THE EFFECT OF LEVERAGE, SYSTEMATIC RISK, FIRM SIZE, GROWTH OPPORTUNITY AND ROA ON EARNING RESPONSE COEFFICIENT IN PHARMACEUTICAL COMPANIES ON THE INDONESIA STOCK EXCHANGE

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Abstract
This study examines the effect of Leverage, Systematic Risk, Firm Size, Growth Opportunity, and ROA on the Earning Response Coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange. The data used in this study are secondary data for 2019-2021. In sampling, the author uses a purposive sampling technique, namely the sampling method based on specific criteria. The sample in this study was 7 pharmaceutical companies conducted from the first Quarter of 2019 to Quarter 4 2021, so the number of observations in this study amounted to 84 observations using panel data regression analysis. Data is obtained from the publication of the Indonesia Stock Exchange. The results indicate that Leverage negatively and significantly affects Earning Response Coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange, Systematic Risk negatively and significantly affects the Earning Response Coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange, while Firm Size positively and significantly affects the Earning Response Coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange. Growth Opportunity does not influence the Earning Response Coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange, and ROA negatively and significantly affects the Earning Response Coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange.

Keywords: Earning Response Coefficient, Leverage, Systematic Risk, Firm Size, Growth Opportunity, ROA.

INTRODUCTION
Earnings response coefficient is a coefficient that can be used to measure investor response to accounting earnings issued by the company. The low earnings response coefficient indicates that earnings are less informative for investors to make economic decisions (Fitri, 2013).

Leverage is the first factor that is thought to influence the earnings response coefficient. According to Riyanto, (2016), leverage is the ratio used to see a company's ability to pay off long-term debt. A company that has high leverage means that it has a lot of debt to outsiders, meaning that it has high financial risk because it is experiencing financial difficulties due to high debt. The greater the leverage, the lower the earnings response coefficient, meaning that high corporate debt can be a concern for investors when they are going to invest so that investors do not pay attention to company profits.

Furthermore, systematic risk is also thought to affect the earnings response coefficient. According to Wild (2014) systematic risk is the risk associated with stock movements experienced by all investments without exception. Companies with high risk can promise high returns but on the other hand the level of uncertainty is also high. This causes investors to be careful in making decisions regarding high-risk companies.

Apart from leverage and systematic risk, firm size is also thought to be a factor influencing the earnings response coefficient. According to Riyanto, (2016), firm size is a scale which can be classified as the size of the company in various ways, including the company's total assets, log size, stock market value, and others. The bigger the company, the more public information available about the company so that investors can predict future cash flows. The bigger the company size, the higher the earnings response coefficient.

Another factor that influences the earnings response coefficient is growth opportunity. Growth opportunity is a company's growth opportunity in the future (Riyanto, 2016). Growth opportunities will increase future profit expectations so that it will be profitable for both investors and companies because the existence of growth opportunities will increase the company's earnings response coefficient.

Furthermore, Return on assets (ROA) also affects the earnings response coefficient. Return on assets (ROA) is used to measure the rate of return on assets. According to Awawdeh, et al (2020) the greater the profit earned, the greater the earnings response coefficient.
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The main problem of the research is related to the earnings response coefficient or earnings response coefficient. Investors will respond if a company's profits increase. However, the problem with this pharmaceutical company during the pandemic was that the company's profits decreased, like from January to March 2020. Therefore, researchers are interested in conducting research entitled "The Effect of Leverage, Systematic Risk, Firm Size, Growth Opportunity and ROA on Earning Response Coefficient in Companies Pharmacy on the Indonesia Stock Exchange".

RESEARCH METHOD

This research is a research with a descriptive statistical approach and the type of research data is quantitative data using data panel. Descriptive statistics are statistics used to analyze data by describing or illustrating the data that has been collected as is without intending to draw conclusions that apply to general or generalization. According to Sugiyono (2018), quantitative research is a research method by conducting research on populations or samples obtained randomly and then the data will be processed randomly stratistic with the aim of testing the hypothesis. The data used in this study is panel data where this study uses a combination of time series data and data cross section.

The data analysis used to solve the problems in this study is panel data regression analysis with the help of Eviews 9. The research data used is secondary data namely quarterly reports published by pharmaceutical companies on the IDX in the 2019 - 2021 period of 7 companies using the purposive sampling method.

The panel data regression method used is through three approaches, namely, the least squares approach of common effects, the second is the fixed effect approach and the third is the random effect approach. Furthermore, the data is also tested for classical assumptions. The equation model for panel data regression analysis is as follows:

\[ Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 \ln X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e_{it} \]

Information:
- \( Y_{it} \) = ERC
- \( \alpha \) = Constant
- \( X_1 \) = Leverage
- \( X_2 \) = Systematic Risk
- \( X_3 \) = Firm Size
- \( X_4 \) = Growth Opportunity
- \( X_5 \) = ROA
- \( i \) = Entity to-i
- \( t \) = Period to-t
- \( \beta \) = Variable Regression Coefficient
- \( \ln \) = Natural Logarithm
- \( E \) = error term

The variables used in the study are:

a. According to Pradipta (2014) the Earning Response Coefficient is a coefficient that shows the size of the market reaction to the accounting profit announced by the company. The earnings response coefficient is predicted to be higher if the company's profits are more persistent in the future. Likewise, if the quality of earnings is getting better, it is predicted that the value of the earnings response coefficient will be higher. The amount of ERC is obtained by performing several calculation stages. The first stage is to calculate the annual stock return, how to use indicators:

\[ R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \]

Information:
- \( R_{it} \) = Return of stock of company i on day t
- \( P_{it} \) = Closing price of stock i on day t
Pit-1 = Closing price of stock i on day t-1

The second stage is to calculate the annual market return, the formula:

$$R_{mt} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

Information:
Rmt = Annual stock return
IHSGt = Composite Stock Price Index on day t
IHSGt-1 = Composite Stock Price Index on day t-1

The third stage is using the formula $AR_{it} = Rit - Rmt$

Information:
Arit = Abnormal return of company i in period t
Rit = Return of the company in period t
RMt = Market return in period t

b. Leverage is the company's ability to pay off a number of company debts, (Riyanto, 2018)

\[
LEV = \frac{Total hutang}{Total Modal}
\]

c. Systematic risk is a risk that occurs in a company because it is caused by changes in stock prices in the capital market, so that systematic risk is also called market risk. According to Tandelilin (2020), risk is the possible difference between the actual return received and the expected return.

$$\beta = \frac{n \sum RmRi - \sum Rm \sum Ri}{n \sum Rm^2 - (\sum Rm)^2}$$

d. Firm size or company size is the scale of the company as seen from the company's total assets at the end of the year and total sales. Srimindarti (2018) stated that "Company size can be assessed from several aspects. The size of the company can be based on total asset value, total sales, market capitalization, number of employees and so on. The greater the value of these items, the greater the size of the company.

$$LN = \text{Firm Size}$$

Firm size = Stock Price/year x the number of shares outstanding

e. Growth opportunity is the company's ability to increase the company's goals in improving the company's financial performance. When sales growth increases, the company will take on debt in order to increase production capacity which will have an impact on increasing sales.(Brigham and Houston, 2018)

$$Growth = \frac{Sale t - sales t - 1}{sales t - 1}$$

f. ROA is a company's ability to obtain a number of profits. Riyanto, (2016)

$$ROA = \frac{Laba setelah Pajak}{Total Aktiva}$$
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The framework and hypotheses in the study are as follows:

Image 1. conceptual framework

Based on the description of the conceptual framework and supported by existing theories, the research hypothesis is as follows:

H₁ : Leverage affects the Earning response coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
H2 : Systematic Risk influences the Earning response coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
H3 : Firm Size has an effect on the Earning response coefficient of Pharmaceutical Companies on the Indonesia Stock Exchange
H4 : Growth Opportunity influences the Earning response coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
H5 : ROA has an effect on the Earning response coefficient of Pharmaceutical Companies on the Indonesian Stock Exchange
H6 : Leverage, systematic risk, firm size, growth opportunity, and ROA affect the Earning response coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange

RESULTS AND DISCUSSION

Results

Determination of Panel Data Estimation Techniques

In panel data there are three estimation models, namely Common Effect or Pooled Least Square, Fixed Effect and Random Effect which will be tested which is the best model to be used in this study. The test was carried out by testing the Chow test and Hausman test.

The Chow test was conducted to test which model was chosen between Common Effect and Fixed Effect. To see which model is the best of the two models, it can be seen from the Probability Cross-Section F value.
Table 1. Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>11.345345</td>
<td>(6,72)</td>
<td>0.0000</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>55.901242</td>
<td>6</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Based on table 1 above, it shows that the probability value of the Chi Square line on the chow test is 0.0000. This value is below 0.05. If the probability value of chi square is less than 0.05 then the best model is the fixed effect model. Based on the Chow test, the best model in this study is the Fixed Effect Model (FEM)

Table 2. Hausman Test Results
Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>1.161093</td>
<td>5</td>
<td>0.9486</td>
</tr>
</tbody>
</table>

Based on table 2 above, it can be seen that the probability value is 0.948. This value is significantly above 0.05. Based on the Hausman Test, the best model in this study is the Random Effect Model (REM). So this study uses the Random Effect Model.

Table 3 Panel Data Regression Equation (Random Effect Model)
Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Sample: 2019Q1 2021Q4
Periods included: 12
Cross-sections included: 7
Total panel (balanced) observations: 84
Swamy and Arora estimator of component variances

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2.745181</td>
<td>3</td>
<td>1.400329</td>
<td>0.1654</td>
</tr>
<tr>
<td>X1</td>
<td>0.334777</td>
<td>3</td>
<td>2.427621</td>
<td>0.0175</td>
</tr>
<tr>
<td>X2</td>
<td>0.775169</td>
<td>9</td>
<td>3.625352</td>
<td>0.0005</td>
</tr>
<tr>
<td>X3</td>
<td>0.138571</td>
<td>0.07258</td>
<td>1.9089</td>
<td>0.0599</td>
</tr>
</tbody>
</table>
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Based on table 3 above, the regression equation that can be compiled in this study is as follows:

\[ Y = -2.74 - 0.33 \text{LV} - 0.77 \text{Rs} + 0.13 \text{SZ} - 0.15 \text{SL} - 0.16 \text{ROA} + e \]

Based on the above equation, it can be explained that:

1. A constant of -2.74 means that if leverage, systematic risk, firm size, growth opportunities and return on assets are considered constant (value 0), then the earning response coefficient is fixed at -2.74%.
2. The leverage regression coefficient value of -0.33 indicates a negative relationship which means that every 1% increase in leverage causes the earnings response coefficient to decrease by 33%.
3. The value of the systematic risk regression coefficient of -0.77 indicates a negative relationship which means that every 1% increase in systematic risk causes the earnings response coefficient to decrease by 77%.
4. The firm size regression coefficient value of 0.13 indicates a positive relationship which means that every 1% increase in firm size causes the earnings response coefficient to decrease by 13%.
5. The value of the growth opportunity regression coefficient of -0.15 shows a negative relationship which means that every 1% increase in growth opportunities causes the earnings response coefficient to decrease by 15%.
6. The value of the regression coefficient return on assets of -0.16 indicates a negative relationship which means that every 1% increase in return on assets causes the earnings response coefficient to decrease by 16%.
Discussion
Hypothesis test

Results of Panel Data Regression Estimation

The Effect of Leverage on the Earning Response Coefficient in Pharmaceutical Companies on the Indonesian Stock Exchange
Partially, leverage has a negative and significant effect on the earnings response coefficient in pharmaceutical companies on the Indonesia Stock Exchange. This shows that statistically the t count > t table is 2.427 > 1.664 and a significant value is 0.01 < 0.05. (H1 hypothesis accepted).

The Effect of Systematic Risk on Earning Response Coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
Partially, systematic risk has a negative and significant effect on the earnings response coefficient in pharmaceutical companies listed on the Indonesia Stock Exchange. This shows that statistically the t count > t table is 3.625 > 1.664 and a significant value is 0.00 < 0.05. (H2 hypothesis accepted).

The Effect of Firm Size on Earning Response Coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
Partially, firm size has a positive and significant effect on the earnings response coefficient in pharmaceutical companies on the Indonesia Stock Exchange. This shows that statistically the value of t count > t table is 1.908 > 1.292 and a significant value is 0.05 < 0.1. (H3 hypothesis accepted).

The Effect of Growth Opportunity on Earning Response Coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
Partially, growth opportunities have no effect on the earnings response coefficient for pharmaceutical companies listed on the Indonesia Stock Exchange. This shows that statistically the value of t count < t table is 1.318 < 1.664 and a significant value is 0.19 > 0.1. (Hypothesis H4 is rejected).

The Effect of Return on Asset on Earning Response Coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange
Partially, return on assets has a negative effect on the earnings response coefficient in pharmaceutical companies on the Indonesia Stock Exchange. This shows that statistically the value of t count > t table is 1.706 > 1.292 and a significant value is 0.09 < 0.1. (H5 hypothesis is accepted).

Simultaneously leverage, systematic risk, firm size, growth opportunities and return on assets have a positive and significant effect on the earnings response coefficient in pharmaceutical companies on the Indonesian Stock Exchange. (Hypothesis H6 is accepted)

The coefficient of determination with panel data regression seen from R-Squared is 0.3018 or 30.18%. These results indicate that the influence of leverage, systematic risk, firm size, growth opportunities and return on assets on ERC is 30.18%, while those affected by other variables outside this model.

CONCLUSION
The results of the study show that the three regression coefficients are positive and significant to the dependent variable. From the regression model, it can be explained further, namely as follows:

1. Leverage has a negative and significant effect on the earnings response coefficient in pharmaceutical companies on the Indonesia Stock Exchange.
2. Systematic risk has a negative and significant effect on the earnings response coefficient in pharmaceutical companies on the Indonesia Stock Exchange.
3. Firm Size has a positive and significant effect on the earnings response coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange.
4. Growth Opportunities have no effect on the earnings response coefficient in Pharmaceutical Companies on the Indonesia Stock Exchange.
5. Return on assets has a negative and significant effect on the earnings response coefficient in pharmaceutical companies on the Indonesia Stock Exchange.
REFERENCE


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