The Effect of Corporate Social Responsibility Disclosure, Leverage, Firm Size, and Profitability Toward Earnings Response Coefficient

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The purpose of this research is to analyze the effect of corporate social responsibility disclosure, leverage, firm size, and profitability towards the earnings response coefficient. This research uses data from 2013-2017. The result shows that corporate social responsibility has a negative and significant effect towards the earnings response coefficient. Leverage has a negative and significant effect towards the earnings response coefficient. Firm size has a positive and significant influence towards the earnings response coefficient. Finally, profitability does not have an influence on the earnings response coefficient.

\textbf{Key words:} Earnings response coefficient, Corporate social responsibility, Leverage, Profitability, Firm size.

\textbf{Introduction}

In the present state of evolution of the business industry, every company aims to be dynamic in order to meet with the capital market. The intense competition makes companies compete in order to attain a good image generally and towards its stakeholders (Teoh & Wong, 1993; Santoso, 2017). This perception should be able to represent the actual financial conditions of the company, thus it could be useful for potential investors or creditors (Susanti and Kusbandiyah, 2015; Ferri, Zheng, & Zou, 2018).

Profit information is the information most responded to by investors and creditors. Profit achieved by the company is one of measurements of performance taken into consideration by investors and creditors when making decisions to invest or to provide additional credit. Profit information can be used to measure the success of the company, assess the magnitude of
returns that will be accepted by investors and creditors, and measure how long the company will last. An ever-increasing corporate profit shows that the company’s management performance is good and will ultimately increase the value of the company. Thus, investors or creditors are fond of companies that have big profits and that are always growing, so that the operation can be guaranteed (Jalil, 2013; Habbash, 2015).

Earnings Response Coefficient (ERC) is a measurement of information contained in earnings that can be used as an alternative to measuring the relevance value of earnings information. High or low ERC could mean that the information contained in the earnings is informative – or not – for the investors in decision making (Lucyanda and Nahomi, 2014). A low Earnings Response Coefficient shows that the earnings are less informative for the investors in making decisions. In other words, a higher Earning Response Coefficient can be useful because it can show the quality of earnings information, with a high response by investors towards the earnings reporting (Susanti and Kusbandiyah, 2015).

The differences between the market reaction towards earnings information is caused by many factors. This research will test one of the factors that probably affect the market reaction towards earnings information, namely, Corporate Social Responsibility (CSR). Corporate Social Responsibility (CSR) is an accounting concept that arose after many critics regarded conventional accounting as not able to accommodate shareholders’ interest (Wulandari, 2014).

Another factor that influences the ERC is the Debt to Equity Ratio. Debt to Equity Ratio is a comparison between the total amount of debt (current debt and long-term debt) with the equity that demonstrates a company’s ability to fulfil their obligations with their reserved capital. Capital structure is the permanent financing, which is a balancing between long-term debt and owner’s equity. Owner’s equity is capital that has come from the entity itself (stocks, earnings) or else from the partakers of companions, and owners (shares capital, ordinary equity, and others) (Riyanto, 2008).

Profitability is an entity’s ability to generate profit in order to intensify the shareholder’s value. The entity that has a profit growth is expected to give high profitability in the future. ERC will be higher for the company that has profit growth. That is to say, the higher the profit growth of the company, accordingly with the increasing of the profitability, the ERC will liven up (Scott, 2015).

Firm size related to the ERC is used as a proxy for the informativeness of the stock price, as according to Naimah, who tested the ERC and firm size at a long window (longer period) and found that firm size has a positive impact towards ERC (Naimah, 2008). The more that information is disclosed by a large company then the ERC in a long period will be increased.
The information that is available in the whole year of large companies can lead the capital market players to interpret the information in the financial report more effectively, so that they can predict the cash flow more accurately and reduce the uncertainties (Oh and Shin, 2019).

Literature Review

Efficient Market Theory

According to Hartono, in the competitive market, an equilibrium price of an asset is determined by an offer and a demand aggregate (Hartono, 2003). Efficient market is defined as how a market reacts towards information to achieve a new equilibrium price. If the market reacts quickly and accurately to reach the new equilibrium price that thoroughly reflects the available information, then this condition can be determined as an efficient market. Therefore, there is a relationship between the capital market theory that is amplifying the condition of equilibrium with an efficient market concept that is trying to interpret the market processing information in order to reach the new equilibrium position.

Market efficiency can be reviewed by the availability of information and it can also be assessed by the sophistication of the market players in the decision making built upon an analysis of the available information. A market that is only assessed by its information can be determined as an informational efficient market, while a market that is reviewed by the sophistication of its market players in decision making based on the availability of information is determined as a decisional efficient market (Mulianti, 2017).

Earnings Response Coefficient

Earnings Response Coefficient (ERC) is a coefficient that measures the response of securities’ abnormal returns towards the unexpected accounting earnings of the companies that issue securities (Scott, 2015) and (Delvira and Nelvrita, 2013). ERC is an effect of unexpected earnings towards the Cumulative Abnormal Return (CAR), shown by using Slope Coefficient in Abnormal Return regression of shares with Unexpected Earnings. This means that ERC is a reaction of CAR towards the announced or published earnings of the company. The reaction depends on the earnings quality of the company. The heights or lows of the ERC depends on the “Good News” or the “Bad News” contained in the earnings (Susanti and Kusbandiyah, 2015; Hosseini, Chalestori, Hi, & Ebrahimi, 2016).

Earnings Response Coefficient (ERC) is a measurement that is used to measure investor reaction or stock price response towards the published earnings information. If the value of the earnings response coefficient is positive it shows that the investor response is escalated.
towards the earnings information, whereas if the value of the earnings response coefficient is negative it shows that the response of the investors is down towards the earnings information of the company. The earnings response coefficient is important for the investor in order to make decisions related to the earnings information with a return, because a high earnings response coefficient could give information that the earnings information contained reliable information and the earnings that are reported have a certain quality (Sandi dan Umam, 2013). Qualitative earnings are earnings that have not contained perceived noise and can reflect the company’s actual financial performance (Mulianti, 2017; Kim, Seol, & Kang, 2018).

**Corporate Social Responsibility Disclosure and Earnings Response Coefficient**

CSR is a mechanism for an organisation’s involuntarily integrated attention towards the social and the environment into their operation and their interactions with shareholders, that more other than the responsibility of the organisations in the field of law (Rawi dan Muchlis, 2010). Research by Kusumawardhani & Nugroho used the standard General Reporting Initiative, or GRI, to measure the Corporate Social Responsibility Index (Hartono, 2003; Siregar & Maksum, 2018). The results of their research found that Corporate Social Responsibility Disclosure does negatively affected the earnings response coefficient (Kusumawardhani and Nugroho, 2010).

The results of the research of Susanti & Kusbandiyah suggests that a company’s corporate social responsibility disclosure has a negative relationship with the earnings response coefficient (Susanti and Kusbandiyah, 2015). This result is quite reasonable, as the ERC is reflecting the reaction towards earnings. Therefore, the more broadly the CSR are disclosed, then the company’s risk will decrease and then so will the ERC. Based on the theory and the results of previous researches, the hypotheses proposed in this study are as follows:

**H1:** Corporate Social Responsibility has a negative influence on Earnings Response Coefficient

**Debt to Equity Ratio and Earnings Response Coefficient**

A company with high leverage means that they have a bigger debt compared to their equity. Therefore, if there is an increase in earnings, then the ones that will have the privilege are the debtholders because the shareholders assume that the earnings prosper to the creditor. Paramita states that there is a negative effect between leverage that is using a Debt to Equity Ratio towards the Earnings Response Coefficient (ERC) (Paramita, 2012). The results of the study are consistent with the result of research done by Hermawati (2008), evidence that
leverage has a negative effect on the Earnings Response Coefficient (ERC). This can be explained by the function of the leverage itself.

A high amount of leverage will inhibit the initiation and flexibility of the management to reach a good opportunity to gain profit. The company will be focused on the risks that emerge as a result of the company’s liabilities, which will inhibit the company from focusing on making a profit. Moreover, the company with higher leverage will cause the investor to doubt the company’s earnings capacity, because the investor has an assumption that the company will prioritise to settle its liabilities to debtholders rather than to pay out the dividends. Based on the theory and the results of previous research, the hypothesis proposed in this study is as follows (Daniri, 2008):

**H2:** Debt to Equity has a negative influence on Earnings Response Coefficient

**Profitability and Earnings Response Coefficient**

The value of the earnings response coefficient is predicted to be higher if the level of profitability is high. Therefore, if the ability of the company in generating profit is regarded as satisfying, as illustrated by the company’s ROA, the ERC value of the ERC will liven up. The entity that has profit growth is expected to give high profitability in the future. The ERC will be higher for the company that has profit growth (Nachrowi and Usman, 2006). That is to say, the higher the profit growth of the company, accordingly will the profitability increase, then the ERC will liven up (Scott, 2015).

The results of the research by Aryanti and Sisdayani (2016) and Hasanzade and Mahfoozi found that profitability does affect the Earnings Response Coefficient (Hasanzade et al., 2013). This means that by increasing (or decreasing) the profitability, the relationship between changes in dividends and annual stock returns strengthens (or weakens, accordingly). Theoretically, this result is consistent with the conceptual framework of the earnings response coefficient. Based on the conceptual framework, it was expected that the higher profitability is, the higher the earnings response coefficient will be and vice versa. Based on the theory and the results of previous research, the hypothesis proposed in this study is as follows:

**H3:** Profitability has a positive influence on the Earnings Response Coefficient

**Firm Size and Earnings Response Coefficient**

The larger companies will attract more investors to invest, the reason being because the income of the developing company will affect the response of the market related to the stock
return. Total assets can illustrate that the company has reached maturity, whereas in the
developing phase the company has good prospects, predicted to be relatively stable and able
to produce income more than smaller companies.
The result of the research by Kusumawardhani and Nugroho and Sandi found that firm size
positively affects the earnings response coefficient (Kusumawardhani and Nugroho, 2010)
and (Sandi dan Umam, 2013). This means that by increasing (or decreasing) the firm size, the
relationship between changes in dividends and annual stock returns strengthens (or weakens)
in accordance with the reaction of the capital market. Based on the theory and the results of
previous research, the hypothesis proposed in this study is as follows:

H4: Firm size has a positive influence on the earnings response coefficient

Research Methodology

Population

Population is a generalised region consisting of objects/subjects that have certain qualities
and characteristics, set by the researchers in order to learn and then draw conclusions from
(Sugiyono, 2017). The population for this research was banking companies listed on the
Indonesia Stock Exchange (IDX) during 2013-2017, with 45 companies in total, for the
period of five years. Thus, the number for five years’ observation is 125.

Type and Source of Data

For this research, the data used is secondary data. Secondary data is a source of research data
obtained indirectly through an intermediary medium (Sugiyono, 2017). The data were taken
from the annual financial statements obtained on www.idx.co.id and stock price movements

Operational Variables

Earnings Response Coefficient

The dependent variable is the Earnings Response Coefficient. The amount of ERC can be
calculated by multiple calculations, as follows (Walsh, 2004):
The formula to calculate Cumulative Abnormal Return (CAR) (Murwaningsari, 2008):

\[
CAR_{i,t} = \sum AR_{i,t}
\]

Description:
\( CAR_{i,t} \): Cumulative Abnormal Return of stock i during the t period
\( AR_{i,t} \): Abnormal Return stock i during the t period

Calculate Unexpected Earnings (UE)

The measurement of Unexpected Earning in this study is conducted using the Random Walk model, the formula to calculate Unexpected Earnings (UE) (Untari and Budiasih, 2014):

\[
UE_{i,t} = \frac{AE_{i,t} - AE_{i,t-1}}{AE_{i,t-1}}
\]

Description:
\( UE_{i,t} \): Non-expected earnings of company i in t period
\( AE_{i,t} \): Earnings after-tax company i in t period
\( AE_{i,t-1} \): Earnings after-tax company i in t-1 period

ERC is formulated as follows: \[
CAR_{i,t} = \alpha + \beta UE_{i,t} + \varepsilon
\]

Description:
\( CAR_{i,t} \): Cumulative Abnormal Return company i for period t.
\( UE_{i,t} \): Unexpected Earnings company i for period t.
\( \alpha \): Konstanta
\( \beta \): Coefficient ERC.
\( \varepsilon \): Error

Corporate Social Responsibility

The measurement of CSRI that will be used in this study is referred to as the CSR indicator based on Global Reporting Initiative (GRI) G4. The formula to calculate CSRI are as follows (Sayekti, 2007):
Description: 

\[ CSRI_j = \sum X_j / n_j \]

- \( CSRI_j \): Corporate Social Responsibility Disclosure Index company j.
- \( n_j \): Amount of items expected for company j
- \( X_j \): Amount of items disclosed by company j

Leverage

Financial leverage can be described as a reflection of a company’s capital structure (Susanti and Kusbandiyah, 2015). This is consistent with Naimah (2008), who states that the Default Risk of a company is measured by financial leverage. This variable is proxied by the Debt to Equity Ratio (DER) which is the ratio of total liabilities to owner’s equity. The Debt to Equity Ratio can be formulated as (Murwaningsari, 2008):

\[ DER = \frac{Total \ Liabilities}{Total \ Shareholder's \ Equity} \]

Profitability

In this research, the profitability ratio is proxied by the Return on Asset (ROA) ratio. Return on Asset (ROA) is earning after tax (EAT) or net income, divided by book value of assets at the beginning of the fiscal year (Brigham and Joel, 2006). The following is the formula for ROA:

\[ ROA = \frac{Earning \ After \ Tax}{Total \ Asset} \]

Firm Size

Firm size in this research will be proxied by a natural \( \log \) of total assets in accordance with the research of Paramita and Ahrfan and Antasari (2008) (Paramita, 2012).

\[ Firm \ Size = \log \ TA \]

Multiple Regression

Multiple regression analysis is used to test the effect of the independent variables on the dependent variable, to measure the strength of the relationship between two or more variables and to show the direction of the relationship between the dependent variable and the independent variable. The multiple regression is formed as follows:
\[ \text{ERC} = \alpha + \beta_1 \text{CSR} + \beta_2 \text{DER} + \beta_3 \text{ROA} + \beta_4 \text{FZ} + \epsilon \]

**Description:**
- \( \text{ERC} \): Earnings Response Coefficient
- \( \alpha \): Konstanta
- \( \beta \): Coefficient
- \( \text{CSR} \): Corporate Social Responsibility
- \( \text{DER} \): Debt to Equity Ratio
- \( \text{ROA} \): Return on Asset
- \( \text{FZ} \): Firm Size
- \( \epsilon \): Standard error

**Results and Discussion**

**Data Analysis**

The data used in this research is panel data. The data analysis and hypothesis testing in this research is conducted using Eviews 9.0. Both the Chow Test and the Hausman Test results show that the data model is the Fixed Effect Model. Furthermore, the writer tested using classical assumption tests including the Normality Test, the Multicollinearity Test, and the Heteroscedasticity Test. After engaging all the tests, the research continued with hypothesis testing using the fixed effect model.

**Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings Response Coefficient (ERC)</td>
<td>-0.810923</td>
<td>0.508354</td>
<td>8.106320</td>
<td>0.022750</td>
</tr>
<tr>
<td>Corporate Social Responsibility (CSR)</td>
<td>-0.522066</td>
<td>0.518987</td>
<td>7.560000</td>
<td>0.018100</td>
</tr>
<tr>
<td>Debt to Equity Ratio (DER)</td>
<td>2.396968</td>
<td>0.860759</td>
<td>19.21000</td>
<td>1.225000</td>
</tr>
<tr>
<td>Return On Assets (ROA)</td>
<td>-7.562355</td>
<td>0.139241</td>
<td>1.830000</td>
<td>-3.720000</td>
</tr>
</tbody>
</table>

Table 1 shows that earnings response coefficient and corporate social responsibility have a high standard deviation as compared to the mean. This indicates that sample variability for earnings response coefficient and corporate social responsibility is quite high. Other variables such as debt to equity ratio and return on assets have standard deviation lower than the mean. This shows that debt to equity ratio and return on assets are also homogeneous and low variability.
**Hypothesis Test Result**

<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>Corporate Social Responsibility (CSR)</td>
<td>-7.7057</td>
<td>7.9641</td>
<td>-9.676536</td>
<td>0.0000</td>
</tr>
<tr>
<td>Debt to Equity Ratio (DER)</td>
<td>-7.3354</td>
<td>3.5427</td>
<td>-2.073677</td>
<td>0.0408</td>
</tr>
<tr>
<td>Return On Assets (ROA)</td>
<td>-1.6236</td>
<td>1.2586</td>
<td>-1.301827</td>
<td>0.1961</td>
</tr>
<tr>
<td>SIZE</td>
<td>2.1814</td>
<td>3.1615</td>
<td>6.886165</td>
<td>0.0000</td>
</tr>
<tr>
<td>C</td>
<td>-0.8109</td>
<td>7.6828</td>
<td>-1.0693</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

**The Influence of Corporate Social Responsibility Towards Earnings Response Coefficient**

Table 2 shows that the company’s corporate social responsibility disclosure does have a negative influence on the earnings response coefficient. The coefficient is -7,7057 (p-value below 0.05). This means that there is an influence of sustainability report disclosure toward earnings response coefficient.

The results of this test are consistent with the research of Susanti & Kusbandiyah, who suggest that a company's corporate social responsibility disclosure has a negative relationship with the earnings response coefficient (Susanti and Kusbandiyah, 2015). This result is quite reasonable, as the ERC is reflecting the reaction towards earnings. Therefore, the broader the CSR that were disclosed, then the company’s risk decreases, and accordingly then it will decrease the ERC. However, this research is not in line with the research from Kusumawardhani and Nugroho, which states that CSR disclosure does not affect the earnings response coefficient (Kusumawardhani and Nugroho, 2010).

**The Influence of Leverage towards Earnings Response Coefficient**

Table 2 indicates that the company’s debt level which proxied by the debt to equity ratio does have a significant influence on the earnings response coefficient. The coefficient is -7.3354 with p-value below 0.05 (0,0408). This means that there is a negative influence of debt to equity ratio toward the earnings response coefficient. The results of this test are consistent with the research of Kusumawardhani and Nugroho, who suggest that a company's leverage has a negative influence on the earnings response coefficient, and this can be explained by the function of the leverage itself (Kusumawardhani and Nugroho, 2010).

Leverage is used to show the ability of a company in using assets and financing sources to increase the owner’s return. Leverage will increase the managerial profit and/or loss. A high amount of leverage will inhibit the initiation and flexibility of the management to reach a good opportunity to gain profit. The company will be focused on the risks that emerge as a result of the company’s liabilities, which will inhibit the company from focusing on making a
profit. Moreover, the company with higher leverage will cause the investor to doubt the company’s earnings ability, because the investor has an assumption that the company will prioritise to settle its liabilities to debtholders rather than to pay out the dividends. However, this research is not in line with the research of Murwaningsari, which states that leverage does not affect the earnings response coefficient (Murwaningsari, 2008).

**The Influence of Profitability towards Earnings Response Coefficient**

The effect of profitability on the earnings response coefficient are illustrated in table 2. The company’s profitability that proxied by the return on asset ratio does not have an influence on the earnings response coefficient. The coefficient is -1.6236 with p-value 0.1961 (above 0.05). This means that there is no influence of profitability on the earnings response coefficient. The results of this test are consistent with the research of Fitri (2013), who suggests that a company's profitability has no relationship to earnings response coefficient. However, this research is not in line with the research from Hasanzade et al., which states that the ROA does affect earnings response coefficient (Hasanzade et al., 2013).

**The Influence of Firm Size towards Earnings Response Coefficient**

Table 2 also demonstrates the effect of firm size which proxied by total assets towards earnings response coefficient. The coefficient is 2.1814 with p-value below 0.05 (0.0000). This means that there is an influence of firm size on the earnings response coefficient. The total asset also illustrate that the company has reached maturity, whereas in this phase the company has a good prospect for the meantime, being predicted to be relatively stable, and with more ability to produce income than smaller companies. A big size companies can attract more investors to invest. This is because the income of the developing company will affect the response of the market related to the stock return. Thus, it can be concluded that there is a positive and significant influence of firm size on the earnings response coefficient.

The results of this test are consistent with the study conducted by Kusumawardhani, Joko, and Sandi, who suggest that a company's firm size has a positive and significant relationship to the earnings response coefficient (Kusumawardhani and Nugroho, 2010) and (Sandi dan Uman, 2013). However, this research is not in line with the research from Barth et al (1998) cited in Naimah and Utama, which states that firm size does have a negative effect on the earnings response coefficient (Naimah, 2008).

**Conclusion**

There are four findings of this study which can be concluded. There are a negative and significant effect of corporate social responsibility and leverage toward earnings response
There is also a positive and significant influence of firm size towards the earnings response coefficient. Meanwhile, profitability does not have an influence on the earnings response coefficient.

This research has a limitation. It should be noted that this study using GRI G4 as the index of measuring one of the independent variables such as corporate social responsibility disclosure. There may be a consideration of bias since the researcher subjectively gives scores for the company’s disclosure of the sustainability report. Recommendation to use other variables that could influence earnings response coefficient such as timeliness, growth opportunities, betha, and so on.
REFERENCES


Variable: The Case on Oil Plantation Company in Indonesia and Malaysia. *KnE Social Sciences.*


