Research Paper

Determination of Fundamental and Technical Factors on Share Prices in Large-Capitalized Companies Listed on the Indonesia Stock Exchange for the 2015-2019 Period

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ABSTRACT

The share price is the value of shares in the capital market which is expressed in currency during buying and selling on the stock exchange. Many factors affect stock prices including fundamental factors such as ROE, PBV, EPS, and DPR and technical factors such as sales volume. This study is a quantitative study that aims to examine the effect of fundamental and technical factors on the stock prices of large capitalization companies listed on the IDX for the 2015-2019 period, where the data obtained is realized in the form of secondary data obtained from the company's financial statements. The research population is large capitalization companies listed on the Indonesia Stock Exchange from 2015-2019. Determination of the sample using the probability sample method with special criteria and obtained 16 companies for 5 years (2015-2019) so that there are 80 valid data issuers. The data collection instrument used the secondary data documentation method in the form of time series and data analysis using multiple linear regression. The results of the study prove that Return on Equity (ROE), Price to Book Value (PBV), Earning per Share (EPS), Dividend Payout Ratio (DPR) and trading volume simultaneously have a significant and positive effect on the dependent variable (stock price). This is indicated by the value of F-count (26.741) > F-table (2.25) and sig-p (0.000) < 0.05. Return on Equity (ROE) partially has a significant effect on stock prices. Price to Book Value (PBV) partially has a significant effect on stock prices. Earning per Share (EPS) partially has a significant effect on stock prices. The dividend Payout Ratio (DPR) partially has a significant effect on stock prices. Trading volume partially has a significant effect on stock prices. Investors are advised to obtain more extensive information about the fundamental and technical factors that affect stock prices so that investment decisions can provide better results.

Keywords: Determination, Fundamental Factors, technical factors, the stock price

BACKGROUND

The capital market is an activity related to public offerings, securities trading, public companies related to securities issued, as well as institutions and professions related to securities. The development of the capital market in Indonesia has experienced rapid growth, both in the form of shares and debt instruments. Investors who invest their funds in the capital market must be able to use all information to analyze the market and their investments in the hope of making a profit. The capital market acts as a liaison between investors and companies or government institutions through trading in long-term instruments such as bonds, stocks, and others. The most common forms of capital market investment are stocks and bonds. This normative goal is not easy to achieve because almost every day there are fluctuations in stock prices that reflect changes in stock prices on the Indonesia Stock Exchange. Investors need to first assess the stocks that will be chosen in

making investment decisions, and then determine whether these stocks will provide a level of return that is by the expected rate of return. By knowing the influence of these factors, investors can choose a strategy to choose a company that is truly considered healthy as a place to invest. Tjiptono and Hendy (2014) state that every company must improve performance in managing share capital invested in all of its assets to generate very large profits because investors assume that the higher the EPS, the higher the company's ability to generate profits.

Where the higher the profits generated by the company will make investors interested in the value of the stock. Technical analysis uses the assumption that the market price of stock already reflects all information related to fundamentals, politics, psychology or all other information that has an impact on price changes, including stock trading volume which can be used to see the market reaction to stock trading through demand volume (bid) and volume of bids (offers). Fundamental analysis techniques focus on financial ratios and events that directly or indirectly affect the company's financial performance. Some experts argue that this technique is more suitable for making decisions in choosing company shares purchased for the medium and long term. This fundamental factor can be seen from several financial ratios, including profitability ratios, namely Return on Assets (ROA), Return on Equity (ROE), the stock market price ratio, namely Price to Book Value (PBV), the ratio of earnings per share, namely earning per share (EPS), and the dividend payout ratio (DPR). ROE (Return on Equity) is a ratio to measure net profit after tax with own capital.

The influence here shows that if the resulting ROE value is greater, the stock price will be greater because the ROE indicates that the return that investors will receive will be high so that investors will be interested in buying the stock and this causes the stock market price to tend to increase. This statement is supported by research conducted by Subiyantoro and Fransisca (2003) and Hartono and Raymundus (2009) that ROE has a significant effect on stock prices. If a company has a PBV above 1 (> 1), the company's share price is valued higher than its book value, which illustrates the better performance of the company in the eyes of investors. Companies that run well generally have a PBV ratio above one, which indicates that the market value of the stock is greater than its book value. The greater the PBV ratio, the higher the company is assessed by investors (investors) relative to the funds that have been invested in the company. Thus, the higher the PBV, the stock returns will increase. Empirical facts that link PBV with stock prices or returns, among others, carried out by Siddharta Utama and Anto Yulianto BS (1998) researching the study between price to book value and stock returns on the IDX, showing that PBV hurts stock returns (1996) researching political risk, economic risk, and financial risk, found evidence that PBV is the only fundamental factor that is positively related to stock returns in both developed market and emerging capital markets. The results of Ferson & Harvey's (1996) research also show that PBV is positively related to stock returns (1995) indicating that PBV has no significant effect on stock returns. EPS (Earnings per Share) is a ratio that shows how much profit the shareholders get per share (Sinaga, 2009: 115).

The greater the success of the business the does so that the returns that will be received by investors are higher and investors will be interested in buying the shares and this causes the stock market price to tend to rise (Indriana, 2009). The DPR (Dividend Payout Ratio) affects changes in stock prices based on the theory of the share of profits received by shareholders even though it will slightly increase the existence of the issuer in the capital market. The distribution of dividends consistently by a company will have a positive effect on the price of shares outstanding on the stock exchange (Zeyn, 2007). The existence of the

influence of dividend distribution on stock prices is to research conducted by Zeyn (2007) and Sudaryanti (2010). Factors outside of company fundamentals that technically affect stock prices include the stock trading volume and stock buying/selling saturation. Stock trading volume is one of the indicators used in technical analysis on stock price assessments and an instrument that can be used to see the reaction of the capital market to information through the parameters of the movement of stock trading volume activities in the market, namely the volume of demand (bid) and volume of supply (offer).

In general, stock trading volume is the number of shares of an issuer that are traded in the capital market every day at a price level agreed upon by the seller and the buyer of the shares. Trading volume can be used as a reference for studying information on the capital market and stock valuation. Data regarding trading volume is important to observe because when compared to the total number of shares outstanding, it can indicate whether or not the shares are being traded on the stock exchange. Stock trading volume is used to see the market reaction to information through observing changes in trading volume in the capital market. Stock trading volume is used to measure whether individual investors know the information issued by the company and use it in buying or selling shares so that they will get above-normal profits. By knowing the influence of these factors, it can be seen which companies are truly considered healthy. Another reason is that there are still gaps in the results of previous studies regarding the influence of fundamental and technical factors on ROE, PBV, EPS, DPR and trading volume. Several previous studies show that there is a gap in research results, where there is research that proves that ROE, PBV, EPS and DPR have a significant influence on the company's stock price, but there are also previous studies that prove that ROE, PBV, EPS and DPR have no significant effect on price share. The research gap between the results of domestic

research conducted by Siddharta Utama and Anto Yulianto BS (2008) and the results of overseas research conducted by Claude et al (2006) and Ferson & Harvey (2006) regarding PBV, where Siddharta Utama and Anto Yulianto BS (2008) showed that PBV was negatively related to stock returns, while Claude et al. (1996) and Ferson & Harvey (1996) show that PBV is positively related to stock returns.

Table 1. Empirical Relationship of Fundamental and Technical Factors to Stock Prices

YEAR	ROE	PBV	EPS	DER	Trade Volume	Price Stocks
2015	1.62	2.28	288.50	0.25	63513075	1124
2016	2.09	2.80	423.75	0.37	38501792	1325
2017	2.41	3.45	395.75	1.91	50217667	1318
2018	2.28	2.44	474.25	2.32	46253915	1796
2019	2.43	2.57	491.37	2.29	52374941	1683

Source: Indonesian Capital Market Directory (ICMD), 2019

In 2016 the increase in the value of fundamental factors (ROE, PBV, EPS and DER) and technical factors (volume) was accompanied by an increase in stock prices of 1325. However, the increase in the value of fundamental factors (ROE, PBV, EPS and DER) and technical factors (volume) in 2017 was followed by a decrease in share prices by 1318 from 1325 in 2016. Meanwhile, in 2018, there was a fluctuation, namely a decrease in ROE value to 2.28 from 2.41 in 2017, a decrease in PBV value to 2.44 in 2017 from 3.45 in 2017, an increase in EPS became 474.25 in 2017 from 395.73 in 2017, an increase in DER to 2.32 in 2018 from 1.91 in 2017, a decrease in trading volume to 46253915 but accompanied by an increase in stock prices to 1796 from the previous year of 1318 in 2017. Likewise in 2019, fluctuations occurred, namely an increase in ROE value to 2.43 from 2.28 in 2018, an increase in PBV value to 2.57 in 2019 from 2.44 in 2018, an increase in EPS to 491.37 in 2019 from 3474.25 in 2018, a decrease in DER to 2.29 in 2019 from 2.32 in 2018, an increase in trading volume to 52374941 but accompanied by a decrease in stock prices

to 1683 from 1796 in 2018. This empirical fact shows the diversity of the influence of factors fundamentals and technicals on stock prices. Starting from the phenomenon of the gap in the results of the study, the researcher assesses the importance of researching the determination of the fundamental and technical factors that affect the stock prices of large capitalization companies listed on the IDX for the 2015-2019 period.

The Effect of ROE on Stock Prices
Return on Equity (ROE) measures what percentage of net profit is obtained when measured from the ner's capital. According to Darmadji and Fakhrudin (2011: 158) "Return on Equity is a ratio to measure the ability of the company's return on capital". Meanwhile, according to Harahap (2009: 305), "the bigger the ratio, the better because it is considered the ability of an effective company to use its equity to generate profits".

The Effect of PBV on Stock Prices
According to Tryfino (2009: 11) "Price to Book Value (PBV) is a calculation or comparison between the market value and the book value of a stock. With this PBV ratio, investors can immediately find out how many times the market value of a stock has been valued from its book value. This ratio can provide an overview of the potential movement of a stock's price so that from this description, indirectly this PBV ratio also influences stock prices.

The Effect of EPS on Stock Prices
According to Tryfino (2009: 11-12) "Earning Per Share (EPS) is the ratio used to calculate the net profit or profit obtained from a share. The greater the EPS, it can be concluded that the company's performance is more effective or better so in the end this ratio can also be used to predict the price movement of a stock. In other words, the magnitude of the Earning Per Share (EPS) ratio can influence stock prices.

The influence of DPR on Stock Prices
According to Pranata et al (2015) "Dividend Payout Ratio (DPR) is a comparison between dividend per share and earnings per share (EPS). A high DPR indicates that the level of profit sharing made by the company is also high so that it will increase investor interest in buying the company's shares for dividends, the higher the demand from the market, the higher the share price. The results of Rheza's research (2016) Analysis of the Effect of DPR, Der, Roe, and Tatoo on Stock Prices (Case Study on Basic Industrial and Chemical Companies Listed on the IDX Period 2010-2014) prove that investors will choose companies that have a high DPR ratio. The higher the stock, the more investors buy the stock, and the stock price will also increase.

Effect of Trading Volume on Stock Price
Stock trading volume can be interpreted as the number of shares of an issuer or company that are traded in the capital market every day at a price level that has been agreed upon by the seller and buyer of shares through a stock trading broker (intermediary). Susanto and Sabardi (2010) stated that "historically, stock trading volume has a relationship with market prices on the stock exchange because stock trading volume is considered a measure of market strength or weakness by the law of supply and demand. Many studies have proven the relationship between trading volume and stock prices (Kim and Verrecchia, 1991; Smirlock and Starks, 1988; Brailsford, 1994 Mahajan and Singh, 2008). The relationship between stock price and volume can be used as the basis of a trading strategy and as evidence of the efficiency of the stock market. (Mahajan and Singh, 2008; Admati and Pfleiderer, 1988). Research conducted by Abidin et al. (2016) stated that trading volume partially hurts stock prices. Research conducted by Dwi Wulandari (2009) also states the same thing.
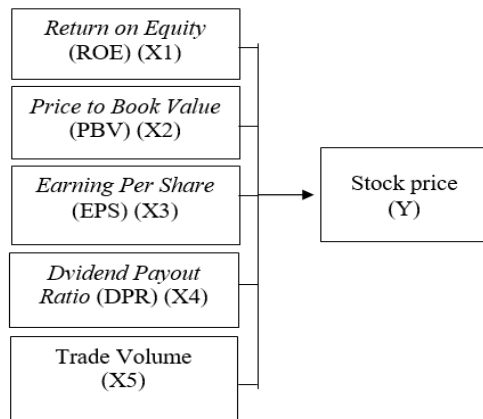
Figure 1. Conceptual Framework

Hypotheses

H1 = Return on Equity (ROE) partially positive and significant effect on stock prices of large capitalization companies listed on the IDX for the 2015-2019 period.

H2 = Price to Book Value (PBV) partially positive and significant effect on stock prices of large capitalization companies listed on the IDX for the 2015-2019 period.

H3 = Earning per Share (EPR) partially has a positive and significant effect on the stock price of large capitalization companies listed on the IDX for the 2015-2019 period.

H4 = Dividend Payout Ratio (DPR) partially positive and significant effect on stock prices of large capitalization companies listed on the IDX for the 2015-2019 period.

H5 = Trading volume partially has a positive and significant effect on stock prices of large capitalization companies listed on the IDX for the 2015-2019 period.

RESEARCH METHOD

The type of research used is quantitative research. This study aims to examine the influence of fundamental and technical factors on stock prices of large capitalization companies listed on the IDX for the 2015-2019 period, where the data obtained is realized in the form of secondary data obtained from the company's financial statements. This research was conducted on the Indonesia Stock Exchange through the internet with the site www.IDX.co.id. This study took observations for 5 years starting from 2015 to 2019. In this study, the research population is large capitalization companies listed on the Indonesia Stock Exchange from 2015-2019. The method used in the sample selection is the random sampling method, which is part of the sampling technique using the probability sampling method which provides equal opportunities for members of the population to be selected as research samples with the following criteria;

1. The company has been listed on the IDX for the 2015-2019 period.
2. The company publishes complete financial report data for the 2015-2019 period.

The selection resulted in the number of companies that met the criteria as many as 16 companies each issuing financial statements within 5 years so that the number of samples became 16 x 5 = 80 samples. The data in this study were sourced from the official IDX website through www.IDX.co.id. The data collection method used by researchers in this study is to use the method of literature and documentation. The library method is used to complete the theoretical basis by reading books and the results of previous research as well as articles related to the title of this thesis. Documentation Method, data collection technique by quoting directly from the financial information of large capitalization companies listed on the Indonesia Stock Exchange (IDX) through the website www.idn.co.id to collect the data needed for writing this thesis.

The statistical analysis technique in this study uses multiple linear regression because there is more than one independent variable. Regression analysis is an analysis that aims to determine a variable against another variable. before performing multiple linear regression analysis, the descriptive statistical assumption test and the classical assumption test were first performed.

RESULT AND DISCUSSION

The research at this stage will test the Determination of Fundamental and

Technical Factors on Stock Prices in Large Capitalized Companies Listed on the IDX for the 2015-2019 period which includes 5 x 16 = 80 issuers' valid data

Test Results and Data Analysis
Simultaneous F Test Results

The F test was simultaneously carried out to determine whether the 5 independent variables were X1 (ROE). X2 (PBV), X3 (EPS), X4 (DER) and X5 (trading volume) have a significant effect on the dependent variable Y (Stock price)

Table 2 Simultaneous F Test Results

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	165.160	5	33.032	26.741	.000b
	Residual	91.410	74	1.235		
	Total	256.570	79			

a. Dependent Variable: Stock Price
b. Predictors: (Constant), Volume , DPR, ROE, EPS, PBV

F-test = 26,741 with a significance value (p-value) = 0.000. When compared with the value of F-table = 2.25 (for N = 64 or df = 58), it can be seen that the value of F-count (26,741) > F-table (2.25) and sig-p (0.000) < 0.05, so it can be concluded that the 5 independent variables X1 (ROE), X2 (PBV), X3 (EPS), X4 (DPR) and trading volume simultaneously have a significant and positive effect on the dependent variable Y (stock price).

Partial T-Test Results

To determine the effect of each of the 5 independent variables on the dependent variable Y (Stock price)

Table 3. Partial t-test results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.421	.458		3.100	.003
	ROE	.820	.265	.227	3.095	.003
	PBV	.928	.247	.279	3.763	.000
	EPS	.998	.394	.215	2.531	.014
	DPR	.689	.304	.186	2.264	.027
	Volume	.959	.144	.510	6.682	.000

a. Dependent Variable: Stock Price

The Effect of Return on Equity (ROE) on Stock Prices

Table 3 shows that the t-count value of X1 (ROE) = 3.095 with a significance (p-value) of 0.003. When compared with the value of t-table = 2.01 (for N = 80 or df = 74) and sig-p = 0.05, it can be seen that the value of t-count X1 (3.095) > t-table (2.01) and p-value (0.003) <0.05. The results of this analysis meet the requirements of hypothesis testing where if t-count > t-table and p-value <0.05. This means that Ha is accepted or Ho is rejected. Thus, it can be concluded that the variable X1 (ROE) partially has a significant effect on the dependent variable Y (Stock price).

The Effect of Price to Book Value (PBV) on Stock Prices

Table 3 shows that the t-count X2 (PBV) = 3.763 with a significance (p-value) of 0.000. When compared with the value of t-table = 2.01 (for N = 80 or df = 74) and sig-α = 0.05, it can be seen that the value of t-count X2 (3.763) > t-table (2.01) and p-value (0.000) <0.05. The results of this analysis meet the requirements of hypothesis testing where if t-count > t-table and p-value <0.05. This means that Ha is accepted or Ho is rejected. Thus, it can be concluded that the variable X2 (PBV) partially has a significant influence on the dependent variable Y (Stock price).

Effect of Earning per Share (EPS) on Stock Price

Table 3 shows that the t-count X3 (EPS) = 2.531 with a significance (p-value) of 0.014. When compared with the value of t-table = 2.01 (for N = 80 or df = 74) and sig-α = 0.05, it can be seen that the value of t-count X3 (2.531) > t-table (2.01) and p-value (0.014) <0.05. The results of this analysis meet the requirements of hypothesis testing where if t-count > t-table and p-value <0.05. This means that Ha is accepted or Ho is rejected. Thus, it can be concluded that the X3 (EPS) variable partially has a significant influence on the dependent variable Y (Stock price).

The Effect of Dividend Payout Ratio (DPR) on Stock Prices

Table 3 shows that the t-count X4 (DPR) = 2.264 with a significance (p-value) of 0.027. When compared with the value of t-table = 2.01 (for N = 80 or df = 74) and sig-α = 0.05, it can be seen that the value of t-count X4 (2.264) > t-table (2.01) and p-value (0.027) <0.05. The results of this analysis meet the requirements of hypothesis testing where if t-count > t-table and p-value <0.05. This means that Ha is accepted or Ho is rejected. Thus, it can be concluded that the X4 variable (DPR) partially has a significant influence on the dependent variable Y (Stock price).

The Effect of Dividend Payout Ratio (DPR) on Stock Prices

Table 3 shows that the t-count value of X5 (trading volume) = 6.682 with a significance (p-value) of 0.000. When compared with the value of t-table = 2.01 (for N = 80 or df = 74) and sig-α = 0.05, it can be seen that the value of t-count X5 (6.682) > t-table (2.01) and p-value (0.000) <0.05. The results of this analysis meet the requirements of hypothesis testing where if t-count > t-table and p-value <0.05. This means that Ha is accepted or Ho is rejected. Thus, it can be concluded that the variable X5 (trading volume) partially has a significant effect on the dependent variable Y (stock price).

R Determination Test Results

Table 4. Results of the R . Determination Test
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.802[a]	.644	**.620**	1.1114277

a. Predictors: (Constant), Volume , DPR, ROE, EPS, PBV

b. Dependent Variable: Stock Price

Adjusted r-square value = 0.620. This means that the influence of the independent variable on the dependent variable Y (Stock price is 0.620 x 100% = 62.0%. In other words, 62.0% of the stock price variable can be explained by the Return on Equity (ROE)

variable, Price to Book Value (PBV), Earning per Share (EPS), Dividend Payout Ratio (DPR) and trading volume while the rest (38.0%) is explained by other factors not examined.

Multiple linear regression equations can be arranged according to the following calculated coefficient values:

$Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + e$

$Y = 1.421 + 0.820X1 + 0.928X2 + 0.998X3 + 0.689X4 + 0.959X5 + e$

Interpretation:

1) $Y = 1.421 + 0.820X1$

This equation shows that each increase in ROE by 1 point, can increase the stock price by $1.421 + 0.820 = 2.2$ points. In other words, each increase in ROE can increase the share price by 2.2 times.

2) $Y = 1.421 + 0.928X2$

This equation shows that every 1-point increase in PBV can increase the stock price by $1.421 + 0.928 = 2.3$ points. In other words, each increase in solvency can increase the stock price by 2.3 times.

3) $Y = 1.421 + 0.998X3$

This equation shows that every 1-point increase in EPS can increase the stock price by $1.421 + 0.998 = 2.4$ points. In other words, each increase in EPS can increase the share price by 2.4 times.

4) $Y = 1.421 + 0.689X4$

This equation shows that every increase in DPR by 1 point, can increase the stock price by $1,421 + 0.689 = 2.1$ points. In other words, every increase in DPR can increase the share price by 2.1 times.

5) $Y = 1.421 + 0.959X2$

This equation shows that each increase in trading volume by 1 point, can increase the stock price by $= 1.421 + 0.959 = 2.3$ points. In other words, each increase in trading volume can increase the share price by 2.3 times.

CONCLUSION

Return on Equity (ROE), Price to Book Value (PBV), Earning per Share (EPS),

Dividend Payout Ratio (DPR) and trading volume simultaneously have a significant and positive influence on the dependent variable (stock price). This is indicated by the value of F-count (26.741) > F-table (2.25) and sig-p (0.000) < 0.05

Return on Equity (ROE) partially has a significant effect on stock prices. This is indicated by the value of t-count X1 (3.095) > t-table (2.01) and p-value (0.003) <0.05

Price to Book Value (PBV) partially has a significant effect on stock prices. This is indicated by the t-calculated value of X2 (3.763) > t-table (2.01) and p-value (0.000) <0.05

Earning per Share (EPS) partially has a significant effect on stock prices. This is indicated by the value of t-count X3 (2.531) > t-table (2.01) and p-value (0.014) <0.05

Dividend Payout Ratio (DPR) partially has a significant effect on stock prices. This is indicated by the value of t-count X4 (2.264) > t-table (2.01) and p-value (0.027) <0.05

Trading volume partially has a significant effect on stock prices. This is indicated by the value of t-count X5 (6.682) > t-table (2.01) and p-value (0.000) <0.05

Conflict of Interest: None

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