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The Effect of Fundamental Factors in Pandemic Context on Earnings Response Coefficient

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Fundamental factors are important factors for investors in viewing the condition of the company. Especially the Earnings Response Coefficient is the interesting indicator for investors to watch. This study aims to analyze empirical evidence of firm size, Debt Equity Ratio, and Price Book Value from the company's fundamental factors on the Earnings Response Coefficient. The population in this study are Food, Beverage & Hotel Companies on the Indonesia Stock Exchange for the 2018-2021 period. Sampling in this study used a purposive sampling method which resulted in as many as 116 research samples. The analysis technique uses multiple linear regression analysis. The results of the Firm Size test had a significant effect on the Earnings Response Coefficient (ERC). The results of the Debt Equity Ratio (DER) test had a significant effect on the Earnings Response Coefficient (ERC). The results of the Price Book Value (PBV) test had a significant effect on the Earnings Response Coefficient (ERC). Meanwhile, when the Pandemic Covid-19 the test results had not a significant effect on Earnings Response Coefficient (ERC).

Keywords: Firm size; DER; PBV; Covid-19; ERC.

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1. INTRODUCTION

Indonesian Composite Index experienced its lowest point for the last 5 years in March 2020, reaching a price of 3,937 and starting to increase in 2021. The decline of IDX Composite price also had impact on each index's price on the capital market. Information in the capital market is considered important because prices in the capital market are a reflection of all relevant information. This information is used by investors to make investment decisions, including information relating to the company's fundamental conditions and macroeconomic factors such as industrial growth rates, inflation rates, and interest rates [1,2].

Besides firm size, another factor that determines the reaction of the capital market is the Debt Equity Ratio (DER). This ratio measures how much a company is financed by debt [3]. This is in line with research [4] that some investors will not choose to invest their shares in companies that have high debt, because the returns received are low, which gives a bad signal to investors and results in changes in stock prices, or the higher the debt, the stock price will decrease.

Several previous studies have shown that the reaction of the capital market is influenced by non-macroeconomic factors indicating that there is a large increase in uncertainty over the market reaction to the covid 19 pandemic and the global economic downturn [1]. While there is also research that the relationship between stock returns and stock volatility increases during the Covid-19 pandemic phase [5].

The Covid-19 event is one of the informations that indirectly affected the Indonesian capital market, particularly the purchase of shares in the food, beverage, and hotel companies on the Indonesia Stock Exchange. those sectors are considered to have high growth and transaction value because food and beverage at these companies are basic needs and hotel companies are needed for the community. However, the Covid-19 event caused these sub-sector companies stock price decline.

2. LITERATURE REVIEW

2.1 Signaling Theory

Signaling theory explains the rise and fall of market prices such as market prices, bonds, and so on. So that, they will influence investor decisions. "Investors' responses to positive and negative signals greatly affect market conditions, they will react in various ways in response to these signals, such as hunting for shares that are sold or taking actions in the form of not reacting such as "wait and see" developments only then take action" [3].

"Signaling theory in research emphasizes the importance of information that describes the state of a company as a basis for making investment decisions" [6]. Capital market participants will analyze the information announced by the company as a good signal or a bad signal. This is what drives changes in market response. This information becomes a signal for investors in making investment decisions.

Signaling theory is considered a way of giving signals from managers to investors regarding the quality of the company through the information that is conveyed mainly in the form of annual reports. The information contained in the annual report can be in the form of accounting and non-accounting information that is related or not related to the financial statements. The annual report should disclose information that is important and relevant for both internal and external users to know.

2.2 Theory of Efficient Markets

According to defines an efficient market as follows a securities market is said to be efficient if the prices of securities fully reflect the available information [7]. The efficient market hypothesis is a condition where in a free market, information about all prices can be obtained openly, accurately, and quickly without any special barriers [3]. The main key to measuring an efficient market is the relationship between security prices and information [8].

Efficient market testing is a continuation of testing information content, whether an event or announcement contains information [9]. For this reason, the existence of the Covid 19 Pandemic has provided information that is expected to be useful for investors.

3. RESEARCH METHODOLOGY

This study uses data on Food, Beverage, and hotel companies listed on the Indonesia Stock Exchange in 2018 – 2021. The report data used are financial reports published on the Indonesia

Table 1. Food, Beverage, and hotel companies listed on the Indonesia Stock Exchange in 2018 – 2021

Category	Total
Food, Beverage & Hotel companies listed on the Indonesia Stock Exchange from 2018 - 2021	57
Companies whose financial statements are not fully published on the Indonesia Stock Exchange from 2018 to the end of 2021, companies that do not have complete stock data, IPO companies in the 2018 – 2021 research year, and companies that change their names from 2018 until the end of the year 2021	(28)
Companies that meet the sample criteria and can be used as samples	29
Research Sample	116

Source: Research Results 2023

Stock Exchange and the closing price of shares. Data processing was carried out using computer assistance and statistical product and service solution (SPSS) version 26.0. The list of research samples is shown in Table 1.

This research was conducted using multiple linear regression method, used to measure the strength of the relationship between the dependent variable and the independent variable. In this study the research model used multiple linear regression formula with research models as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \qquad (1)$$

Explanation :

Y = Earnings Response Coefficient (ERC) is projection with Model Cumulative Abnormal Return.
α = Constanta
β = Regression Coefficient
X_1= Firm Size (SIZE) is Ln (Total Asset)
X_2 = Debt Equity Ratio (DER) is (Total Debt / Total Equity)
X_3 = Price Book Value (PBV) is (Price Per Share / Book Value Per Share)
X_4 = Event Covid19 is projection of Coronavirus dummy variable, for the year that is not affected marked 0 and for the year that is affected marked 1
e = error

4. RESULTS AND DISCUSSION

Result is the entire data years 2018 – 2021 where the test was carried out, the test scores obtained an R-value of 0,430 and an R square of 0.185. The coefficient of determination is useful for measuring the model's ability to explain the dependent variable. So, the value shows that the level of relationship that occurs between one variable and another is not very strong, only at the level of 18.5%.

While the Adjusted R Square was obtained at 0.156, this means that 15.6% of the variation in the dependent variable Earnings Response Coefficient (ERC) can be explained by independent variables Firm Size (Size), Debt Equity Ratio (DER), Price Book Value (PBV), Covid-19 Pandemic, while the remaining 84.4% is explained by causes outside the model. Adjusted R Square can go up and down if one independent variable is added to the model. The value of the standard error of the estimation (SEE) is 0.03589794, the smaller the SEE value, the more precise the regression model will be in predicting variables from a variation of 116 samples.

4.1 Regression Significance and Test Results

The results of the regression significance test of the variables Firm Size (Size), Debt Equity Ratio (DER), Price Book Value (PBV), Covid-19 events and Earnings Response Coefficient (ERC) from research data are shown from the statistical Table 3.

Statistic shows an f-count result of 6,311 with a probability sig (significant) value of 0.000 indicating that the probability p-value is less than 0.05 for the dependent variable Earnings Response Coefficient (ERC), statistically acceptable because it is significantly less than 0.05. So that the regression model that has been done can be used to predict the independent variables Firm Size (Size), Debt Equity Ratio (DER), Price Book Value (PBV), Covid 19 events have a joint effect on the dependent variable Earnings Response Coefficient (ERC) from 2018-2021 research year.

This testing result was carried out to determine the effect of the significance of the independent variable on the dependent variable after carrying out the classical assumption test. This test was carried out using multiple linear regression at the significance level of 5% and 10%. Following are the results of hypothesis testing that has been done in Table 4.

4.1.1 Effect of firm size on earnings response coefficient (ERC)

Based on analysis of the data, it is evident that when the direct regression results are carried out between the SIZE variable on ERC in Model. SIZE has a effect on ERC, this can be seen from the results of the SIZE regression results which have a value of < 0.100 is 0.060. The research which tested the relationship between firm size and Earning Response Coefficient and found that firm size had no significant effect on Earning Response Coefficient [10]. The larger the size of the company, the company is considered to have more information compared to small companies [11].

The result of this study is in line with the research which revealed that size had an influence on the Earnings Response Coefficient [12]. “In other studies, it is also stated that company size partially has a significant effect on stock prices” [13]. When the Covid-19 incident occurred, the company's condition became uncertain. The desire of investors to obtain information about the company's fundamentals is important as one of the considerations in making investment decisions. “The higher Earnings Response Coefficient, the good news or bad news in current earnings is expected to persist in the future because current earnings provide a better indication of company performance in the future” [14].

4.1.2 Effect of debt equity ratio (DER) on earnings response coefficient (ERC)

Analysis of the data that has been done, it proves that when direct regression results are carried out between DER variable and ERC in model, DER has affect the ERC, this can be seen from the results of the DER regression results which have a value of < 0.05 is 0.014 on ERC.

Table 2. Result coefficient of determination (R^2)

Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics	
					R Square Change	F Change
1	0,430[a]	0,185	0,156	0,03589794	0,185	6,311

Source: Research Results 2023

Table 3. Result of regression analysis

ANOVA						
Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	0,033	4	0,008	6,311	0,000[b]
	Residual	0,143	111	0,001		
	Total	0,176	115			

Source: Research Results 2023

Table 4. Testing results

Coefficients[a]						
Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	-0,112	0,065		-1,714	0,089
	Size	0,004	0,002	0,166	1,898	0,060**
	DER	-0,012	0,005	-0,216	-2,487	0,014*
	PBV	0,007	0,002	0,296	3,407	0,001*
	COVID19	-0,009	0,007	-0,117	-1,357	0,178

N = 116
** significant 5%*
*** significant 10%*
Source: Research Results 2023

The research result is in line with previous research that examined Debt Equity Ratio (DER) that has effect. Previous research states that some investors do not choose to invest their shares in companies that have high debt because the returns received are low. So that, they provide bad signal for investors and result in changes in stock prices, or the higher the debt, the stock price will decrease [4]. research [15] which revealed that the results of leverage and profitability affect the Earning Response Coefficient. research [16] leverage has an influence on the Earning Response Coefficient. When there is a signal of debt information from the company, it makes investors in investing in shares tend to avoid it. Moreover, if the company cannot manage debt properly or cannot pay off debt, it will have an impact on investor confidence in investing in shares.

4.1.3 Effect of Price Book Value (PBV) on Earnings Response Coefficient (ERC)

Analysis of the data that has been done, it proves that when direct regression results between PBV and ERC variables are carried out in Model, PBV has effect on ERC. It can be seen from the PBV regression results which have a value of < 0.05 is 0.001 on ERC.

This research is in line with the results of research on price book value which has a positive and significant effect on the earnings response coefficient [17]. Previous research [18] supports the effect of profit with the result that the profit component has information content that affects the earnings response coefficient (ERC) and the profit components are considered to have value relevance used by the market in decision-making. So that disclosure of earnings has a good impact on the company. The book value of shares reflects the historical value of the company's assets, well-managed and efficient companies have a higher market value [19].

4.1.4 Effect of Covid-19 pandemic on Earnings Response Coefficient (ERC)

Data analysis that has been carried out proves that when direct regression is carried out between the Covid-19 Pandemic variables and the ERC the results show that there is no effect if Covid-19 is used as a dummy variable. The Covid-19 Event has no effect on ERC, this can be seen from the results of the Covid-19 Pandemic regression having a value > 0.05 is 0.178 against ERC.

“Results of research conducted that during Covid 19 there was a significant decline in stock prices in the banking industry in Indonesia and there was a significant difference in stock prices before Covid-19 pandemic occurred when the first Covid-19 case was announced in Indonesia and 3 months after the announcement of the Covid-19 case” [20]. This is in line with the results of this study that Covid-19 pandemic did not have a significant effect on Earnings Response Coefficient (ERC).

5. CONCLUSION

From the results of the analysis above, it can be concluded as follows:

1. Based on the results of statistical research, Firm Size (Size) has a significant effect on the Earnings Response Coefficient (ERC).
2. Statistically, the Debt Equity Ratio (DER) has a significant effect on the Earnings Response Coefficient (ERC).
3. Statistically, the Price Book Value (PBV) has a significant effect on the Earnings Response Coefficient (ERC).
4. Statistically the results that occurred Covid-19 pandemic did not have a significant effect on Earnings Response Coefficient (ERC).

6. RESEARCH LIMITATIONS

This study has limitations obtained from the results of the study:

1. This study only measures the variables Firm Size (Size), Debt Equity Ratio (DER), Price Book Value (PBV), and Earnings Response Coefficient (ERC). So that, it can be expanded by measuring other variables that can be used as independent variables, and can be also measured, company performance, financial statement ratios to be able to expand and add variables in conducting research.
2. This study only uses samples for companies in the Food, Beverage & Hotel sector, not banking or services and manufacturing listed on the Indonesia Stock Exchange from the 2018-2021 research period, so the limitations of this study cannot apply to other companies such as service companies, banking, or manufacturing companies, further research can also expand the sample of research on Indonesia Stock Exchange such as

companies LQ45, Kompas 100, companies with special criteria (mining, plantations, fisheries) or it can also extend the year of research.

3. This research only uses multiple regression analysis which can be developed using mediating or moderating variables, to be able to expand the scope of research, to make and develop better research.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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