

INFLUENCE ANALYSIS OF DPS, EPS, AND PBV TOWARD STOCK PRICE AND RETURN

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ABSTRACT

The research revealed whether there was a significant influence of DPS, EPS, and PBV towards stock price and return. This research used a quantitative method to determine the influence of the independent variable towards the dependent variable. The quantitative analysis was conducted with statistic technic called multiple linear regression with data taken from Indonesia Capital Market Directory year 2005 and 2008. The result shows similar results with the previous research that there is no influence between DPS and stock price as well as there is an influence on stock return. EPS shows that there is influence of stock price and return. For PBV, there is an influence on stock price, but there is no an influence on stock return.

Keywords: *DPS, EPS, PBV, stock price and return*

INTRODUCTION

The year of 2008 was a challenging year for the world of financial community including the Indonesia Stock Exchange and Indonesian capital market investors. The global financial crisis that originated from the subprime mortgage crisis in the United States had a wide impact on the world financial sector including Indonesia. The US crisis affects the capital market in Indonesia where the Dow Jones Industrial Average plays the greater role in explaining the IHSG that is compared to rupiah rate, production index, and the trade income law (Nezky, 2013). It showed that form the performance of Composite Stock Price Index (IHSG) Indonesia Stock Exchange (BEI) which had been decreased significantly in recent months. The peak had occurred on Wednesday, October 8, 2008, where IHSG corrected by 10,38% to touch the level of 1.451.67 and Bapepam LK (today is OJK) as the stock market regulator had to intervene or to suspend the trade when the volatility exceeded the psychological threshold.

Facing the declining year of 2008 conditions, to become a short-term trader was no longer an option, the traders would have to swift the risk appetite to a long-term investment. The long-term investors started to purchase stocks that were still cheap and promising for future prospects, of course a good fundamentally stock could be a good preference. The fastest rebound stock was the most preferred stock by the market or the top layer stock.

The search for listed companies that have those characteristics can be found in index LQ 45. This index is an index based on the liquidity and market capitalization benchmarks. The listed companies in LQ 45 index will be changed periodically based on the performance of the transaction of its stock and will be declared by the circular of Indonesia Stock Exchange in every January and July. It is in the LQ45 index because basically when investors invest assets in the long-term portfolio, they will expect two things. The first is the dividend and an increase in stock price itself or known as capital gain. The errors of wrong-chosen stock will cost the investors lots of funds and opportunities.

Converting from short-term investors to long-term investors require a deep fundamental analysis. The problems are there are many factors and variables to comprehend and the broad of analysis scope. This research will straightforwardly focus on the stock return. Therefore, it will examine the influence of dividend per share, earning per share and price to book value ratio toward the stock return. The researcher next will elaborate the use all three ratios in this article.

Dividend per share (DPS) is the sum of declared dividends issued by a public listed company's share outstanding. DPS is vital because the number one goal of a company is to return value to its shareholders. Investors receive value through dividend payments and the price of the stock itself, which is equal to a company's total expected future dividend payments. DPS can be calculated by the following. First, a company's net income per share is derived as net income divided by outstanding shares. Second, the DPS is taken as net income per share times the payout ratio. The payout ratio is a result of income paid in dividends divided by the total net income.

The DPS has influenced the stock price because the public listed company which has not paid the dividend will be followed by decreasing of its stock price. They are stamped as bad news by the market as "non-prosper" companies for long-term investment. In fact, there are reasons why they do not share their dividend because of the maximizing of the investment. In doing so, it will grow the company and eventually will increase the stock price. The public listed companies also realized that investors pay close attention to their dividend return and that the riskiness of their investments may affect the valuation of the firm's shares in the long run. This makes the volatility of stock prices as important to firms as it is to investors (Hussainey, Mgbame, & Chijoke-Mgbame, 2015). Based on the previous research, DPS influences the stock price (Rusliati & Prasetyo, 2011). Studies on DPS are usually centered on two related issues. The first issue deals with how stock prices are affected by dividend policy. The second is on whether or not dividend policy affects the shareholder's wealth. A study shows that the DPS has a significant relationship with the stock returns (Garba, 2014).

Another variable that used in this research is earning per share (EPS). EPS is generally considered the most important factor in determining share price. Literature shows that most of the individual investors take their individual investment decision based on the EPS (Khan *et al.*, 2014). This research will reveal whether the investors should consider EPS in order to invest in the security market. It will decide whether per share can influence the stock price or not. Principally, all societies' potential and active investors seek for accurate information of capital market. They are looking for the information form invested-upon references, and this information should be accurate, adequate, and on time. They expect the disclosure of published financial statement by the accounting firm and every time a public listed company announce its profit/loss that will react the stock market (Garkaz, Koohkan, & Kiarazm, 2012). The stock price and return will be lifted up for profit companies and vice versa.

Research in 2011 has showed that there is a significant influence between EPS and stock price during the year 2007-2011 data samples (Marcellyna & Hartini, 2011). It is a similar result with Priatinah and Kusuma (2012) research upon the influence of EPS towards stock price for public listed mining companies in Indonesia Stock Exchange during the year of 2008 until 2010. The investors who would invest by buying shares in the capital markets will analyze the condition of the investment company first so that it does provide the benefit (return). Getting a return (profit) is the main purpose of the trading activity of investors in the capital market, this is why EPS also has a significant influence towards stock returns (Hermawan, 2012).

Beside the EPS and DPS, this research also uses price per book value (PBV) ratio as one of the independent variables. The PBV ratio is a helpful tool for the investors in valuing a company. It compares a stock's per share-price to the book value. The PBV ratio is an indication of how much shareholders are paying for the "net assets" of a company. The low PBV ratio figure can determine the value of the company also has a negative correlation in regards to the stock return. International index

of PBV ratio analysis demonstrated the low PBV ratio figure would contribute to the high stock return. A study from the year of 1997 has shown that the firm size and price to book value ratio are prominent measures in explaining cross-sectional stock returns. The former literature states that PBV is positively correlated with subsequent stock returns (Jensen, Johnson, & Mercer, 1997). Another research from 1997 has found that the book value is more relevant than the earnings per share in relation to stock prices (Ahmadi, 2017).

In relation to this broad topic on how fundamental factors can influence the stock price and return, this research will limit its scope only on these premises, whether, is there a significant influence of DPS towards stock price and return? Is there a significant influence of EPS towards stock price and return? And is there a significant influence of PBV towards stock price and return? Through this research, the investors will have a quick and practical way to analyze the public listed company's stock market price and return.

METHODS

The research objects are listed companies in Indonesian Stock Exchange with criteria, at first, listed in BEI and registered in the LQ45 index during the consecutive year of 2002 until 2008. The second is those listed companies shared cash dividend during these periods of research. This is related to the one of the independent variable in order to get the best result in dividend per share ratio analysis. And the third is the listed company samples that do not conduct stock split during the year of research. The prices used in this research are annual opening and closing stock price, so in this case, if the company conduct stock split, the closing prices will not reflect the accurate closing stock price.

This research uses the quantitative method to determine the influence of the independent variable towards the dependent variable. The quantitative analysis is conducted with statistic technic called multiple linear regression. Multiple linear regression is the most common form of linear regression analysis. As a predictive analysis, the multiple linear regression is used to explain the relationship between one continuous dependent variable and two or more independent variables. The assumptions related to this method are the regression residuals must normally be distributed, a linear relationship is assumed between the dependent variable and the independent variables. The residuals are homoscedastic and approximately rectangular-shape, the absence of multicollinearity is assumed in the model, meaning that the independent variables are not too highly correlated. At the center of the multiple linear regression analysis is the task of fitting a single line through a scatter plot. R-squared is a statistical measure of how close the data are to the fitted regression line. It is also known as the coefficient of determination or the coefficient of multiple regression. The 100% R-squared result indicates that the model explains all the variability of the response data around its mean. The information of the listed companies derives from Indonesian Capital Market Directory year 2005 and 2008 that are published by Institute for Economic and Finance Research (ECFIN).

RESULTS AND DISCUSSIONS

Based on the multicollinearity, autocorrelation, and heteroscedasticity tests, the independent variables are fit to be processed for this research. The first test is the multicollinearity test. Multicollinearity is a state of very high inter-correlations or inter-associations among the independent variables. It is, therefore, a type of disturbance in the data, and if exist in the data, the statistical inferences that are made about the data may not be reliable. Table 1 demonstrates the independent variables are free from the multicollinearity issue and do not correlate to each one another.

Table 1 VIF Table

Independent Variable	VIF
DPS	1,2735
EPS	1,294
PBV	1,0195

The second test is the autocorrelation test. The definition of autocorrelation is “A characteristic of data in which the correlation between the values of the same variables is based on related objects.” It can violate the assumption of instance independence, which underlies most of the conventional models. Table 2 shows the autocorrelation test for this research that uses the Durbin Watson, while Figure 1 shows the Durbin-Watson scale test.

Table 2 Durbin-Watson Autocorrelation Test

Model	Durbin-Watson
Model 1 (Stock Price)	1,2735
Model 2 (Stock Return)	1,294

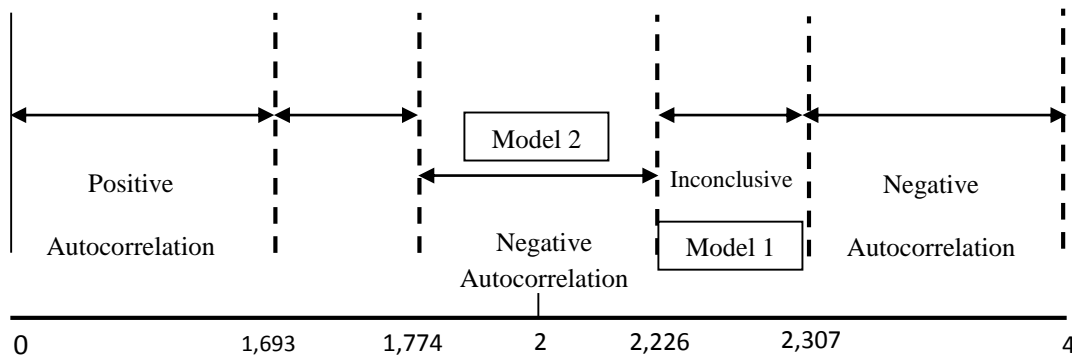


Figure 1 Durbin-Watson Scale Test

Based on the scale test in Figure 1, the model 1 (inconclusive scale) and model 2 negative to the autocorrelation or the autocorrelation issue cannot be proven upon those models. The last test of the classic assumption test theory is the heteroscedasticity test. Basically, the existence of heteroscedasticity is an absence of homoscedasticity as it can invalidate statistical tests of significance that assume the modeling errors are uncorrelated uniform-hence that their variances do not vary with the effects being modeled. In order to prove there is no heteroscedasticity issue in this research, the researcher uses a scatterplot of the model that can be seen in Figure 2 and Figure 3.

As it can be seen from the multi-regression scatterplot in Figure 2 and Figure 3, both multi-regression scatterplot show there is no specific pattern. So it can be determined that there is no heteroscedasticity issue throughout the models.

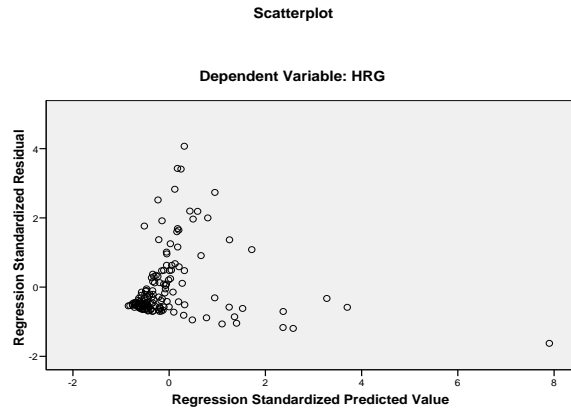


Figure 2 Multi Regression Scatterplot Y = Stock Price

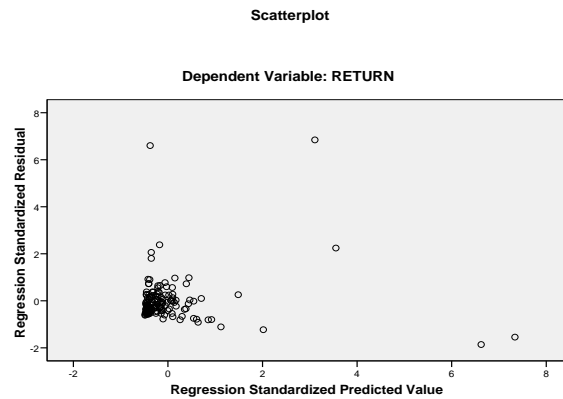


Figure 3 Multi Regression Scatterplot Y = Stock Return

The result from statistic data processing of DPS, EPS, and PBV toward stock price can be seen in Table 3. This table is generated from SPSS15 version, the statistic software.

Table 3 The F Table Result toward Stock Price

Independent Variable	Beta	T	Sig	Notes:
DPS	-0,00485	-0,05702	0,954606	R ² 0,19431
EPS	0,315439	3,681308	0,000329	F 11,41548
PBV	0,272897	3,588041	0,000458	F table 2,66
Dependent Variable:				t table 1,65508
Price				Alfa 5%

Table 3 shows a broad description of the summary statistic that $F_{hit} > F_{Table}$. This demonstrates that there are significant influences from the independent variables as one model simultaneously to the dependent variable so this model can be used for analysis. The regression linear model is as below:

$$Y = -0,0049X_1 + 0,315X_2 + 0,27X_3 \quad (1)$$

The output shows that there is an independent variable that does not have the influence on the dependent variable. The t-hit DPS < t table, based on this result, DPS does not have the influence on the stock price. The R2 figure on the table demonstrates 0,19431 means that only 19,43% of the overall stock price variations can be explained by the model. Other variables like EPS and PBV show a significant influence on the dependent variable that similar to the research of Wicaksono (2015). It also shows from the t-hit result on those variables have the higher figure than the t-table. Particularly for the EPS, a study from Hunjra et al. (2014) is using a multiple regression analysis to test whether EPS has an influence towards stock price for the 80 listed companies in NSE during the year 2012, and the result is the same as in this research. This result might opposite with the research of Beliani and Budiantara (2015) where it has found that the PBV does not have influence toward stock price for period 2009-2012 for samples only the listed insurance company. This will not effect on this research's objective since not only the period of samples are different but also the target companies. The negative relationship between DPS and the stock price result will confirm the research of Hashemijoo, Ardekani, and Younesi (2012) which also has a similar result to this research.

Another statistic data processing result for the stock return that also has been processed with SPSS 15 statistic software can be seen in Table 4.

Table 4 F table for Stock Return

Independen Variable	Beta	T	Sig	Notes:	
DPS	0,153252	1,757381	0,081008	R ²	0,152039
EPS	0,292826	3,331139	0,001103	F	8,486858
PBV	0,015868	0,203364	0,839142	F table	2,66
Dependent Variable:		t table 10% :	1,28722	t table	1,65508
Return				Alfa	5%

Based on Table 4, Fhit > F Table shows that there are significant influence from the independent variables as a one model simultaneously to the dependent variable so this model can be used for analysis. The regression linear model is as below:

$$Y = 0,153X_1 + 0,292X_2 + 0,015X_3 \quad (2)$$

The output shows that there is an independent variable does not have the influence on the dependent variable. The t-hit PBV < t table, based on this result, PBV does not have the influence on the stock return. The R2 figure on Table 4 demonstrates 0,152 this means that only 15,2% of the overall stock price variations can be explained by the model. Other variables like EPS and DPS prove a significant influence on the dependent variable. It shows from the t-hit result on those variables have the higher figure than t-table. Based on Table 4, it demonstrates that EPS has the highest coefficient toward the stock return. This means this variable is the dominant independent variable and also means a declaration of profit/loss from a public listed company will affect the market. It is similar to Aisah and Mandala's research (2016).

Especially for PBV result, this research has expanded the data sample to all listed companies in the LQ45 index during 2002 until 2007 (without consecutive listing) as long as the companies still on listed in BEI as of the year 2009. The numbers of sampling companies are 269 entities. The result is t-hit < t table (1,565 < 1,64791) with significant level (0,119) higher than 5% alpha. This outcome supports the previous result that PBV cannot be able to influence the stock return.

Talking about the influence of dividend towards stock prices, in theory, dividend affects the stock price. This is the difference of opinion between practitioners and academics from the beginning

of cash discount distribution and still exist until today (the author is on the academic side). Practitioners remain on the belief that the distribution of cash dividend will attract investor reactions and will affect the stock price. High earnings, high dividends, and rising stock prices are the common situation; there are also situations in low earnings, high dividends, and rising stock prices. In fact, there are some cases of stock prices move following the dividends and opposite direction with earnings. This is because investors (practitioners) await the announcement of dividends. If it meets their expectations, then there will be no movement on the stock price, but if higher than expectations, then there will be an upward movement and vice versa. This reaction is based on practitioners' thinking that dividend policy affects stock prices. That thought also leads to differences of opinion from scholars and practitioners.

There is a gap of expectations between the academics and the practitioners. When the academics think the dividend policy has met the expectations of investors, the practitioners think the dividend policy does not. The way practitioners think that dividend policy does not meet expectations can be perplexing because something that unpredictable will become predictable in the market. The market will know how the management thinks and basically, management will distribute high dividends to generate a good impression for investors (the result above shows that EPS has an effect on stock prices and returns, so this is what the market is expecting). If that happens, there will be a huge opportunity cost when canceling the funding for profitable investment. This is one of the reasons why a public listed company has to declare high dividends. Management cannot decrease the dividend distribution because it will create "below investor expectations" perception and the company becomes unattractive and follows with declining stock prices. On the other hand, management will also lose the right to self-decision for its dividend policy and does not have other option besides following what market desires or the company will face stock price falling and fail the opportunity to invest in other profitable places. It is recommended that the public listed companies pay the dividend as it will cause an upward movement in the stock market prices. Whereas profit retention by the public listed companies will result in a decrease in the value of the stock market prices (Ali, Jan, & Syarif, 2015).

The company's dividend policy seems very important to investors and should be careful not to surprise investors with the unexpected company's dividend policy. The investors use the dividend announcement in projecting the company's profit or loss. They are all connected, so when the company announces their profit or loss, the investor will think about dividend distribution directly. This will give an opportunity to a new investor to invest in a company that declares significant growth in profit and cash dividend from the previous year.

CONCLUSIONS

The multiple linear regression analysis shows that DPS does not have the influence towards stock price. Nevertheless, it does show a significant influence towards the stock return. Another result comes from PBV analysis that those variables demonstrate a significant influence on stock prices, but it does not work for stock returns. And yet for EPS variable, it shows a significant influence on both stock prices and returns.

Based on the R2 result shows 19,4%. It means that there are other independent variables that influence stock prices and returns, especially in related to PBV. The researcher can extent this variable into the relation to the subsequent stock return (modified-for finance leverage). This is an opportunity to the researcher for identifying and exploring the other independent variables that might influence the stock prices and returns. All the public owned companies expect to be able to publish an accountable financial statement since an EPS figure could have a significant influence towards stock prices and returns.

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