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The Influence of Fundamental Factors and Systematic Risk to Stock Prices on Companies Listed in the Indonesian Stock Exchange

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Abstract:

The stock price is one indicator of the successful management of the company, if the stock price of a company always increases, the investor or prospective investor considers that the company succeeded in managing their business. The investor or prospective investor confidence is very beneficial for emitter, as more and more people who believe in the issuer's willingness to invest in listed companies stronger

Recently, we revealed the influence of fundamental factors and systematic risk simultaneously and partially on stock price at Company Registered in LQ45 Index Period 2011-2015

In this study, the data analysis model used is the test panel data regression (pool) which is a combination of cross section with the timeseries data.

The results of this study indicated that simultaneously there were significant influence between the Price Earnings Ratio (PER), Earning per Share (EPS), Net Profit Margin (NPM), Price to Book Value (PBV), and Risk Systematic on stock prices on companies listed in LQ45 Index 2011-2015. Partially, Price Earnings Ratio (PER), Earning per Share (EPS), Net Profit Margin (NPM), Price to Book Value (PBV), and Systematic Risks have significant effect on stock prices.

Keywords: *stock price, PER, EPS, NPM, PBV, systematic risk.*

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1. Introduction

Each company must rely heavily on capital to run its operations. Venture capital can be obtained from the internal company and external company. Capital obtained from the company could be funds from the owner, retained earnings, etc., while the funds obtained from outside the company can usually be obtained by third-party loans.

Capital markets research on fundamental analysis has become extremely popular in recent years, in part because of mounting evidence in the financial economics literature against the efficient markets hypothesis (Kothari, 2001). Studies that employ fundamental analysis to forecast earnings and future stock returns (i.e., a test of market efficiency) include Ou and Penman (1989a; 1989b), Holthausen and Larcker (1992), Hadi *et al.* (2016), Malik, Lev and Thiagarajan (1993) and Abarbanell and Bushee (1997; 1998). Fundamental analysis involves the use of current and past financial statements in conjunction with industry and economic data in order to determine firms' intrinsic value and identify mispriced securities (Seng, 2012).

One way that companies do to get an injection of funds is by selling their securities in the capital market. The capital market is a medium that bridges between people who have more funds or investors to those who need funds. For companies that are already listed on the stock market or go public, it is easy and inexpensive acquire additional capital there than to have to borrow from a third party who usually use interest that can burden the company's finances.

In the capital markets, investment contain elements of uncertainty or risk (Stoner and Roskarina, 2009). Investors do not know with any certainty the results that will be obtained from its investments. In these circumstances, it is said that investors face risks in its investments. Investors can only estimate the expected profit of the investment and how far the possibility that actual results will be deviated from the expected results. Investors should be cautious in making investment decisions before understanding the information relating to the company that issued the shares. Investors need to do the analysis, namely fundamental analysis and technical analysis. Technical analysis uses past price change data to estimate the price of the securities in the future, whereas fundamental analysis relating to the financial performance assessment of the effectiveness and efficiency of the company reach its goals. To analyze the performance of the company may use financial ratios. With this analysis, the analysis tries to predict stock prices in the future by estimating the value of the fundamental factors that affect stock price and applying the relationship of these factors to obtain the estimated stock price.

Investment risk in the capital market consists of two risks, namely the systematic risk and the risk that not systematic. Systematic risk refers to the risk that market uncertainty of the results of investments which will affect the company, while not

systematic risk refers to the risk factors unique to each company, it only affects one (small group) company.

When investors make decisions to buy shares then surely hoping to earn high profits. But on the other hand, investors should be willing to bear the risk is also high. Based on that, then in investing in the stock market, factors other than profit, investors should consider the risk factors. The risk factors of investing can be measured by beta. The higher beta stocks, the higher the systematic risk.

The stock price is one indicator of the successful management of the company, if the stock price of a company always increases, the investor or prospective investor considers that the company succeeded in managing their business. The investor or prospective investor confidence is very beneficial for emitter, as more and more people who believe in the issuer's willingness to invest in listed companies stronger. The more demand for the stocks of an issuer, it can raise the price of the stock. If the high stock price can be maintained, then the confidence of investors or prospective investors against listed companies are also getting higher and this can increase the value of the issuer. Conversely, if the price of the stock has decreased continuously means can lower the value of the issuer in the eyes of investors or prospective investors (Zuliarni, 2012; Thalassinos *et al.,* 2012a; 2012b; Thalassinos and Politis, 2012; Thalassinos *et al.,* 2009; 2013).

Researchers chose companies that enter LQ45 because in LQ45 index is a list of 45 most liquid shares selected and featured the most active in the sale of its shares on the Indonesia Stock Exchange. The company's shares are listed on this index is the best stock that has been selected with certain criteria in several periods. Research aim to analyze and assess the influence of fundamental factors and systematic risk simultaneously and partially on stock price at Company Registered in LQ45 Index Period 2011-2015.

2. Literature Review

An emphasis on capital-market imperfections is not novel in empirical studies of investment decisions. Early applied research on investment, especially the work of Meyer and Kuh (1957), stressed the significance of financing constraints in business investment. Indeed, financial effects on many aspects of real economic activity received broad attention during the early postwar period (Hubbard, 1998).

Capital markets research in accounting includes several topics, including research on earnings response coefficients and properties of analysts' forecasts, fundamental analysis and valuation research, and market efficiency tests. Instead of summarizing each topic, I comment on areas of current interest in capital markets research and offer thoughts on how academics can prepare themselves for producing high impact research (Kothari, 2001).

The limitations of the existing financial reporting system for capital markets and other stakeholders have motivated an evolving dialogue on finding new ways to measure and report on a company's intellectual capital. The product of this dialogue is a plethora of new measurement approaches that all have the aim, to a greater or lesser extent, of synthesising the financial and non-financial value-generating aspects of the company into one external report (Petty and Guthrie, 2000).

The literature on stock price synchronicity has been growing since Roll (1988). Morck *et al.* (2000) find that average market model R2 and other measures of stock market synchronicity are higher in developing countries, and propose that poor protection of investors' property rights explains the higher R2 in these countries (An and Zhang, 2013).

The theoretical literature in corporate finance has argued that managers can learn from the information in stock price about the prospects of their own firms. Two prominent examples of this theory are Dow and Gorton (1997) and Subrahmanyam and Titman (1999). The idea behind the theory is that stock prices aggregate information from many different participants who do not have channels for communication with the firm outside the trading process. Thus, stock prices may contain some information that managers do not have. This information, in turn, can guide managers in making corporate decisions, such as the decision on corporate investments. This theory has far-reaching implications for the role of financial markets as it implies that financial markets affect the real economy and are not just a sideshow (Chen, Goldstein and Jiang, 2007).

There is a huge literature suggesting that stock price movements reflect the market's expectation of future developments in the economy. As a test of standard valuation models proposed by Fama (1990) shows that monthly, quarterly, and annual stock returns are highly correlated with future production growth rates for the 1953–1987 period. This result is confirmed on a extended sample (1889–1988) by Schwert (1990). Both authors argue that the relationship between current stock returns and future production growth reflects expectations about future cash flow that is impounded in stock prices. There is also a huge literature, and a long tradition in macroeconomics (Pigou, 1927; Keynes, 1936; Farmer, 1999) suggesting that changes in expectation may be an important element driving economic fluctuations (Beaudry and Portier, 2006).

The key prediction tested by Kormendi and Lipe (1987) is that the magnitude of the stock price reaction to an earnings innovation is positively related to the persistence of the earnings innovation, as estimated from their univariate time-series model of earnings. Their assumptions allow them to specify the exact functional form of the relationship between earnings innovations and stock price changes. However, they decide not to rely exclusively on tests of whether observed stock prices conform exactly to the predicted functional form on the grounds that assumptions a and b are only approximations. Instead, they examine the less restrictive hypothesis that the

stock price reaction to an earnings innovation has a positive relation with the estimated persistence of the earnings innovation over a cross section of firms (Dechow, Sloan and Zha, 2014).

The efficient market hypothesis suggests that stock prices should immediately and accurately reflect all available information. This hypothesis has been challenged by several price anomalies, including price reversals and continuations. Studies on price reversals and continuations can be stratified into three groups depending on the time horizon in which these anomalies are measured (Mazouz, Alrabadi and Yin, 2012).

Fundamental analysis involves assessing a firm's equity value based on the analysis of published financial statements and other information without reference to the prices at which a firm's securities trade in the capital markets (Bauman, 1996). It has been stated that *"the task of research is to discover what information projects future earnings and, from a financial statement analysis point of view, what information in the financial statements does this"* (Penman, 1992). Showing the value relevance of these non-earnings accounting numbers also indicates the importance and usefulness of financial statements despite the current earnings number's lack of timeliness (Seng, 2012).

The ratio variables are used here with the same motivation that we see in the financial press, as indicators of fundamental value relative to price. The notion is that if stocks are underpriced relative to fundamental value, returns tend to be high subsequently, the converse holds if stocks are overpriced. A moving average of earnings is used because yearly earnings are quite noisy as measures of fundamental value; they could even be negative while fundamental value cannot be negative. The use of an average of earnings in computing the earnings price ratio has a long history (Campbell and Shiller, 1988).

Firms' ('fundamental') values are indicated by information in financial statements. Stock prices deviate at times from these values and only slowly gravitate towards the fundamental values. Thus, analysis of published financial statements can discover values that are not reflected in stock prices (Greig 1992; Setyawati *et al.*, 2017).

Price Earnings Ratio (P/E ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings. The price-earnings ratio is also sometimes known as the price multiple or the earnings multiple (Investopedia, 2015).

P/E ratios are ratios of share prices to earnings. The P/E ratio of a stock is equal to the price of a share of the stock divided by per share earnings of the stock. The focus of this article, however, is the P/E ratio of the overall stock market index rather than P/E ratios of individual stocks. For a stock index, the P/E ratio is calculated the same way—the average share price of the firms in the index is divided by the average earnings per share of these firms (Shen, 2000).

Price-earning ratio (PE) is the ratio of stock price and the earnings per share after tax at special time. As an important index measuring stock investment value and reflecting stock market development status, price-earning ratio is not only useful for department of banking custody to make sound regulation measures but helpful for investors to distinguish stock investing risk and select advisable invest strategy (Tian, 2011). Investors and stock analysts have long used price-earnings ratios, usually called P/E ratios, to help determine if individual stocks are reasonably priced.1 More recently, some economists have argued that the average price-earnings ratio for a stock market index such as the S&P 500 can help predict long-term changes in that index.

According to this view, a low P/E ratio tends to be followed by rapid growth in stock prices in the subsequent decade and a high P/E ratio by slow growth in stock prices. This section explains how the P/E ratio is measured and shows that it is currently high relative to its historical average (Shen, 2000). The finance literature has tended to focus on the behavior of earnings growth and growth persistence and the ability of analysts to predict earnings rather than on the fundamental determinants of earnings growth. Many factors affect short-term earnings per share growth and some of those factors can mask the fundamental determinants of the actual growth in earnings per share (Bierman and Hass, 2009).

Bird and Jones (1970) developed a decision tree approach to calculating earnings per share. While this is a useful simplified approach, it does not deal with certain complexities, such as the aggregate dilution test, the individual dilution test, the test required to determine the most dilutive set of convertible securities and the adjustment of the numerator for interest or dividends on convertible securities, all of which are necessary to solve the more difficult homework problems (Matulich, Nikolai and Olson, 1977).

The analysis of the profit margin is straightforward on a microeconomic level, and is usually presented in the basic discussion of financial management. The problem in going from micro profit margin analysis to a macro analysis is one of finding which variables can be carried from their important role at the micro level to an important role at the macro level. Not all variables that are important in explaining variation in the profit margin at the micro level will be important at the macro level, either because there is no corresponding macro variable, or because the macro variable itself does not have significantemporal variation (Finkel and Tuttle, 1971).

Fama and French (1992) observe that book-to-price (B/P) ratios are positively correlated with subsequent stock returns, a relation that has come to be known as the book-to-price (or book-to-market or HML) effect. In response to this empirical regularity, they specify an asset pricing model, in Fama and French (1993; 1996), that includes risk factors identified with B/P, the Capital Assets Pricing Model beta, and the market value of equity (Penman, Richardson and Tuna, 2007).

There are a number of reasons why the PBV ratio can be expected to be a useful indicator of the extent of security undervaluation and, thus, be a basis for an investment strategy. Many tax-related benefits depend on book values, the PBV ratio may be a useful indicator of market overreaction, and companies with low PBV ratios have been shown to be more likely to be takeover targets (Bartley and Boardman, 2009; Aggarwal, Hiraki and Rao, 1992).

3. Hypothesis Development

The study hypothesis is based on literature review and the results of previous studies, so it can be interference to the problem of research in the form of the alternative hypothesis as a temporary answer research. It can be formulated hypothesis of the research is:Fundamental Factors and Systematic Risk simultaneously and partially significant effect on stock price at Company Registered in LQ45 Index Period 2011-2015.

Theoretically, the effects of fundamental factors and systematic risk are determinant toward stock price. The price earning ratio, earning per share, net profit margin, price to book value and systematic risk can maintain Stock price stability.

4. Research Methodology

This research is quantitative with simultaneous equations model building using secondary panel data of time series during five years 2011-2015 of 15 companies n = 75. The model consists of one equations that the influence of Fundamental Factors and Systematic Risk determinants on stock price . Independent variables consist i.e. price earning ratio,earning per share, net profit margin, price to book value and systematic risk. Dependent variable is stock price. The model equations are:

$$\text{Stock Price} = a + \beta 1_{PER} + \beta 2_{EPS} + \beta 1_{NPM} + \beta 1_{PBV} + \beta 1_{BETA} + ei$$

Data analysis used Pool Regression to know the influence. Therefore, to estimate the parameters of regression models used method of fixed effect model. To determine the autocorrelation using Langrange-Multiplier test, the heteroskedasticity using white test.

5. Results and Discussion

The response of Stock prices model on Fundamental Factors and Systematic Risk determinant is presented in Table 1. Coefficient determination (adjusted R square) 96,9 %, shows the contribution of the effect of independent variables toward stock price is high. Price Earning Ratio, Earning per Share, Net Profit Margin, Price to Book Value and Systematic Risk have the significant effect on Stock Price.

In tests conducted previously, parameter estimation in panel data model, according to Hausmann test is used Method Fixed Effect Model**.** The use of this fixed effects model supported by articles and journals on the use of fixed effects model on policy analysis.The effects will still be important in the policy implications (Buddelmeyer, Oguzoglu and Webster, 2008). The Panel Data Regression is as follows:

Table 1. *The Influence of Independent Variables toward Stock prices*

variable	coefficient	Std. Error	t-Statistic	Prob
Price Earning Ratio	340.5407	73.93539	4.605923	0.0000
Earning per Share	10.41607	1.711914	6.084456	0.0000
Net Profit Margin	74.06366	25.1021	2.495681	0.0157
Price to Book Value	330.2042	125.1378	2.638723	0.0108
Beta (Systematic Risk)	-11.22994	1.711998	- 6.559553	0.0000
R-squared	0.977463			
Adjusted R-squared	0.969678			

Source: *data processed*

The calculation result obtained is the significance probability value ≤ 0.05, 0.0000 which means a significant effect, indicating that the variable Price Earnings Ratio, Earnings Per Share, Net profit margin, Price to Book Value and Systematic Risk simultaneously have a significant influence on price Registered shares of the Company in LQ45 index period 2011-2015.

Probability value Price Earnings Ratio is smaller than α (0.0000 ≤ 0.05), it can be concluded that the variable Price Earnings Ratio significant and positive impact on the stock price.

Probability value Earnings per Share less than α (0.0000 ≤ 0.05), it can be concluded that the variable Earning per Share significant and positive impact on the stock price.

Probability value Net Profit Margin smaller than α (0.0157 ≤ 0.05), it can be concluded that the variable Net Profit Margin significant and positive impact on the stock price.

Probability value Price to Book Value smaller than α (0.0108 ≤ 0.05), it can be concluded that the variable Price to Book Value significant and positive impact on the stock price.

Probability value Systematic risk smaller than α (0.0000 ≤ 0.05), it can be concluded that the variable Systematic risk Value significant and negative impact on the stock price.

6. Conclusions

Fundamental Factors and Systematic Risk determinant i.e. Price Earnings Ratio (PER), Earning per Share (EPS), Net Profit Margin (NPM), Price-to-Book Value (PBV) and systematic risk simultaneously have a significant influence on stock price.

Fundamental Factors and Systematic Risk determinant i.e. Price Earnings Ratio (PER), Earning per Share (EPS), Net Profit Margin (NPM), Price-to-Book Value (PBV) partially have significant and positive, Systematic risk has significant and negative on stock price.

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