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Research Paper

Analysis The Effect of Accounting Information on Stock Returns Using The Error Correction Model (ECM)

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ABSTRACT: *The purpose of this study was to determine the effect of accounting information and stock returns. The object of this research is LQ45 company in 2011-2021. Data analysis using error correction model. The results showed that Earnings per share had a positive and significant relationship with stock returns. That is, the higher the earnings per share, the higher the stock return. Both variables have long-term and short-term effects. This research is important because it can help investors to know that earnings per share have a strong effect on stock returns so that investors can make the right decisions.*

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I. INTRODUCTION

The purpose of financial reporting for general purposes is to provide financial information about reporting entities that are useful for current investors and the potential of equity, debtors and other creditors in making decisions in their capacity as capital providers [1]. A study related to the return of shares investigated the use of profitability information for investor decisions by examining the impact of profit per share (EPS) on the abnormal return of stock [2].

One of the most important sources of information for investors is the financial statements presented by companies on the Stock Exchange. Investors and other accounting interested parties use financial statements and disclosures to assess the risk and value of the company when making investment decisions. Stock prices are influenced by various factors, including accounting information in financial statements. The stock market is one of the most important parts of the current financial market. Stock market predictions attract a lot of attention from both academics and business.

A number of studies have investigated the relationship between accounting information and stock prices in various parts of the world [3]. Effect of Earning Per Share (EPS) on Stock Returns One indicator of the success of a company is shown by the amount of earnings per Share (EPS) from the company concerned. Earnings per share (EPS) is an advantage companies that can be distributed to shareholders. But in practice, not all This benefit can be shared, there are some that are detained as retained earnings. Earnings per share (EPS) is a ratio between net profit before tax with price per sheet share. Earnings per share (EPS) shows how much profit is given companies to investors from each share they have.

In this study, researchers want how the effect of accounting information on returns listed on the Indonesia Stock Exchange. The purpose of this study is for Identifying and obtaining empirical evidence of the effect of accounting information on stock returns listed on the Indonesia Stock Exchange.

The benefits of research are seen both in terms of theory and applied, among others, as a material in consider an effective investment strategy to predict stock prices in the future will come and make an investment decision on stock securities. For issuers, this research is expected to be useful in considering the determination of decisions related to Stock prices in the capital market in Indonesia, especially Indonesia Stock Exchange (BEI). For Investors are expected to implement market timing strategies to enter and exit the exchange stocks, so as to get the optimal rate of return or return stock. For parties Other, can be used to increase knowledge and information about things that are related to the general capital market conditions of Indonesia.

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II. LITERATURE REVIEW AND HYPHOTESIS DEVELOPMENT

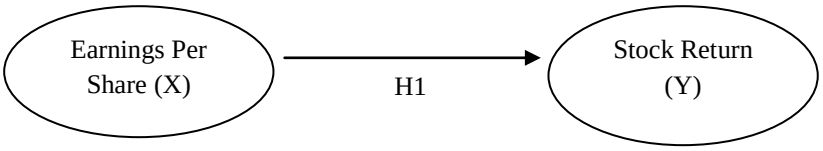

Figure 1. Conceptual Framework

This study was conducted to provide an overview of how fundamental factors such as accounting information like Earnings per Share effect stock returns on the Indonesian stock exchange The relevance of accounting information to investor decisions has been mentioned in many studies, The study shows that the income variable is the most important explanatory in the stock price valuation model [4], other research they studied the Greek stock market from 1992 to 2001 and concluded that stock returns were related to EPS, but not to ROI or ROE [5]. In Vietnam, several authors have investigated the relationship between accounting information and stock prices who documented a strong relationship in the domestic market between 2012 and 2016 [6]. The hypothesis of this research can be formulated as follows:

H1: Earnings per Share has a positive effect on Stock Return.

III. RESEARCH METHODOLOGY

The research Data was obtained through *non-participant observation*, namely by processing data on the company's financial statements LQ45 throughout the period 2011 to 2021 from *www.idx.co.id* and www.ya*hoo.finance.com*, which is in the form of accounting and financial data regarding matters related to this research. The analytical technique used in this study is quantitative data analysis with Error Correction Model, the data in this study was carried out using the Eviews 12 application.

The Error Correction Model in this study is as follows:

$$Y = \beta_0+\beta_1 X_t + \varepsilon$$

The formula for the Error Correction Model (ECM) tests is as follows:

$$Y = \beta_0+\beta_1 EPS_t + \beta_2 e\text{-}1 + \varepsilon$$

Information:
Y = Stock Return
β = Regression Coefficient
EPS = changes from logarithms of earnings per share
e-1= Error Correction Term (ECT)
ε = Standard Error

IV. RESULTS & DISCUSSION

1. Stationarity Test (Hypothesis Testing)

Table 1
Results Test ADF Using non- *intercept* on Level

Variable	ADF t-statistics	Mc KinnonCritical Value 5percent	Prob	Information
Stock Return	-4.607439	-3.212696	0.0064	Stationary
Earnings Per Share	0.329526	-3.259808	0.9646	Not Stationary

Source: Results Processed Data Eviews

From table 1 above could is known that for all variables used in this study there are two stationary variables and 1 other variablenot stationary on level levels. On test the all variable must stationary. Thing they could is known on each variable, namely:

1. *Stock Return* variable on *intercept* model testing at the level shows that scores Augmented Dickey-Fuller (ADF) t-stats bigger from *McKinnon Critical Value 5 percent* (in this study used 0.05), which is -4.607439> -3.212696. That is, H_0 is rejected and H_1 is accepted or with say other, data stationary.
2. Earnings Per Share variable on *intercept* model testing at the level shows that scores ADF t-stats smaller from *McKinnon Critical Value 5 percent* (in this study used 0.05), which is 0.329526 < -3.259808. That is, H_0 is rejected and H_1 is accepted or with say other, data not stationary.

One variables have stationary data, namely *Stock Return*, while one other variable has data that is not stationary which is Earning Per Share.

In the test, all of the variable data must be stationary, therefore will differentiation is carried out data on the level *first differ*

Table 2
Results Test ADF Using *intercept* on the *First Difference* Level

Variable	ADF t-statistics	Mc KinnonCritical Value 5percent	Prob	Information
Stock Return	-4.063992	-3.212696	0.0191	Stationary
Earnings Per Share	-4.880317	-3.259808	0.0055	Stationary

Source: Results Processed Data eviews,

From table 2 on could is known that for all variables used in this study are stationery. Thing could be known on each variable, namely:

1. Stock Return variable on *intercept* model testing at the level shows that scores Augmented Dickey-Fuller (ADF) t-stats bigger from *McKinnon Critical Value 5 percent* (in this study used 0.05), which is -4.063992> -3.212696. That is, H_0 is rejected and H_1 is accepted or with say other, data stationary.
2. Earnings Per Share variable on *non-intercept* model testing at the level shows that scores ADF t-stats bigger from *McKinnon Critical Value 5 percent* (in this study used 0.05), which is -4.880317 > -3.259808. That is, H_0 is rejected and H_1 is accepted or with say other, data stationary.

From testing on, all variable has Fulfill requirements stationery of the ADF test data where the Augmented Dickey-Fuller (ADF) t-statistic is bigger than the value of *McKinnon Critical Value 5 percent* at *the first difference level*. because all the data variable is stationary at the *first difference level*, it can be done step next in *Error Correction Model*.

2. Co-Integration Test (Hypothesis Testing)

Table 3
Co-Integration Test Results *(Johansen Co-Integration Test)*
UnrestrictedCo-Integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistics	0.05 Critical Value	Prob.**
None *	0.902902	21.17031	15.49471	0.0062
At most 1 *	0.020021	0.182018	3.841465	0.6696

The trace test indicates 2 cointegrating eqn(s) at the 0.1 level

* denotes rejection of the hypothesis at the 0.1 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Results Processed Data eviews,

From the table above, it can be seen that the test level is 5% (0.05), and there are two variable ranks related to Co-Integration. This can be proven from the trace value statistics 21.17031 is greater than the critical value of 0.05, namely 15.49471 which means, the variables used have a relationship in the long run (Co-Integration) with each other. Therefore, *Error Correction Model* could be used. On Step next conducted test *Error Correction Model*.

3. Error Correction Model (Hypothesis Testing)

The passing cointegration test, the next step is to form the Error Correction Model (ECM) equation. The equation formed as follows:

$$SR = \beta_0+\beta_1 EPS_t + \beta_2 e\text{-}1 + \varepsilon$$

Information:
SR = Stock Return
β = Regression Coefficient
EPS = changes from logarithms of earnings per share
e-1= Error Correction Term (ECT)
ε = Standard Error

This equation is formed based on the test results that all The variable has been stationary in the first difference data shown in the notation Error Correction Model (ECM) is used to estimate the inner model short term of rice production variables. In the use of the estimation method ECM can combine effects from the short and long term caused by fluctuations and time lag from each independent variable. From the results of the ECM test obtained the following results:

Table 4
Error Correction Model Estimate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000334	0.003037	-0.109968	0.9155
D(X1)	-9.10E-07	3.54E-05	-0.025676	0.9802
RESID01(-1)	-1.611855	0.280055	-5.755499	0.0007
R-squared	0.834923	Mean dependent var		-7.46E-05
Adjusted R-squared	0.787758	S.D. dependent var		0.018804
S.E. of regression	0.008663	Akaike info criterion		-6.416250
Sum squared resid	0.000525	Schwarz criterion		-6.325474
Log likelihood	35.08125	Hannan-Quinn criter.		-6.515830
F-statistic	17.70224	Durbin-Watson stat		2.325104
Prob(F-statistic)	0.001828			

Source: Results Processed Data eviews,

The equation obtained from the ECM test results is as follows:

$$D(SR) = \beta_0+\beta_1 D(EPS_t)+ \beta_2 e\text{-}1 + \varepsilon$$

The equation is a Dynamic Stock Return Model in short term, where the SR variable is not only influenced by the D (EPS) variable but is also influenced by the error term variable (e). The value of the ECT coefficient shows that the model is significant for placed in the model as a short -term connection to achieve long -term balance. If the E value is getting smaller than the connection process Towards balance in the long run will be faster. So in ECM variable E is often said to be a constrainity factor that has a value smaller than zero E <0. In this model, the ECT coefficient value is -1.611855, meaning that the stock return is above the long -term value.

Based on the results of the error correction model test of the earning per share (X) on the stock return variable (Y).

From the tests in the table above, it can be seen as follows:

a. H_1: Earning per Share (X) has positive effect on Stock Return (Y)

Based on the results of testing tests from the dynamic model (long term) Stock return in LQ45 companies in 2011-2021 as follows: The effect of accounting information on stock return The coefficient of earnings per share D (EPS) in the short term of -9.10007 shows that if there is an increase of 1 percent of rice production will decrease by 9 percent with other variables considered permanent (cateris paribus).

The coefficient value in earnings per share has a positive value, meaning that earnings per share with stock return have a positive relationship in the term short. The probability value of the harvest area is 0.9802 is greater

than the level real 5%, so variable earnings per share have a positive influence and not significant to stock returns in Indonesia.
Based on Table 5.5 the results of the ECM estimation, the error variable Correction Term (E) shows the number 0.0007 which means significant at the level real 5%. Therefore, the model specifications are correct so they can have analyzed short -term relationships.
The results of the calculation using the error correction method
The model (ECM) shows the constant (C) of -0,000334, meaning if all variables are considered fixed (cateris paribus) then D (SR) will be -0,000334.
The estimated results of the short -term equation show the RSQUARED value of 0.834923, meaning that 83 percent of stock returns in Indonesia can be explained linearly by the Earning Variable per Share. While the remaining 17 is explained by variables outside the model.
F-Statistic values in the long-term equation of 17,70224 with The probability value is 0.001828. The probability value is smaller than the level real 5% so it can be concluded that there is a significant effect
between variables

Earnings per Share have a positive effect on Stock return

Based on tests that have been carried out between earning per share (EPS) and stock returns. EPS has a positive effect on stock returns. The research assessment that accounting information, especially EPS, is positively correlated with stock returns, this research was conducted on a global scale [7]. So it can be included that profits per share can predict the return of shares in the future so that EPS as a fundamental factor is still very relevant in making investment decisions.

V. CONCLUSION

Earning per share has a positive and significant relationship to stock return. This means that the higher the earnings per share, the higher the stock returns. Both of these variables have a long -term and short -term influence. For further research, researchers can add other variables that can be used to review factors that affect stock returns, expand research objects by developing research samples not only for LQ45 companies and also trying to do this research with different research models, for example methods VAR research, robutness check and cross section research.

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