock prices by estimating the fundamental factors that affect stock prices in the future. In the analysis of fundamental factors the company's financial statements are information that is needed by analysts, because financial statements describe the fundamental aspects of the company that are qualitative in nature. Although financial statements contain many weaknesses, combining certain analyzes can still produce useful information for investors and potential investors.

5.3 Suggestion for future research

Future study can add independent variables outside the variables in this study because there are still quite a lot of stock price variables that are influenced by other variables outside of this research variable such as Return on Assets (ROA), Debt to Equity Ratio (DER), dividend policy and others that might influence characteristics that are more diverse than various sectors with longer observation periods.

Acknowledgements

This work was funded by the Ministry of Research and Technology of the Republic of Indonesia. The authors would like to thank for the Kopertis (LLDIKTI) Wilayah I Sumatera Utara, Indonesia, STIE Bina Karya Tebing Tinggi, Indonesia and Universiti Malaysia Terengganu for supporting this work.

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