

# Factors Affecting Earning Response Coefficient with Profitability as a Moderating Variable in Mining Companies Listed on The Indonesia Stock Exchange for the 2018-2020 Period

Syarifuddin HZ Nasution<sup>1</sup>, Azhar Maksum<sup>2</sup>, Parapat Gultom<sup>3</sup>

<sup>1,2,3</sup>Department of Accounting, Faculty of Economics and Business Universitas Sumatera Utara, Indonesia

Corresponding Author: Syarifuddin HZ Nasution

DOI: <https://doi.org/10.52403/ijrr.20221217>

## ABSTRACT

This study aims to determine the effect of capital structure, firm size, earnings persistence, and growth opportunities on the earnings response coefficient with profitability as a moderating variable in mining companies listed on the Indonesia Stock Exchange for the 2018-2020 period. The population used in this study was 52 mining companies listed on the Indonesia Stock Exchange. The sampling method is to use purposive sampling. Based on the criteria that have been made, the number of samples is 37 companies, so a total of 111 research observations are obtained. Data processing was carried out using the EViews statistical program.

The results of this study indicate that: (1) capital structure has a negative and significant effect on the earnings response coefficient, (2) firm size has a positive and significant effect on the earnings response coefficient, (3) earnings persistence has a positive and significant effect on the earnings response coefficient, (4) growth opportunities have a positive and significant effect on the earning response coefficient, (5) profitability can moderate the effect of capital structure, firm size, and growth opportunities on the earning response coefficient, (6) profitability is not able to moderate the effect of earnings persistence on the earning response coefficient.

**Keywords:** Capital Structure, Firm Size, Profit Persistence, Growth Opportunities, Profitability, Earning Response Coefficient.

## INTRODUCTION

The capital market is one of the main drivers of the world economy, including Indonesia, because companies can obtain funds to carry out business activities through the capital market. This phenomenon is marked by the increasing number of entities or companies that have gone public that are listed on the Indonesia Stock Exchange (IDX) to be able to trade their company shares to investors in the capital market. Decisions on investments made by investors, either selling or buying shares, will impact the price of the shares concerned.

The stock price is one of the various indicators in measuring the success of managing a company. If an entity's share price increases from time to time in stages, then investors and potential investors will assume that the company is successful and able to manage the company well. Companies need the level of trust of investors and potential investors to increase capital in carrying out their operational activities because, with a high level of trust from investors and prospective investors, they will be more interested in investing in

the company. The high level of demand for a company's shares will also directly have an impact on increasing the company's stock price. Maintained stock prices with minimal price declines will also increase investor and potential investor confidence while increasing company value, and vice versa. If price declines continue, trust and company value will also decrease.

Stock prices also depend on investor activity, both selling and buying shares. So, the activity of investors in buying or selling shares is influenced by profits and other things that affect investors in investment activities. In measuring investor reactions to earnings information, it can be measured by the Earning Response Coefficient (ERC). In other words, ERC measurement is useful for knowing the level of market reaction to accounting profit information. Earning Response Coefficient (ERC) or earnings response coefficient measures abnormal stock returns in response to unexpected earnings components (Scott, 2000).

Investors will pay attention to the financial statements of the companies they invest. Companies will try to make their financial reports look good to attract investors' attention. The income statement is one of the financial reports that investors pay close attention to because company profits are one of the factors used by investors to make investment decisions. Consequently, past earnings are considered the best indicator for predicting future dividends and stock prices (Cahyati, 2010).

Stock prices continue to change over time due to the impact of information received by investors so that investors will sell or buy a stock. The increase in coal prices in 2018 made mining sector shares one of the most coveted due to increased company profits. The reference coal price was US\$ 96.61/ton in July 2018. This price experienced a significant increase, US\$ 7.08, from the May 2018 HBA of US\$ 89.53/ton. The increase continued until August 2018, touching US\$107.83, but this increase did not last long because the result of the decline that continued to occur starting from

September 2018 fell by 2.84% to US\$104.82/ton then by 3.74% to US\$100.89/ton in October 2018. The decline continued until December 2019, touching US\$66.30 per ton in December 2019. The decline that began in 2018 made the mining sector a burden for the decline in the JCI at each closing. This impact affects not only the operational activities of companies in the mining sector but also investors. Potential investors will respond to this information as a basis for making decisions to sell their shares so that share prices may fluctuate further. The following table shows 1.1 describes the movement of several companies' closing share prices in 2018-2019 by comparing the profits of the related companies.

Table 1. Profit Changes and Closing Price for 2018-2019

Emiten Code	Profit (in Billion Rupiah)			Closing Price		
	2018	2019	Percentage of Change	2018	2019	Percentage of Change
ADRO	5.252	6.202	+18,09%	1.215	1.555	+27,98%
APEX	(518)	261	+298,46%	1.680	346	-79,41%
ITMG	110	179	+62,71%	405	394	-3,28%
BSSR	899	319	-64,52%	2.340	1.820	-22,22%
BYAN	6.097	2.970	-51,29%	19.875	15.900	-20%
HRUM	440	257	-41,59%	1.400	1320	-5,71%
PTBA	5121	4040	-21,11%	2555	2660	+41,09%
ANTM	1.636	194	-88,14%	832	840	+0,96%

Source: IDX Statistics (2018-2019)

The decline in HBA caused many mining companies to experience a decline in profits throughout 2019. Adaro Energy Tbk. (ADRO) in 2019 is a company that is developing the Indonesian PLTU mega project, namely PLTU Tanjung Power Indonesia (TPI) with a capacity of 2x100 MW and PLTU Bhimasena Power Indonesia (BPI) with a capacity of 2x1000 MW, which investors target in investing so that the decrease in HBA does not have too much impact on Adaro Energy Tbk's profit and share price. However, the decline in HBA was felt by other companies such as Baramulti Suksessarana Tbk (BSSR). which experienced a decrease in profit from 899 billion rupiahs to 319 billion rupiahs followed by a decrease in the closing share price from 2,340 rupiahs per share to 1,820

rupiahs per share. The same thing was experienced by Bayan Resources Tbk (BYAN), which experienced a decrease in profit from 6 trillion to 2.9 trillion, followed by a decrease in share price from 19,875 per share to 15,900 per share.

An interesting event is Apexindo Tbk. (APEX), which in 2018 suffered a loss of 518 billion, experienced an increase in profit to 261 billion, but an increase did not follow this in share prices, a decrease from 1,680 rupiahs per share to 346 rupiahs per share. It is also different from what Aneka Tambang Tbk (ANTM) experienced. Moreover, Bukit Asam Tbk (PTBA) experienced a decrease in profits in 2019 from 2018 but experienced an increase in the closing price of shares in 2019 from 2018. It implies that investors look at information other than profit in making investment decisions, as explained at the start.

Based on the description of the phenomenon above and the inconsistency of the research results, which will be discussed next, the researcher is interested in further examining the influence of capital structure variables, firm size, earnings persistence, and growth opportunities on ERC. The title that will be raised in this study is "Factors Influencing Earning Response Coefficient with Profitability as Moderation in Mining Companies Listed on the Indonesia Stock Exchange for the 2018-2020 Period".

## LITERATURE REVIEW

### Earning Response Coefficient (ERC)

Earning response coefficient (ERC) is a measure of the amount of abnormal return of a stock in response to abnormal earnings (unexpected earnings) reported by the company that issued the stock (Scott, 2000). It shows that ERC is the market reaction to the profits announced by the company. Investors use ERC as a fundamental analysis to assess market response to earnings information. The response given depends on the quality of the company's reported earnings. The level of the response coefficient depends

on the "bad news" or "good news" contained in the earnings information (Nofianti, 2014).

The ERC concept can be seen in a company's stock price, the highs and lows of which depend heavily on information captured by investors and candidates, one of which is the profit presented (Paramita, 2020). Therefore, many experts consider ERC helpful for investors in seeing the reality of profits. By displaying the ERC, the company shows goodwill in working with investors. Of course, there will be positive reciprocity. Gurusinga & Pinem (2016) ERC allows investors to see the reality of a profit. With this information, investors will easily determine attitudes that their perceptions are influenced by quality financial report information (transparent and easy to understand). Wijayanti (2013) added that what is interesting about ERC is that it is informative. The meaning of earnings disclosure is difficult to state, but companies cannot avoid the fact that investors see the future from current earnings information.

A low ERC indicates less informative earnings, so investors feel the information is less effective in making economic decisions. It indicates that in making economic decisions, investors need information about the company's financial condition, not only profit information but much other information (Mulyani, 2007).

Two variables must be calculated first in measuring ERC: Cumulative Abnormal Return (CAR) and Unexpected Earning (UE).

#### a) Calculating Cumulative Abnormal Return

Cumulative Abnormal Return (CAR) is the sum of Abnormal Returns during the observation period (Tandelilin, 2010). The observation period used is seven trading days, namely t-7 to t+7. The use of a period of 1 week before and after as a period of observation on the

phenomenon under study is considered quite efficient so that the information obtained from a study does not describe the effects of other phenomena outside the phenomenon being studied (Jogiyanto, 2010). CAR calculation formula (Suwardjono, 2014).

$$CAR_{it(-7,+7)} = \sum_{t=-7}^{t=+7} AR_{it}$$

Information :

- $CAR_{i(-7,+7)}$  = Cumulative Abnormal Return of the company t from the seventh day before to the seventh day after the publication of the audited financial statements.
- $AR_{it}$  = Abnormal Return of a company i in period t.

Abnormal return is the excess or deficiency of the return that occurs to the normal return (Hartono, 2015). Abnormal return is the difference between the actual return and the expected return. In this study, abnormal returns are calculated using the market-adjusted model because the best prediction in estimating stock returns is through the market index that existed at that time (Suwardjono, 2014). The formula for calculating Abnormal Return is:

$$AR_{it} = R_{it} - R_{mt}$$

Information:

- $AR_{it}$  = Abnormal Return of a company i on day t.
- $R_{it}$  = Daily return of stock i on day t.
- $R_{mt}$  = return of a market index on day t.

The Abnormal Return value is obtained by calculating the company's stock and daily market returns. The formula can calculate Daily Stock Return:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

Information:

- $P_{it}$  = Stock price of a company i at time t.
- $P_{it-1}$  = Stock price of a company I at time t-1.

The formula can calculate market index return:

$$R_{mt} = \frac{IHS_{Gt} - IHS_{Gt-1}}{IHS_{Gt-1}}$$

Information:

- JCI = Composite Stock Price Index at time t.
- $IHS_{Gt-1}$  = Composite Stock Price Index at time t-1.

### b) Calculating Unexpected Earning (EU)

Unexpected Earning is the difference between actual profit and expected profit or profit expected by the company. Unexpected Earnings can be used as a representation of information contained in profits at the time they were announced, which had not been obtained by the market (Jones, 2012). UE can be calculated according to the formula used by Rahayu and Suaryana (2015):

$$UE_{it} = \frac{E_{it} - E_{it-1}}{E_{it-1}}$$

Information:

- $UE_{it}$  = Unexpected Earning of a company I in period t.
- $E_{it}$  = Profit of company i in period t.
- $E_{it-1}$  = Profit of company i in period t-1.

The above calculation results are regressed to obtain the company's ERC. Calculating the company's ERC with the following formula (Suwardjono, 2014):

$$CAR_{it} = \alpha_0 + \alpha_1 UE_{it} + \epsilon_{it}$$

Information:

- $CAR_{it}$  = Cumulative Abnormal Return of the company in period t.
- $\alpha_0$  = constant regression results.
- $\alpha_1$  = Earning Response Coefficient (ERC).
- $UE_{it}$  = Unexpected Earning of a company i in period t.
- $\epsilon_{it}$  = error component.

### Capital Structure

Capital structure is a mix or combination of long-term funding sources used by the company (Keown, 2008). The capital structure shows a comparison between debt and own capital. The capital structure illustrates the company's financial proportions consisting of capital sourced from long-term loans and own capital (Fahmi, 2012).

The capital structure is the mix or combination of debt, preferred stock, and common stock that the company wants in its capital structure (Brigham & Weston, 2010). Capital structure theory explains whether changes in capital structure affect the firm value if investment decisions and dividend policies are held constant. The capital structure shows the proportion of the use of debt to finance investment so that by knowing the capital structure, investors can know the risks and levels of returns on their investments (Paramita, 2012).

The capital structure in this study is proxied by Debt to Equity (DER). The Debt-to-Equity Ratio is used to assess debt-to-equity. This ratio is sought by comparing all debt with all equity.

$$\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}$$

The capital structure that shows financial leverage influences investment decisions by investors and potential investors. Companies with high leverage levels have greater debt than capital (Mulyani, 2007). The profit information announced by the company is considered more profitable by creditors by investors, so the capital structure affects the earnings response coefficient.

Dalimunthe (2016), Dewi & Putra (2017), and Wahyuni & Damayanti (2020), who examined the relationship between capital structure and ERC, stated that capital structure had a negative effect on ERC. However, this study's results differ from Audina et al. (2019) and Fajar & Hapsari (2017), which state that the level of

leverage in looking at capital structure does not affect investors' investment decisions.

### Firm Size

In managing a company, firm size is an important variable. According to Brigham & Houston (2015), firm size is the company's size, which can be classified in various ways, including revenue size, total assets, and total equity. Companies are divided into three, namely large, medium and small companies, where large companies have more complex management systems and have higher profits judging from their size (Evelyn, 2019).

The determination of firm size is based on the company's total assets. The size of the company is believed to be able to provide a different response from investors. Companies with large sizes will tend to get more trust from investors and get a better response because they are considered more capable of improving performance quality. Concerning signal theory, firm size will show company information related to business activities to investors, which will be reflected in security prices (Paramita, 2012). Information on large companies is easier to obtain than on small companies. Prospective investors will be more sensitive to the company's financial and non-financial information, ultimately affecting the company's market response (Anggraini & Bambang, 2015). Large companies generally find it easier to improve their performance. Therefore, investors will be more confident investing in large companies than in small ones. Likewise, when announcing earnings, large companies will receive more responses from investors than small companies (Kristanti, 2018).

$$\text{Firm Size} = \ln \text{ Total Assets}$$

Mashayekhi & Angel (2016) stated that firm size positively affects ERC. These results are supported by research by Dewi

et al. (2016). In contrast to the results of research by Dewi & Putra (2017), which showed a negative relationship between firm size and ERC. Different research results were also stated by Anggraini & Bambang (2015), which stated that firm size did not affect ERC. These results were supported by Fajar & Hapsari (2016) and Mahendra & Wirama (2017).

### Earning Persistence

Earnings persistence is the profit capability used as an indicator of future profit the company repeatedly generates in the long term (sustainable). The more persistent the profits, the higher the expectation of increasing profits in the future (Immroatussolihah, 2013).

The higher the earnings persistence, the higher the ERC coefficient is due to the strength of profits. Earnings persistence shows the quality of the company's earnings which can increase the company's profits yearly. Delvira (2013) uses the regression coefficient between the current year's profit regression and the previous year's profit to assess the persistence of future earnings. Profits are considered more persistent if the coefficient of variation is smaller, so earnings persistence is the ability of current and previous years' earnings to explain future years' earnings.

$$\text{Profit}_t = \alpha + \beta \text{Profit}_{t-1} + \varepsilon$$

Hapsari (2014) states that earnings persistence positively affects ERC. This study's results align with Ardianti (2018) and Wahyuni & Damayanti (2020). In contrast to previous researchers, Audina et al. (2019) stated that earnings persistence has a negative effect on ERC. In contrast to the previous results, Immroatussolihah's (2013) and Ardianti's (2018) research revealed that earnings persistence did not affect ERC.

### Growth Opportunities

Growth Opportunities or growth opportunities are the company's growth opportunities in the future. Growth opportunities describe the company's

growth prospects in the future. Investors' or shareholders' assessment of the possibility of a company's growth can be seen from the share price formed as an expected value of the future benefits that will be obtained (Fitriah, 2020). Growth opportunities are the company's ability to develop in the future by taking advantage of investment opportunities to increase company value (Audina et al., 2019). In addition, the level of company growth opportunities is a measure of how companies can increase earnings per share with leverage (Weston & Copeland, 1997). The growth indicator itself is, as stated by Gaver & Kenneth (1993), which states that future investment options can be shown on the company's ability to exploit opportunities to take advantage compared to other companies that are equivalent in one industry environment.

The market (investor) assessment of the possibility of a company's growth can be seen from the share price formed as an expected value of the future benefits it will receive. Shareholders will respond more to companies with high growth possibilities than companies that do not grow.

This study measures growth opportunities using the Price Earnings Ratio (PER). PER indicates the number of funds issued by investors to obtain every rupiah of company profits. According to Mumduh (2009), companies are expected to grow with high growth rates (which means they have good prospects) and usually have high PER ratios. Conversely, companies that are expected to have low growth will also have a low PER ratio.

$$\text{PER} = \frac{\text{Stock Price}}{\text{Earnings per share}}$$

Fauzan & Purwanto's (2017) research results state that companies with high growth opportunities are a good signal to stakeholders. If they are interested, they will easily attract capital, especially capital from investors. The results of this study support the findings investigated by Hasanzade et al. (2013). Different results were presented by Al Awawdeh et al.

(2020), which state that growth opportunities negatively affect ERC. Meanwhile, Fitriah (2020) states that growth opportunities do not influence ERC.

### Profitability

In this study, profitability is used as a moderating variable. Profitability is a company's ability to generate profits at the level of sales, assets, and share capital (Husnan, 2001). The company's ability to generate profits in its operational activities is the focus of assessing company performance (company fundamental analysis) because company profits are not only an indicator of the company's ability to fulfill obligations to its funders, it is also an element in the creation of company value that shows the company's prospects in the future. (Rullyan et al., 2017).

Profitability can be measured by the operating profit, net profit, rate of return on investment/assets, and rate of return on owner's equity. A company's profitability will affect investors' policies on the investments made. The company's ability to generate profits will attract investors to invest their funds to expand their business, whereas a low level of profitability will cause investors to withdraw their funds. As for the company itself, profitability can be used to evaluate the effectiveness of the management of the business entity.

Company performance is an important factor in the world of capital markets. If the company's performance increases, the market will respond by increasing the value of the company, namely increasing the company's stock price. Increased stock prices raise the potential for increased capital gains from shareholders (Ngui et al., 2007). Return On Equity (ROE) measures profitability in this study. The use of ROE as a measure of profitability in this study is based on the reason that ROE provides an overview of a company's ability to provide financial compensation to internal funding providers, namely shareholders through company equity (Subramanyam, 2005).

$$\text{Return on Equity} = \frac{\text{Net Profit After Tax}}{\text{Total Equity}}$$

### Framework

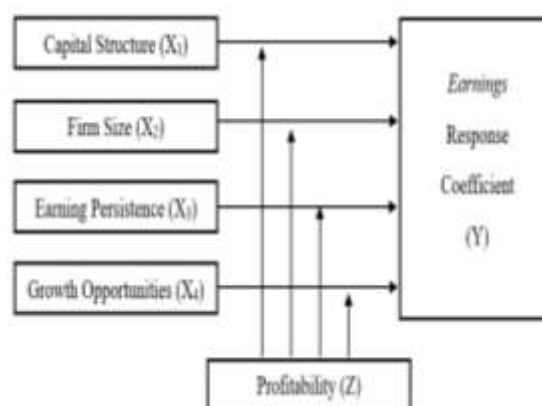


Figure 1. Framework

H1: Capital structure has a negative effect on ERC.

H2: Firm size has a positive effect on ERC.

H3: Profit persistence has a positive effect on ERC.

H4: Growth opportunities have a positive effect on ERC.

H5: Profitability can moderate the effect of capital structure on ERC.

H6: Profitability can moderate the effect of firm size on ERC.

H7: Profitability can moderate the effect of earnings persistence on ERC.

H8: Profitability can moderate the effect of growth opportunities on ERC.

### MATERIALS & METHODS

This type of research is used to test or analyse empirically the effect of the independent variables (capital structure, firm size, earnings persistence, and growth opportunities) on the dependent variable (earnings response coefficient) with its moderation, namely profitability in the mining sector companies listed on the IDX in 2019 -2020.

A population is a whole group of entities in the form of people, events, or objects with certain characteristics in an area that meet certain requirements related to research problems (Erlina, 2011). The

population in this study is 52 mining companies listed on the IDX for the 2018-2020 period.

The sample is part of the population used to estimate population characteristics (Erlina, 2011). The sampling technique in this study was purposive sampling. Purposive sampling is a sampling method that uses one or several specific criteria in selecting the sample. The criteria used in the sampling of this study are:

1. Companies that routinely publish financial reports during the research period, namely 2018-2020.

2. The company is a mining company listed on the IDX in 2018-2020 and did not delist during the research period, so the share price continues to move.

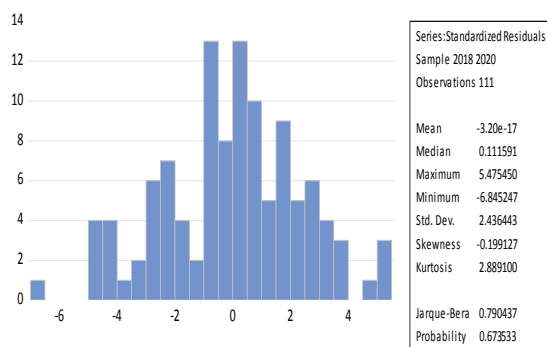
Based on the research sample selection criteria above, 126 samples were obtained (42 companies x 3 years of research). The data analysis used in this research is EViews.

## RESULT

### A. Classic assumption test

#### 1. Normality test

The normality test aims to test whether the variable, confounding, or residual regression model is normally distributed. If a regression model is not normally distributed, the model violates the assumptions, and the statistical test becomes invalid for a small sample size. The test used in this study to test normality is to use the Jarque-Berra test using the EViews 12 application. The following are the results of the Jarque-Berra test.



Source: Output EViews 12, data processed by researchers (2022)

Figure 2. Normality Test Result

Based on the results of the normality test presented in the figure above, it can be concluded that all variable data in this study are normally distributed. This conclusion is proven by the Jarque-Berra Probability value, which produces a value of 0.673533 > 0.05. The probability value of 0.673533 fulfills the minimum requirement for a data normality value of 0.05, so it can be concluded that the data is normally distributed.

### 2. Multicollinearity Test

The purpose of the multicollinearity test was to test whether the regression model found a correlation between the independent (independent) variables. A good regression model should not correlate with the independent variables. If the independent variables are correlated, then these variables are not orthogonal. Orthogonal variables are independent variables whose correlation values between independent variables are equal to zero. It is necessary to pay attention to the correlation values between variables. Variable correlation values that are quite large (> 0.90) indicate symptoms of multicollinearity.

Table 2. Multicollinearity Test

	ERC	CS	FS	EP	GO
ERC	1.000000	-0.360273	0.338820	0.556564	0.553747
CS	-0.360273	1.000000	-0.058371	-0.026690	-0.287166
FS	0.338820	-0.058371	1.000000	0.161295	0.245048
EP	0.556564	-0.026690	0.161295	1.000000	0.402970
GO	0.553747	-0.287166	0.245048	0.402970	1.000000

Source: Output EViews 12, data processed by researchers (2022)

The table above shows that the regression model is free from multicollinearity symptoms. The basis for this conclusion can be seen from the correlation value between variables which has a value smaller than 0.90. It can be concluded that the model does not have symptoms of multicollinearity.

### B. Panel Data Test

Panel data is a combination of time series and cross-section data. Panel data is divided



into three models: the common effect model, the fixed effect model, and the random effect model, which must be selected based on their level of suitability for each research model. The appropriate model was selected by carrying out the Chow, Hausman, and Lagrange Multiplier tests.

### 1) Chow Test

The Chow test is one of the tests used to select the appropriate model in panel data. The Chow test determines whether research should be conducted using the common or fixed effect model. If the p-value is greater than 0.05, then H0 is rejected, which means that the appropriate model for the regression is the common effect model.

**Table 3. Chow Test Result**

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

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.817972	(36,70)	0.0164
<b>Cross-section Chi-square</b>	<b>73.269442</b>	<b>36</b>	<b>0.0002</b>

Source: Output EViews 12, data processed by researchers (2022)

Based on the results of the Chow test above, a p-value of 0.0002 or a p-value <0.05 is obtained. The p-value <0.05 means that the fixed effect model is more suitable than the common effect model. The test that must be carried out next is the Hausman test to determine whether the random effect model is more suitable than the fixed effect model.

### 2) Hausman Test

The Hausman test is one of the tests used to select the appropriate model in panel data. The Hausman test determines whether research should be conducted using a fixed or random effect model. If the p-value is greater than 0.05, then H0 is rejected, which means that the right model for the regression is the random effect model.

**Table 4. Hausman Test Result**

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	10.169312	4	<b>0.0377</b>

Source: Output EViews 12, data processed by researchers (2022)

The table above shows a p-value of 0.0377 or a p-value <0.05. The p-value <0.05 means that the fixed effect model is more appropriate than the random effect model. After the Chow and Hausman tests were carried out, it can be concluded that the most appropriate model in this study is the fixed effect model.

### C. Multiple Linear Regression Analysis

According to the Chow and Hausman test results, this study uses a fixed effect model. The Fixed Effects Model regression analysis output results can be seen in the following table.

**Table 5. Fixed Effect Model (FEM) Regression Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-20.89508	4.784200	-4.367518	0.0000
CS	-0.445366	0.214316	-2.078078	0.0414
FS	0.736051	0.161097	4.568990	0.0000
EP	0.544732	0.105890	5.144293	0.0000
GO	0.329064	0.090675	3.629052	0.0005

Effects Specification			
Cross-section fixed (dummy variables)			
Root MSE	2.425443	R-squared	0.759969
Mean dependent var	2.299009	Adjusted R-squared	0.622808
S.D. dependent var	4.973045	S.E. of regression	3.054242
Akaike info criterion	5.348644	Sum squared resid	652.9878
Schwarz criterion	6.349462	Log likelihood	-255.8497
Hannan-Quinn criter.	5.754646	F-statistic	5.540721
Durbin-Watson stat	3.695235	Prob(F-statistic)	0.000000

Source: Output EViews 12, data processed by researchers (2022)

The table above shows the results of the regression analysis of the fixed effect model. The regression equation is obtained as follows:

$$ERC = -20,895 - 0,445 CS + 0,736 FS + 0,544 EP + 0,329 GO + e$$

Based on the regression equation above, it can be concluded that capital structure has a negative effect on ERC, firm size, earnings persistence, and growth opportunities have a positive effect on ERC.

## D. Hypothesis Test

### 1) Simultaneous Effect Significance Test (Test F)

The *F* test aims to test the effect of the independent variables jointly or simultaneously on the dependent variables. Table 5 above shows that the *F*count value is 5.540721 with a *F*table value of 2.69 ( $df1 = k-1; 4-1 = 3$ , and  $df2 = n-k-1; 111-4-1 = 106$ ) and the value significance of 0.000. Based on the results that the value of *F*count > *F*table and a significance value of 0.000 < 0.05, it can be concluded that capital structure, firm size, earnings persistence, and growth opportunities simultaneously affect the earnings response coefficient.

### 2) Partial Effect Significance Test (t-test)

The t-statistical test is a test that aims to see the effect of each independent variable partially on the dependent variable. Table 5 above shows that capital structure has a negative and significant effect on ERC. Meanwhile, firm size, earnings persistence, and growth opportunities have a positive and significant effect on ERC partially.

### 3) Coefficient of Determination (R<sup>2</sup>)

Table 5 above shows an Adjusted R-Square value of 0.622808 or 62.28%. Based on these values, it can be concluded that capital structure, firm size, earnings persistence, and growth opportunities affect the earnings response coefficient by 62.28%. Other factors outside this study influence the remaining 37.72%.

## E. Moderation Testing

Moderation analysis was carried out to determine the role of the moderating variable, profitability, and whether it can moderate the relationship between the independent variables (capital structure, firm size, earnings persistence, and growth opportunities) to the dependent variable (earnings response coefficient). This study measured moderation analysis using the Moderate Regression Analysis (MRA) test.

Table 6. Moderation Testing Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.938004	8.260423	-0.234613	0.8152
CS	-0.284779	0.199884	-1.424721	0.1590
FS	0.022785	0.281699	0.080883	0.9358
EP	0.428243	0.132845	3.223619	0.0020
GO	0.134835	0.094034	1.433897	0.1564
PR	-25.22964	12.40841	-2.033270	0.0461
CS*PR	-0.579311	0.289389	-2.001842	0.0495
FS*PR	1.016017	0.404979	2.508816	0.0146
EP*PR	0.116070	0.225428	0.514887	0.6084
GO*PR	0.299199	0.146502	2.042277	0.0452

Effects Specification			
Cross-section fixed (dummy variables)			
Root MSE	2.011297	R-squared	0.834941
Mean dependent var	2.299009	Adjusted R-squared	0.720670
S.D. dependent var	4.973045	S.E. of regression	2.628337
Akaike info criterion	5.064266	Sum squared resid	449.0302
Schwarz criterion	6.187134	Log likelihood	-235.0668
Hannan-Quinn criter.	5.519780	F-statistic	7.306658
Durbin-Watson stat	3.510049	Prob(F-statistic)	0.000000

Source: Output EViews 12, data processed by researchers (2022)

Based on the table above, the regression equation obtained is as follows:

$$\text{ERC} = -1,938 + -0,284 \text{ CS} + 0,022 \text{ FS} + 0,428 \text{ EP} + 0,134 \text{ GO} - 25,229 \text{ PR} - 0,579 \text{ CS*PR} + 1,016 \text{ FS*PR} + 0,116 \text{ EP*PR} + 0,299 \text{ GO*PR}$$

Based on these results, it can be concluded that profitability can moderate the effect of capital structure, firm size, and growth opportunities on ERC. However, profitability cannot moderate the effect of earnings persistence on earning response efficiency.

## CONCLUSION

The results of this study provide several conclusions that can be drawn based on the discussion of the problems that have been carried out. The following are the conclusions that the author has summarised in this study:

1. Capital structure is stated to have a negative and significant effect on the earning response coefficient for mining companies listed on the IDX in 2018-2020, so it can be concluded that H1 is accepted.
2. Firm size is stated to have a positive and significant effect on the earnings response coefficient for mining companies listed on the IDX in 2018-2020, so it can be concluded that H2 is accepted.
3. Profit persistence is stated to have a

- positive and significant effect on the earnings response coefficient for mining companies listed on the IDX in 2018-2020, so it can be concluded that H3 is accepted.
4. Growth Opportunities are stated to have a positive and significant effect on the earnings response coefficient for mining companies listed on the IDX in 2018-2020, so it can be concluded that H4 is accepted.
  5. Profitability is stated to be able to moderate the effect of capital structure on the earnings response coefficient in mining companies listed on the IDX in 2018-2020, so it can be concluded that H5 is accepted.
  6. Profitability is stated to be able to moderate the effect of firm size on the earnings response coefficient in mining companies listed on the IDX in 2018-2020. It can be concluded that H6 is accepted.
  7. Profitability is stated to be unable to moderate the influence of earnings persistence on the earnings response coefficient in mining companies listed on the IDX in 2018-2020, so it can be concluded that H7 is rejected.
  8. Profitability is stated to be able to moderate the effect of growth opportunities on the earnings response coefficient in mining companies listed on the IDX in 2018-2020, so it can be concluded that H8 is accepted.

**Declaration by Authors**

**Acknowledgement:** None

**Source of Funding:** None

**Conflict of Interest:** The authors declare no conflict of interest.

**REFERENCES**

1. Al-Awawdeh, H. and Al-Sakini, S. A. (2020). Factors affecting earnings response coefficient in Jordan: applied study on the Jordanian industrial companies. *Investment Management and Financial Innovations*, 17(2), 255-265. [https://doi.org/10.21511/imfi.17\(2\).2020.20](https://doi.org/10.21511/imfi.17(2).2020.20)

2. Anggraini, N. dan Bambang, S. H. (2015). Pengaruh Perataan Laba, Ukuran Perusahaan, dan Debt to Equity Ratio Pada Reaksi Pasar, *E-jurnal Akuntansi Universitas Udayana*, 11(3), 743-755. Retrieved from <https://ojs.unud.ac.id/index.php/Akuntansi/article/view/12798>
3. Ardianti, R. (2018). Pengaruh Alokasi Pajak Antar Periode, Persistensi Laba, Profitabilitas, dan Likuiditas Terhadap Kualitas Laba (Studi Empiris Perusahaan Manufaktur yang Terdaftar di BEI 2012-2016). *Jurnal Akuntansi*, 6(1), 88-105. Retrieved from <https://jurnalfe.ustjogja.ac.id/index.php/akuntansi/article/view/593>
4. Audina, A., Diamonalisa S., dan Sri F. (2019). Pengaruh Persistensi Laba, Kesempatan Bertumbuh, dan Struktur Modal terhadap Earnings Response Coefficient. *Prosiding Akuntansi*, 3(1), 29-36. <https://dx.doi.org/10.29313/v0i0.6190>
5. Brigham and Houston. (2015). *Fundamentals of Financial Management*. 8th Edition. Cengage Learning, USA.
6. Brigham, E., and Fred W. (2010). *Dasar-dasar Manajemen Keuangan*. Erlangga, Yogyakarta.
7. Dalimunthe, A. R. (2016). Pengaruh Corporate Social Responsibility, Persistensi Laba, dan Struktur Modal terhadap Earnings Response Coefficient. *Jurnal Ilmiah Wahana Akuntansi*, 11(1), 1-24. <https://doi.org/10.21009/10.21.009/wahana.011/1.1>
8. Delvira, M., dan Nelvirita. (2013). Pengaruh Risiko Sistemik, Leverage dan Persistensi Laba terhadap Earnings Response Coefficient (ERC). *Jurnal Wahana Riset Akuntansi*, 1(1), 129-153. <https://doi.org/10.24036/wra.v1i1.2317>
9. Dewi, A. A. P. K., dan Putra, I. M. P. D. (2017). Pengaruh Leverage dan Ukuran Perusahaan Pada Earnings Response Coefficient. *E-jurnal Akuntansi Universitas Udayana*, 19(1), 367-391. Retrieved from <https://ojs.unud.ac.id/index.php/Akuntansi/article/view/26926>
10. Dewi, I Gusti A. R. P., I Ketut Y, I Putu Sudana. (2016). Pengaruh Profitabilitas dan Ukuran Perusahaan Terhadap Ketepatanwaktuan Penyampaian Laporan

- Keuangan dan Implikasinya pada Earnings Response Coefficient. *E-Jurnal Ekonomi dan Bisnis Udayana*, 5(9), 3031-3056. Retrieved from <https://ojs.unud.ac.id/index.php/EEB/article/view/20181>
11. Erlina. (2011). *Metodologi Penelitian*. Medan: USU Press
  12. Fahmi, I. (2012). *Analisis Kinerja Keuangan*. Alfabeta, Bandung.
  13. Fajar, D. R., dan Dini W. H. (2016). Pengaruh Corporate Social Responsibility, Ukuran Perusahaan, Struktur Modal, dan Profitabilitas terhadap Earnings Response Coefficient (Studi Empiris Bank yang Terdaftar di BEI 2010-2014). *e-Proceeding of Management*, 3(2), 1716-1723. Retrieved from <https://openlibrarypublications.telkomuni-versity.ac.id/index.php/management/article/view/1820>
  14. Fauzan, M., dan Agus P. (2017). Pengaruh Pengungkapan CSR, Timeliness, Profitabilitas, Pertumbuhan Perusahaan, dan Resiko Sistematis Terhadap Earnings Response Coefficient (ERC). *Diponegoro Journal of Accounting*, 6(1), 1-15. Retrieved from <https://ejournal3.undip.ac.id/index.php/accounting/article/view/18289>
  15. Fitriah, S. (2020). Pengaruh Kesempatan Bertumbuh Dan Leverage Terhadap Earnings Response Coefficient Sektor Property Dan Real Estate Terdaftar Di Bursa Efek Indonesia. *Jurnal Studi Akuntansi dan Keuangan*, 3(1), 15-30. <https://doi.org/10.29303/akurasi.v3i1.26>
  16. Gaver, Jeniffer J., dan Kenneth M. Gaver. (1993). Additional Evidence on the Association between the Investment Opportunity Set and Corporate Financing, Dividend, and Compensation Policies. *Journal Of Accounting & Economics*, 16(1), 125-160. [https://doi.org/10.1016/0165-4101\(93\)90007-3](https://doi.org/10.1016/0165-4101(93)90007-3)
  17. Gurusinga, J. J., & Pinem, D. B. (2016). Pengaruh Persistensi Laba dan Leverage terhadap Earning Response Coefficient. *EQUITY*, 19(1). <http://dx.doi.org/10.34209/equ.v19i1.473>
  18. Hartono, J. (2015). Partial Least Square (PLS) – Alternative Structural Equation Modelling (SEM) dalam Penelitian Bisnis. Yogyakarta: CV Andi Offset
  19. Hasanzade, M., Roya D., dan Gholamreza M. (2013). Factors Affecting the Earnings Response Coefficient: An Empirical study for Iran. *European Online Journal of Natural and Social Sciences*, 2(3), 2551-2560. Retrieved from <https://european-science.com/eojnss/article/view/1505>
  20. Hapsari, D. (2014). Pengaruh Resiko Sistematis, Persistensi Laba dan Alokasi Pajak Antar Periode Terhadap Earnings Response Coefficient (ERC) (Studi Empiris Perusahaan Manufaktur yang Terdaftar di BEI 2009-2012). *Jurnal Akuntansi UNP*, 3(1), 1-29. Retrieved from <http://ejournal.unp.ac.id/students/index.php/akt/article/view/1526>
  21. Husnan, S. (2001). *Manajemen Keuangan Teori dan Penerapan (Keputusan Jangka Panjang)*. Buku 1. Edisi 4. BPFE, Yogyakarta.
  22. Imrotussolihah, E. (2013). Pengaruh Resiko, Leverage, Peluang Pertumbuhan, Persistensi Laba, dan Kualitas Tanggung Jawab Sosial Perusahaan Terhadap Earnings Response Coefficient Pada Perusahaan High Profile. *Jurnal Ilmiah Manajemen*, 1(1), 75-87. Retrieved from <https://jurnalmahasiswa.unesa.ac.id/index.php/jim/article/view/1496>
  23. Jogiyanto. (2010). *Teori Portofolio dan Analisis Investasi*. BPFE-Yogyakarta, Yogyakarta.
  24. Kristanti, K. D. (2018). Factors Affecting Earnings Response Coefficient (ERC) in Manufacturing Companies Listed on BEI. *The Indonesian Journal of Accounting Research*, 22(2). <http://doi.org/10.33312/ijar.451>
  25. Mahendra, I. P. Y., dan Wirama, D. G. (2017). Pengaruh Profitabilitas, Struktur Modal, dan Ukuran Perusahaan pada Earnings Response Coefficient. *E-Jurnal Universitas Udayana*, 20(3), 2566-2594. Retrieved from <https://ojs.unud.ac.id/index.php/Akuntansi/article/view/31627>
  26. Mamduh. M. Hanafi. (2009). *Analisis Laporan Keuangan*. Unit Penerbit dan Percetakan Sekolah Tinggi Ilmu Manajemen YKPN.
  27. Mashayekhi, B., dan Zeynab L. A. (2016). A Study on The Determinants of Earnings

- Response Coefficient in an Emerging Market, *International Journal of Economics and Management Engineering*, 10(7), 2479-2482.  
<https://doi.org/10.5281/zenodo.1125909>
28. Mulyani, S., Asyik, N. F., dan Andayani. (2007). Faktor-faktor yang mempengaruhi Earnings Response Coefficient pada Perusahaan yang Terdaftar di Bursa Efek Indonesia. *Jurnal Akuntansi dan Auditing Indonesia*, 11(1), 35-45. Retrieved from <https://journal.uui.ac.id/JAAI/article/view/386>
29. Ngui, K. S., Mung L. V., Eidith, A. L. (2007). The effects of insider and blockholder ownerships on firm performance: the mediating role of internal governance mechanisms. *SSRN*.
30. Nofianti, N. (2016). Pengaruh Struktur Modal, Ukuran Perusahaan dan Kebijakan Dividen terhadap Koefisien Respon Laba. *Jurnal Ekonomi*, 13(2), 118-147. <http://dx.doi.org/10.15408/etk.v13i2.1882>
31. Paramita, R. W. (2012). Pengaruh Leverage, Firm Size, dan Voluntary Disclosure Terhadap Earnings Response Coefficient (ERC). *Jurnal WIGA*, 2(2), 103-118. Retrieved from <https://media.neliti.com/media/publications/36629-ID-pengaruh-leverage-firm-size-dan-voluntary-disclosure-terhadap-earnings-response.pdf>
32. Paramita, R. W., Fadah, I., Tobing, D. S., and Suroso, I. (2020). Accounting Earnings Response Coefficient: Is the Earning Response Coefficient Better or Not? *Journal of Asian Finance, Economics, and Business*, 7(10), 51-61. <http://doi.org/10.13106/jafeb.2020.vol7.no10.051>
33. Rahayu, A. K., dan Suaryana, I. G. N. (2015). Pengaruh Ukuran Perusahaan dan Risiko Gagal Bayar pada Koefisien Respon Laba. *E-Jurnal Akuntansi Universitas Udayana*, 13(2). Retrieved from <https://ojs.unud.ac.id/index.php/akuntansi/article/view/13014>
34. Rullyan, A., Agustin, H., Cheisviyanny, C. (2017). Pengaruh Default Risk, Profitabilitas dan Resiko Sistematis Terhadap Earnings Response Coefficient (Studi Empiris pada Perusahaan yang terdaftar di BEI Tahun 2011-2014). *Wahana Riset Akuntansi*, 5(1), 961-978. <https://doi.org/10.24036/wra.v5i1.8715>
35. Scott, William .R (2000). *Accounting Theory*. Prentice Hall International Inc. New Jersey.
36. Subramanyam, K. R., Jhon J. Wild, Robert F. Hasley. (2005). *Financial Statement Analysis, Eight Edition*.
37. Suwardjono. (2014). *Teori Akuntansi: Perekayasaan Pelaporan Keuangan*. Edisi Ketiga. Yogyakarta: BPFE
38. Wahyuni, A., dan Damayanti C. R. (2020). Pengaruh Persistensi Laba, Struktur Modal, dan Corporate Social Responsibility (CSR) Terhadap Earnings Response Coefficient (ERC) (Studi Pada BUMN yang Terdaftar di BEI dan Menggunakan Pedoman Global Reporting Initiative (GRI) G4 2013-2016. *Jurnal Administrasi Bisnis (JAB)*, 78(1), 1-19. Retrieved from <http://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/2973>
39. Weston dan Copeland. (1997). *Manajemen Keuangan*, Jilid 2 Edisi 9. (Penerjemah: Jaka Wasana dan Kibrandoko. Binarupa Aksara, Jakarta.
40. Wijayanti, R. (2013). Leverage Dan Firm Size Terhadap Earning Response Coefficient (ERC) Dengan Voluntary Disclosure Sebagai Variabel Intervening. *Jurnal Manajemen Dan Akuntansi*, 2(2), 1-16. Retrieved from <https://media.neliti.com/media/publications/112072-ID-none.pdf>

How to cite this article: Syarifuddin HZ Nasution, Azhar Maksum, Parapat Gultom. Factors affecting earning response coefficient with profitability as a moderating variable in mining companies listed on the Indonesia Stock Exchange for the 2018-2020 period. *International Journal of Research and Review*. 2022; 9(12): 159-171. DOI: <https://doi.org/10.52403/ijrr.20221217>

\*\*\*\*\*