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The Effect of Systematic Risk, Operating Cash Flow and Growth Opportunities on Future Earnings Response Coefficients (FERC), Working Capital as A Moderation Variable

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Abstract *Purpose this research to analyze effect of systematic risk (SR), operating cash flow (OCF) and also growth opportunities (Growth) on the future earnings response coefficient (FERC) moderated by working capital requirements (WCR). This quantitative study uses 245 data on manufacturing companies listed Indonesia Stock Exchange period 2015-2019. Analysis technique utilized multiple linear regression. The Results indicate that SR has significant negative effect on FERC while growth has no effect on FERC. WCR as moderation of the effect of SR and Growth on FERC weakens the previous effect. OCF was eliminated in the study. Timeliness as control variable has significant effect on FERC while Size, Profitability and Leverage have no effect on FERC.*

Keywords — *Systematic Risk, Operating Cash Flow, Growth Opportunities, Future Earning Response Coefficient, Working Capital*

I. INTRODUCTION

Studies related to the prediction of future earnings are interesting. This is because the prediction of future earnings is used by investors as a consideration before investing.

Faruq (2021) said that to explore the performance of stocks and issuers, according to Lo, investors need to read the reports provided by the company, such as financial reports and annual reports. Then, according to him, investors also need to see how much they sell, how much profit and equity they have, and how much debt they have. His experience is that in 1998, Lo Kheng Hong bought shares of PT United Tractors Tbk (UNTR) for Rp 250 and earnings per share of Rp 7,800. The average price earnings ratio (PER) is 15 times. Another thing investors need to pay attention to is don't go into debt. During economic conditions that were haunted by the Covid-19 pandemic, stock performance worsened due to investor panic and selling some portfolios, so that the JCI slumped.

Easton and Zmijewski (1989) have researched the Earning response coefficient, hereinafter referred to as ERC. The researcher uses cross-sectional variation in his research by using the revision coefficient, systematic risk, and firm size. Results show that there is positive correlation between ERC and revised coefficients, namely coefficient relating to their current earnings and future earnings, negative correlation between ERC and also systematic risk, and positive correlation between ERC and also firm size.

Then Collins et al. (1994) conducted research related to the Future earning response coefficient or called FERC, the results showed that noise harmed FERC while timeliness had a positive effect on FERC.

This study is different from previous research, we use several variables used by Collins and Kothari, and also Easton and Zmijewski (1989) such as systematic risk, leverage, growth opportunities, firm size, and timeliness. We also use the development of the FERC theory used by Collins et al. (1994). We add a variable related to FERC, namely operating cash flow as an independent variable. Then, we also use working capital as moderating variable in this research as a research gap. The argument that can be given for the addition of the moderating variable, the researcher wants to see the variation in the impact of the addition of the moderating variable so that it can be used as a material for investors' consideration when making decisions. While the working capital variable was chosen in this study with the argument that to obtain earnings, the company will use working capital effectively to run the company's operations. Thus, the effectiveness of working capital can strengthen or weaken impact of independent variable in influencing dependent variable.

Based on the description above, FERC is an important thing for a company. The response to earnings information will be able to influence investors' decisions in conducting the company's business. Thus, complete information will have an impact on investors' decisions correctly. The research objective is to analyze effect of

systematic risk, operating cash flow, and also growth opportunities on FERC with working capital as a moderating variable.

II. LITERATURE REVIEW

A. Signaling Theory

Signaling theory is a classical theory developed by Spence (1973). This theory was later developed by Ross (1977). Ross (1977) in Hanafi (2014: p. 316) states that Ross developed a model related to capital structure or the use of debt which is a signal that managers want to convey to the market. This is based on the manager's belief to convey that the prospects of the company he manages are good.

B. Pecking Order Theory

Myers and Majluf (1977) in Hanafi (2014: p. 314) stated that initially the pecking order theory did not talk much but it seemed appropriate. Both provide theoretical justification by creating information asymmetry between managers and parties outside the company. This model is desirable to explain the phenomenon that occurs, namely stock prices often experience a decline or correction when new shares are issued.

FERC is a measurement used to assess the response of investors. This response is a reaction to investors' predictions of future earnings. Investors will assess these predictions differently for each company. Thus, the profit information can be said to be a signal for investors. In addition, the Packing order theory also provides a similar explanation. The information presented by FERC is information created by management, then assessed by investors or outsiders.

Systematic risk is the risk associated with investments made by investors. Wherever possible, investors will choose to invest in companies with a low level of risk. Thus, the risk measured by return will be captured by investors as a signal. Thus, systematic risk is related to signaling theory and also packing order theory.

Furthermore, related to operating cash flow, companies that have strong cash flows will generally be able to maintain the company's existence. Thus, investors who choose to invest in the company will have a strong belief that their investment is profitable. Signals related to operating cash flow will be captured by investors before making investment decisions.

In addition, companies generally want to grow. Growing in the broadest sense, including achieving optimum profit. The opportunity to grow can be captured by investors. In some studies, investors can assess and predict companies that have growth opportunities. Signaling theory as well as pecking order theory are related to growth opportunities.

The use of working capital can be an equally important part of the attention of investors. Management that can manage working capital well will be captured as a positive signal and vice versa. The signal is part of signaling theory and pecking order theory.

C. Previous Research

Collins et. al. (1994) Research related to FERC, then the results show that noise harms FERC while timeliness has a positive effect on FERC. Firmansyah and Herawaty (2016) said that their research ware conducted using non-financial companies as their sample publish in Indonesia Stock Exchange period 2007-2013. Results show that income smoothing has positive effect on ERC but harms FERC. Leverage does not affect ERC but harms FERC. Other variables Dividend and Firm Size do not affect ERC and FERC.

In addition, Williem and Aryati (2017) in their research said that the study was conducted using manufacturing companies sample listed on Indonesia Stock Exchange. Results shows that audit quality has positive impact on FERC, institutional ownership has no effect on FERC and long-term investment harms FERC.

Rachmawati (2021) in her research used 86 manufacturing companies publish in Indonesia Stock Exchange. Results showed only income smoothing variable had significant impact on future earning response coefficient, beside that, information asymmetry was able to strengthen effect of income smoothing on FERC. While our control variables has significant impact on future earnings responses.

Contribution of our research is so that companies can pay attention to factors that can affect FERC to predict future earnings.

D. Hypothesis Development

Effect of Systematic Risk on FERC

Risk is an integral part of stock prices, meaning that if the risk is low, it will cause a high FERC, meaning that the stock price will be responded well. On the other hand, if the risk is high, the stock price response will decrease.

Easton and Zmijewski (1989) in Mulyani (2007) doing test about variations in stock market responses. Its compare companies for their accounting earnings announcements, Result able to indicate ERC has negatively correlate to systematic risk. Likewise, Research published by Collins and Kothari (1989) in Mulyani (2007) shows that risk has negatively impact to earnings response coefficient.

So, it can be concluded that systematic risk has the opposite direction to FERC. This means that systematic risk has negative impact with FERC. If Systematic risk is low, FERC increases, and vice versa.

H1= There is a negative effect between Systematic Risk and FERC

Effect of Operating Cash Flow on FERC

If the company has adequate operating cash flow, it will be able to have a good impact on the company. This means that the company will focus more on carrying out its activities because of the availability of sufficient funds. In this condition, the FERC that the signal receiver responds to will increase. So it can be concluded that if the operating cash flow is good, the FERC will also increase.

Hasanzade (2013) states that relationship between coefficient of association income, cash flow to calculate accrual ratios has positive impact. Their correlate between earnings association coefficients and also total debt divide book value of equity ratio has negative impact, And Correlate earnings association coefficients and market value of equity show value ratios book equity has positive impact, In other hand, Relationship earnings association coefficient and also profitability has positive impact but relationship earnings association coefficient and also systematic risk has negative impact. Further, Results suggest about income levels may be has higher explanatory power of security gains compare to income change.

Tucker and Zarowin (2006) also provide their opinion that income is positively correlated to operating cash flow, their predicting cash flow to be main focus of equity valuation. Then, we explore a model to test that income smoothing allows many information about future cash flows compared with current stock prices.

Thus, operating cash flow has a positive effect on FERC. If the company has a good operating cash flow, investors will respond well. That is, there is a direct influence between the two variables.

H2= There is a significant positive effect between Operating Cash Flow and FERC

Effect of Growth Opportunities on FERC

The company has the same opportunity to grow and develop. If the company grows, then FERC will be able to respond well. This means that the FERC value will increase. Meanwhile, if the company does not experience growth, it will cause FERC to decline.

Collins and also Kothari (1989) in Mulyani (2007) show some companies have chance growth opportunities will have similar situation that a good ERC. Condition shows greater opportunity for their company to grow up, if higher company opportunity, its mean to get or increase a lot of profits earned by current company.

Tucker and Zarowin (2006) used the growth variable as a control variable. The study also showed that there was a positive relationship with FERC. So it can be concluded that growth will have a positive direction towards FERC. If the company grows, investors will respond well, and vice versa.

H3 = There is significant positive effect between Growth Opportunities and also FERC

Effect of Working Capital Moderates Systematic Risk on FERC

Working capital is an integral part of management. With working capital, the company can run its operations well. If working capital can emphasize systematic risk at a low level, it means that the company will be able to obtain a high FERC. That is, FERC responded well. Vice versa if working capital has a bad impact, the need for working capital continues to increase which is caught by the signal recipient that the company is not good, then the risk will increase and in the end, the FERC will go down.

Mulyani (2007) in her study succeeded in supporting the third hypothesis which states that beta affects ERC. Research result is consistent with Collins and Kothari (1989) showing a beta is negatively correlated to ERC as well as results of a study conducted by Easton and Zmijewski (1989) which doing analyze about variations stock market responses companies to accounting earnings announcements. Higher company risk, its means, lower investor's reaction to company surprise earnings. Conclude, Lower earnings response coefficient. This happens because investors see their profit is an indicator of earnings power or future returns.

H4= Working Capital weakens the negative influence between Systematic Risk on FERC

Effect of Working Capital Moderating Operating Cash Flow on FERC

If the company has good working capital then the stock price response will be good too, then the FERC will increase. If the company has adequate operating cash flow, then FERC will respond well. Thus, working capital will strengthen the effect of operating cash flow on FERC.

Sjahrial (2014, p. 29) states that positive OCF conditions occur when measuring cash which is the result of company operations without involving capital expenditures or working capital needs. However, negative conditions occur when the company does not generate enough cash to pay for the company's operational costs.

Hill et al. (2010) said that if OCF is in a positive condition, companies can easily use it to meet working capital needs. If this happens, it is possible to use the OCF for a conservative working capital strategy. In the end, the company will be able to facilitate the company's operational activities, it will support the achievement of a large sales value.

Valipour et al. (2012) said that OCF describes the company's ability to generate cash and determine working capital management policies. Thus, it can be assumed that there is an influence between OCF and working capital requirements.

According to Chiou, Cheng, and Wu (2006) in Karina (2012) states that companies that have cash flow from their operating activities indicate that the company can carry out a policy of extending the payment period to its suppliers and shortening the period of its receivables. As a result, the need for working capital is reduced.

Hasanzade (2013) says that concept earnings quality refers to profitability to decision making application and correlate earnings quality and also economic earnings features (Mc Nichals, M. 2002). Operating profit cash flow start from operating activities are used in research to calculate earnings about quality.

H5= Working Capital strengthens the positive influence of Operating Cash Flow on FERC

Effect of Working Capital Moderates Growth Opportunities on FERC

The level of development of the company increased followed by an increase in the need for working capital. Companies will need working capital that is getting bigger if the company is experiencing growth. If the company continues to decline and does not grow, then the company needs working capital in increasingly smaller amounts.

Hanafi (2014, p. 522) also in his book reveals the same thing that the company's sales level must show a stable position. The goal is to maintain the level of current assets which are part of working capital. In addition, Nunn (1981) in Adekunle (2015, p. 121) argues that growth is the expectation of the company. According to him, it is necessary to anticipate the growth, both increasing and decreasing. The goal is to prepare adequate inventory as part of the company's working capital. If the company grows rapidly, the investment in working capital will be even greater. The investment can be in the form of inventory management which will later be sold to other parties.

Losbichler and Rothbock (2008) in Seeger et al. (2011) stated that companies should have an optimistic attitude in managing their working capital, which will be used to meet the increasing cash needs, low costs, lower capital requirements, and growth from the company's sales. That way, the growth of the company will move in line with the working capital owned by the company.

Mulyani (2007) said that the results of the study successfully support the fourth hypothesis which states that growth opportunities affect the earnings response coefficient. This study finding is consistent with Collins and Kothari (1989) which indicate companies has a greater growth opportunities able to high ERC. This condition shows that greater opportunity in company able to grow up, higher opportunity in company able to get or increase many profits earned by company future.

H6= Working Capital strengthens the positive influence of Growth Opportunities on ERC

III. METHOD

A. Research design

Research method is quantitative. Its serves to examine causal relationship or influence between independent and dependent. Unit analysis is some manufacturing company published Indonesia Stock Exchange for period 2015-2019.

Population in research is all companies published Indonesia Stock Exchange. Meanwhile, sampling technique very usefulness to applicate purposive sampling. Three sample criteria as follows:

1. Company published on Indonesia Stock Exchange

2. Complete financial reports based on IDX information, namely audited financial statements
3. The reporting currency is consistent, namely Rupiah or with the code IDR

B. Operational Definition of Variables and Measurement
Dependent Variable

Murwaningsari (2013), Murwaningsari (2014), and Rachmawati (2021) state that dependent variable in their research is FERC according to Collins et al., (1994) or CKSS model used by previous researcher are Tucker & Zarowin (2006) Regression model of returns-future earnings response coefficient, as follows:

$$Rt=b0 +b1Xt\text{-}1 +b2Xt +b3Xt3 +b4Rt3 +bt$$

Note: *Rt= Stock return in year t, Xt-1= EPS for year t-1 divided stock price at beginning of year t, Xt= EPS for year t divided by stock price at beginning of year t, Xt3= Total EPS for year t+1 to t+1, divided by stock price at beginning of year t. Rt3= Aggregate stock return in year t+1. Coefficient in past earnings (b1) able to predicted negative, ERC (b2) able to predicted positive, FERC (b3) able to predicted positive and coefficient on future returns (b4) able to predicted negative.*

Independent Variable

Systematic risk

Risk was measured utilize systematic risk (beta) using the market model used in Hartono (2003) and Hamid et al. (2021) using the CAPM formula as follow:

$$Rit = ai + \beta it\ Rmt + eit$$

Note: Rit= Return company i year t, Rmt= Market return on year t

Operating Cash Flow

Hill et al. (2010) in Abdadi and Abbadi (2013, p. 68) provide a proxy for measuring OCF as follows:

$$OCF= (EBIT + Depreciation - Taxes)/ (Total\ Assets)$$

Growth opportunities

Adekunle (2015, p. 121) and Istianingsih (2020) provide a proxy for measuring opportunities for company development using sales as follows:

Growth Opportunities= Change in the natural log of sales

Moderating Variables

Working Capital

Current assets - Current liabilities= Net working capital

Abbadi and Abbadi (2013, p. 68) use total assets as a comparison of net working capital, so the ratio of working capital is formulated as follows:

$$WCR= (Current\ assets - Current\ liabilities)/ (Total\ Assets)$$

Control Variable

Firm size

Istianingsih (2020) uses market capitalization for size measurement. However, this study uses the proxy used by Adekunle (2015) as follows:

Firm size= Logarithm of Sales

Timeliness

Murwaningsari (2008) said that Bapepam together with the Jakarta Stock Exchange (JSX) set a decision No. 80/PM/1996 regarding the obligation to submit periodic financial reports (end of year and semi-annual) which were

prepared based on the Accounting Standards of the Indonesian Accounting Association, namely that public companies must submit an annual financial report accompanied by an audited accountant's opinion no later than 120 days from the end of the financial year and must be announced to the public in at least two Indonesian language daily newspapers.

Profitability

Several studies have proven this proxy. Abbadi and Abbadi (2013, p. 68) also provide a proxy for measuring profitability as follows:

$$ROA = (Net\ Income) / (Total\ Assets)$$

Leverage

To measure this variable, the proxy used is following research conducted by Abbadi and Abbadi (2013, p. 68) as follow:

$$Leverage = (Short\ Term\ Loans + Long\ Term\ Loans) / (Total\ Assets)$$

C. Analysis Data

Analysis data model utilized in study is statistical methods in form of multiple linear regression with statistical software for this study using Eviews version 10 software. The research model is as follows:

$$FERC_{it} = ßa + ßSR_{it} + ßOCF_{it} + ßGROWTH_{it} + ßSR_{it}*WCR + ßOCF_{it}*WCR + ßGROWTH_{it}*WCR + ßSIZE + ßTIME + ßPRO + ßLEV + e_t$$

Note: FERCit = Future Earnings Response Coefficients; SRit = Systematic Risk; OCFit= Operating cash flow; GROWTHit= Growth opportunities; SRit*WCR= Systematic Risk with working capital moderation; OCFit*WCR= Operating cash flow with working capital moderation; GROWTHit*WCR= Growth opportunities with working capital moderation; SIZE = Firm Size; TIME= Timeliness; PRO= Profitability; LEV= Leverage

IV. RESULT AND DISCUSSION

A. Result

Based on results. Following distribution data related to this research:

Table 1. Distribution of Research Samples

Description	Total
The population of manufacturing companies in Indonesia for 2015-2019	126
Less:	
Companies with inconsistent financials	(27)
Companies with financial statements that experience losses	(50)
Sample	49

Based on the data obtained, the population of the company during the study period was 126 companies. Researchers conducted purposive sampling to obtain complete data. So, based on the purposive sampling that the researcher did. This study only used 49 companies with 245 sample data.

Table 2. Statistic Descriptive

Variable	Mean	Median	Max.	Min.	Std. Dev.
FERC	6.5170	-0.0304	32.7526	-0.2011	13.1450
SR	0.3819	0.0765	1.1902	-0.2626	0.5490
GROWTH	8.3400	0.0024	0.4381	-0.4721	0.0484
SR*WCR	0.1009	0.0195	1.7010	-0.7212	0.2302
GROWTH*WCR	-0.0038	0.0004	0.0395	-0.9356	0.0604
SIZE	10.1978	11.5436	13.3547	5.2578	2.4081
TIME	0.9714	1.0000	1.0000	0.0000	0.1669

PRO	0.0763	0.0542	0.5267	0.0001	0.0816
LEV	0.1471	0.0954	0.5511	0.0000	0.1461

Source: Eviews versi 10

The table above describes the data used in this study. However, we need to say that we did drop out on the OCF variable, we did this based on the classical assumption test, OCF did not meet the criteria for the multicollinearity test. FERC has research data on an average number of 6.51 with minimum value of -0.20 and maximum number of 32.75. This figure is obtained through the FERC regression results by taking the number b3 as the dependent variable to test with other variables. Meanwhile, the independent variable only consists of SR and Growth with an average value of 0.38 and 8.34 respectively.

This study conducted model testing to select the most appropriate model used in the study. Based on the testing of the most appropriate model, the pooled effect model. This model is the most basic model for panel data. So, even though the results are different, this model is the first choice model for panel data. Then, classical assumptions have been made to determine the data is free from BLUE. The following are the results of the panel data model selection:

Table 3. Chow Test, LM Test and Hausman Test

Testing	Prob.	Significant	Selected model
Chow Test	0,0000	0,05	*Fixed Effect Model*
LM Test	1,0000	0,05	*Pooled Effect Model*
Hausman Test	0,9945	0,05	*Random Effect Model*

Source: Eviews versi 10

Research Hypothesis Testing

Table 4. Interpretation Results

$FERC_{it} = ß\alpha + ßSR_{it} + ßOCF_{it} + ßGROWTH_{it} + ßSR_{it}*WCR + ßOCF_{it}*WCR + ßGROWTH_{it}*WCR + ßSIZE + ßTIME + ßPRO + ßLEV + e_t$

Variable	Prediction	Coefficient	Prob.	Significant/ No
SR	-	-14.0278	0.0000*	Significant
GROWTH	+	6.4679	0.7287	No Significant
SR*WCR	-	-0.9704	0.8366	No Significant
GROWTH*WCR	+	-6.0160	0.7188	No Significant
SIZE	+	0.0750	0.8006	No Significant
TIME	+	9.6845	0.0198*	Significant
PRO	+	-1.1479	0.9082	No Significant
LEV	+	1.1456	0.8337	No Significant

Note: FERCit = Future Earnings Response Coefficients; SRit = Systematic Risk; OCFit= Operating cash flow; GROWTHit= Growth opportunities; SRit*WCR= Systematic Risk with working capital moderation; OCFit*WCR= Operating cash flow with working capital moderation; GROWTHit*WCR= Growth opportunities with working capital moderation; SIZE = Firm Size; TIME= Timeliness; PRO= Profitability; LEV= Leverage. *signifikan 5%

B. Discussion

The first research variable is systematic risk. On the results of statistical testing, this study has a coefficient value of -14.027 with a probability value that shows significance. This is in accordance with research hypothesis is significant negative effect between Systematic Risk and also FERC. So that H1 is accepted in this study. Results of this research are similar to previous research by Easton and Zmijewski (1989) in Mulyani (2007) who testing some variations stock market responses to company accounting earnings announcements. Research indicate FERC are negatively impact to systematic risk. Likewise, Previous Research according to Collins and Kothari (1989) in Mulyani (2007) shows that risk is negatively impact to FERC.

Then, second variable of research is growth opportunities. Results of test a variable has a coefficient value of 6.467 with a significance value which shows that it is not significant. Thus, H3 was rejected in this study. Growth opportunities have no effect on FERC. H3 has a hypothesis that there is significant positive effect between Growth Opportunities and also FERC. Although the direction of the results of the study was similar to that of previous studies, this study did not have an effect on FERC. The argument that can be given is that investors choose which one is the biggest priority for consideration in making decisions. Investors place risk as a top priority so that other variables do not have a big role in the current research. There is a tendency for investors not to take high risks when investing.

This research has working capital moderation. Statistical testing of the effect of Systematic risk on FERC with working capital moderation in accordance with H4 which states that Working Capital weakens the negative influence of Systematic Risk on FERC. The H1 direct test initially has a significant effect. However, the existence of effective working capital management can weaken the influence of SR on FERC. This is accordance previous research showed by Mulyani (2007) in her study that succeeded in supporting the third hypothesis which states that beta has an impact on FERC. Results study are consistent with Collins and Kothari (1989) showing about beta is negatively impact to FERC.

Another moderation is related to growth opportunities. In this study, the research hypothesis is H6 = Working Capital strengthens the positive influence of Growth Opportunities on ERC. However, H3 has no effect on FERC. Then, when moderated by working capital, the results also show a weakening influence. There is a perception that investors provide equal opportunities for companies to develop. Similar to investors looking at variable growth opportunities, investors prefer to look at risk compared to working capital. There is an assumption that if the company grows, the funds will be used for working capital so that the opportunity for investors to obtain quality earnings as reflected in FERC cannot be accepted immediately.

This study did not test the H2 and H5 hypotheses, this is because the data used experienced multicollinearity so we dropped out of these variables.

Another variable is the control variable in this study, namely size, timeliness, profitability, and leverage. Of the four variables, the variable that has a significant influence is timeliness. Profit reporting is something that investors look forward to, so investors are more confident that their investment will earn a profit in accordance with their expectations so that Timeliness has significant positive impact to FERC. Another variables no significant impact. There is a consideration that large companies do not immediately share the profits desired by investors, as well as announced profitability and high and low leverage. There is a tendency for investors to use their profits to pay off their debts. Thus, these variables have no effect on FERC.

V. CONCLUSION

FERC is an important thing for investors to consider before considering investing. This study concludes that investors focus on considering systematic risk when investing. This is indicated by statistical results which show significant negative results. Working capital moderating the effect of systematic risk on FERC shows that it weakens the effect. Working capital management provides confidence to investors so that the risk taken is lower. Other variables such as growth opportunities have no effect on FERC as well as working capital moderates the effect of growth on FERC. There is the same assumption on the side of investors that companies that have high growth may be able to divert their funds for working capital so that investors do not get the expected return share.

This study also dropped the OCF, because based on statistical testing there were symptoms of multicollinearity in these variables. The control variable in this study which has a significant influence is Timeliness, investors pay attention to earnings reporting discipline so that there is a relief for investors to get profits immediately. For other control variables such as Size, Profitability and Leverage have no effect. Investors also note that there is no guarantee that large company sizes can provide the desired profit, high profits can be used to pay off high debt. Thus, these variables were not accepted in this study.

This research is limited to only three independent variables, namely systematic risk, operating cash flow and growth opportunities. Thus, the study only discusses these variables. Technological changes that continue to develop are not part of this research.

In addition, the study only uses manufacturing organization published on Indonesian stock exchange. Thus, these results only work for investors in Indonesia. So that the research results cannot be generalized to other studies outside Indonesia.

This research is expected to be useful for further theory. This study can add to the literature on theoretical discussions related to FERC with various variables tested in each study in order to increase knowledge. Then, Our research has benefits for company management, for example, management can make improvements to the management of the company so that the market response that is captured is good. Investors will not feel risky when they invest their money in the company.

The implications of the research for practitioners are that investors are expected to be able to carry out the right strategy before making an investment. The goal is to get the optimum profit. As for regulations, such as government regulations related to stock trading on the stock exchange, they can provide clearer rules so that investors and companies have a mutually beneficial relationship without any doubts experiencing investment risks.

Future research is expected, researcher can use additional variables which related to currently developing technology, for example, digital information variables, where information can be obtained quickly. Then, to expand the scope of research, further research can use other sectors besides manufacturing such as finance or others. It would be better if you have sufficient time so that you can obtain research data between countries. Broader insights can provide scientific contributions.

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