

Original Article

CSR Effect On the Mining Industry (Comparative Studies Among BIM Countries)

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Abstract: CSR plays a vital part in expanding the value of the company to make long-term complementary connections between companies and clients. This study aims to decide the usage of CSR for the mining industry, particularly in Brunei Darussalam, Indonesia, and Malaysia. This inquiry may be a quantitative approach, and the type of information utilized is secondary information. Secondary information here can be the source of investigation information obtained by research, collecting data from financial statements of each mining industry that analysts have not specifically studied. The information collection was analyzed using SPSS 27 software. It was found that profit has a significant impact on the value of the company, which means that the higher the productivity of the company, the higher the firm value of the company.

Keywords: Corporate Social Responsibility, Size, Age, Profitability, and Firm Value.

I. INTRODUCTION

The sum of the company's assets, which include its property, equipment, and mineral resource reserves, determines the company's value. One of the primary criteria analysts and investors use to assess the mining industry is firm value because it shows a company's capacity to produce profits and returns for its shareholders. (Agus. A et al., 2021; Durrah et al., 2019; Othman et al., 2017). A company's selfless efforts to improve society and the environment are referred to as "Corporate Social Responsibility". It contains organizations tolerating liability regarding their social effect and attempting to help all gatherings (workers, clients, investors, networks, and the climate) in a financial, social, and ecological way. Investors and customers are paying more attention to businesses that operate ethically and sustainably (Carroll, n.d.; Crane et al., 2014; Porter et al., 2019). Over the past few decades, corporate social responsibility has emerged as a topic of particular interest to legislators, business professionals, and researchers. Three tactics will be the focal point of a company's social responsibility in investing. The drawn-out appropriateness of the normal system, as well as the success and government offering assistance to the adjacent masses, may be imperilled by these revelations (Ali, 2014; Kolk et al. n.d.; Ma et al., 2013; Scheyvens et al., 2016).

In this article, agency theory can be used to plan contracts and motivations to match the interfaces of both parties and guarantee that directors act in the best interface of the firm. On the other hand, stakeholder theory could offer assistance to mining companies in these countries to differentiate and monitor the various partners affected by their operations, such as environmental communities, governments, and environmental groups. The purpose of conducting this research is to examine the implementation of CSR in the mining industry, which is, of course, different in certain countries in this study, namely Brunei Darussalam, Indonesia, and Malaysia. In Brunei Darussalam, the existence of Brunei Insight 2035 places a strong emphasis on the need to implement CSR hones in all segments, including industrial mining. Indonesia, even though mining operations have been linked to laws, they cannot continue to be enforced on all fronts. In Malaysia's expansion, the government locks mining companies to hone CSR, such as creating job opportunities and contributing to improving society.

Based on (Lecturer et al., 2020; Yusrina Mat Daud et al., 2020), CSR has a positive effect on firm value in BIM mining industries, and this evidence is also strengthened by other researchers (Chen et al., 2017; Seonghee Han et al., 2018). Meanwhile, based on (Muhammad Ilham Satria Anas et al., 2020), CSR harms firm value. The existence of two different research results creates a research gap. The existence of research gaps and the lack of research regarding CSR disclosure in the mining industry, especially in BIM countries, caused researchers to re-examine the effect of firm size and age, CSR, and profitability on firm value in the mining industry sector. This study is based on the objective of finding out whether the results of previous studies can be applied to the mining industry, in particular, the study carried out by (Singh et al., 2017) looking at the impact of aspects of CSR on firms' value with evidence from Hong Kong and China.

II. LITERATURE REVIEW

A) Corporate Social Responsibility

The government requires mining companies based in Brunei Darussalam to adhere to common social norms and



contribute to the lasting improvement of the natural world. In Brunei Darussalam, workers and industry take responsibility for guiding CSR in the mining industry, prescribing techniques and rules to ensure that mines are operated traditionally and satisfactorily. Indonesian mining companies are plagued by laws and government oversight. Comply with social norms and peculiarities and contribute to the long-term modernization of neighboring communities. (N. I. Abdullah et al., 2017; Mohd Tawil et al., 2017). The Indonesian government has commanded that mining endeavors contribute a certain rate of their advantage to community development works out. The CSR program requires mining organizations to require a charmed in community change, foundation overhaul, instruction and organizing, restorative organizations, and routine resource organization. Mining businesses are additionally asked to report on their CSR programs and the effect they have had on the community and the environment. (Cahyani et al., 2021; Riswanto et al., 2019).

The Malaysian government has actualized approaches and controls that require mining companies to follow natural and social guidelines and contribute to the maintainable improvement of nearby communities. In Malaysia, the government has executed a CSR system called the Malaysian Corporate Social Duty, which is intended for all companies, including mining companies. The system energizes companies to lock in CSR exercises that advance economic advancement and social welfare. Mining companies in Malaysia are empowered to lock in exercises such as community advancement, natural preservation, instruction and preparing healthcare, and destitution alleviation (Abdullah et al., 2018; Sardar et al., 2021; Zulkifli et al., 2017).

B) Agency Theory

The board of directors or management team that is in charge of managing the business on behalf of the owner is referred to as the agent in the mining sector. In contrast, the shareholders or business owners are referred to as the principal. The mining sector contributes significantly to Indonesia's economy and is mostly focused on tin, coal, and nickel. Unfortunately, this industry has recently encountered several difficulties, including illegal mining operations and even corruption. Accountability and openness in the industry, employing precise norms and regulations created and implemented by qualified oversight authorities, are two ways to reduce conflicts of interest. Many goals, objectives, motivations, and other factors may cause these disagreements to develop in the mining sector.

C) Stakeholder Theory

Because mining corporations usually have a significant impact on the environment, neighboring populations, and other stakeholders, stakeholder theory is essential in the industry, particularly the mining sector. In Brunei Darussalam, Indonesia, and Malaysia, mining companies must consider the interests of all parties involved and conduct operations in a socially and environmentally responsible manner (Prasetya et al., 2017). By the involvement of stakeholders in the decision-making process, mining companies may ensure that their activities are following the interests of the greater community. Another way mining companies might apply the stakeholder concept is by implementing good environmental practices. By using a stakeholder approach, mining companies will be able to give the interests of all stakeholders top priority and work to balance social, economic, and environmental factors.

D) Mining Industry Firm Value

A key performance indicator in the mining financial sector is firm value, which serves as the basis for how the market assesses a firm's future cash flows. As the mining industry is cyclical and capital-intensive, commodity prices, production levels, and operating costs are just a few of the many factors that can affect a company's value. Careful monitoring of these factors can improve company performance and increase corporate value, especially in the financial sector. There are two main methods of estimating a mining company's value: an asset-based approach and a market-based approach. A company's asset value can reveal whether the company is overpriced or undervalued. Market-based strategies, on the other hand, use a company's market capitalization for valuation. Divide the stock price by the total number of shares outstanding to find the market capitalization.

E) Corporate Social Responsibility and Firm Value

This relationship method should be evaluated twice, once with a fixed-effects regression model and once with a least-squares regression model, using a firm sample with a sample size of 2,800 (Mishra & Suar, 2010). The approach used is regression analysis and the sample consists of his sample of 40 firms from his population of 135 firms in various industries in Libya. According to the previous author's research, the variables used in this research were the corporate social performance index based on the 3rd Principle of OECD Corporate Governance, the debt-to-equity ratio, the ratio of non-executive directors on the board, and the market-to-book ratio, fiscal year natural logarithm of total assets at the end of the period, return on equity, and percentage of shares owned by the largest shareholder who owns the company (Hafez, 2016).

a. The Negative View

According to Friedman's research, the company's primary objective is to maximize shareholder wealth. The first idea is that the owners of the company are the shareholders, and therefore, the profits obtained belong to the shareholders. Persons

are not authorized to donate their profits to charity. If a shareholder chooses to donate its profits to charity, it must do so voluntarily, and the funds will be personal to the shareholder (Hafez, 2016).

b. The Positive View

(Nuryaman, 2013) argues that CSR will reduce long-term costs as well as costs that must be addressed if corporations violate government regulations or laws requiring them to participate in CSR performance to increase a company's value. Developing a solid company reputation can assist the company in recruiting and retaining consumers, including investors and staff, thereby increasing the company's income and profits when the time comes. Workers who participate will be more productive, improving profitability and the value of the company's property when it is their turn. By effectively managing this risk, the organization can protect its brand and legal status (Hafez, 2016).

c. The Neutral View

The essential factors in this analysis are the company value and the ratio of R&D to revenue. These opposing viewpoints can have a neutral effect on CSR and a company's worth. Companies concerned with financial performance may, therefore, invest less in CSR efforts. Investors may view this trade-off as neutral because of the expenditures incurred (Hafez, 2016)

F) Corporate Social Responsibility Dimensions

Corporate social responsibility focuses on the interests of all stakeholders, including customers, suppliers, employees, shareholders, communities, and the environment at large. It operates in a socially and ethically responsible manner in it is company's efforts. Corporate social responsibility considers, in addition to economic success, the impact of a company's decisions on stakeholders and society as a whole. Examples include thinking about employee well-being, environmental sustainability, sustainable business operations, and philanthropy. The company can build a good reputation and support dominant social concerns.

a. Social Responsibility

The social part of corporate social responsibility represents the corporate responsibility (CSR) to assess the impact of a company's actions on society and take steps to prevent adverse impacts. To achieve this, workers must be adequately compensated and allowed to develop new skills that will help them progress in their jobs. One of the most important elements of corporate social responsibility (CSR) is often social responsibility to stakeholders and society. By addressing social concerns and acting ethically as a business, companies can strengthen their brands and earn the trust and support of their stakeholders.

b. Governance Responsibility

It includes features of corporate governance such as openness, accountability, and ethical behavior. Good governance benefits consumers, investors, employees, and members of the general public, to name a few. This trend has been fueled by high-profile corporate scandals and failures, highlighting the need for companies to practice ethical behavior and openness in their business operations. This comprises conveying firm rules, practices, and performance to stakeholders as well as disseminating information about firm rules, practices, and performance.

c. Environmental Responsibility

Companies can illustrate environmental responsibility through a few key bones. This incorporates setting targets, checking execution, and actualizing techniques to play down negative natural impacts. This may include actualizing energy-efficient innovations, optimizing water utilization, and utilizing renewable vitality sources. Generally, natural obligation within CSR entails proactive measures to play down natural hurt, advance supportability, and contribute to the preservation of common assets and environments.

d. Economic Responsibility

The financial viewpoint of Corporate Social Responsibility alludes to a company's commitment to function in a way that bolsters economic growth whereas taking into consideration the effect of its activities on different partners such as workers, providers, clients, shareholders, and society as an entire. Responsible sourcing businesses can acquire their raw materials and components sustainably and ethically, thereby safeguarding the environment and promoting social and economic advancement in the regions in which they conduct business. Generally speaking, the economic component of corporate social responsibility calls for firms to act in a way that promotes long-term economic development and growth as well as adds value for stakeholders.)

G) Hypotheses Development and Conceptual Framework

a. Hypotheses Development

i) The Relationship Between CSR and Firm Value

The execution of compelling corporate administration rebellious and partner organization methods can help alter CSR works out with shareholder interface and fortify the positive relationship between CSR and firm esteem. The fragile relationship between corporate esteem and corporate social obligation shifts based on the division, commerce methodology, and specific CSR endeavours being attempted.

H₁: CSR has a significant effect on the mining industry's firm value.

ii) The Relationship Between Size and Age on Firm Value

The execution of viable corporate administration rebellious and partner organization strategies can offer help alter CSR works out with shareholder interface and fortify the positive relationship between CSR and firm esteem. The relationship between benefits, trade measures, and age can be considered within the mining businesses of Brunei Darussalam, Indonesia, and Malaysia. Be that as it may, a few ponders illustrated a positive relationship between firm estimate and age and productivity, demonstrating that bigger businesses create more income than smaller ones.

H₂: Firm size and age have a significant effect on the mining industry's firm value.

iii) The Relationship Between Profitability and CSR on Firm Value

For instance, an investigation of the Vietnamese mining sector revealed that CSR has a favorable effect on financial performance, including profitability. Bigger firms frequently have more assets and capabilities to address stakeholder concerns, construct connections, and meet desires. More seasoned firms may advantage from set-up connections and a track record of mindful behavior, contributing to stakeholder belief and support. These positive stakeholder connections can upgrade firm value by cultivating client dependability, pulling in gifted workers, and keeping up great connections with providers and communities.

H₃: Moderation carried out by the profitability can have a significant effect on the mining industry's CSR on firm value.

b. Conceptual Framework

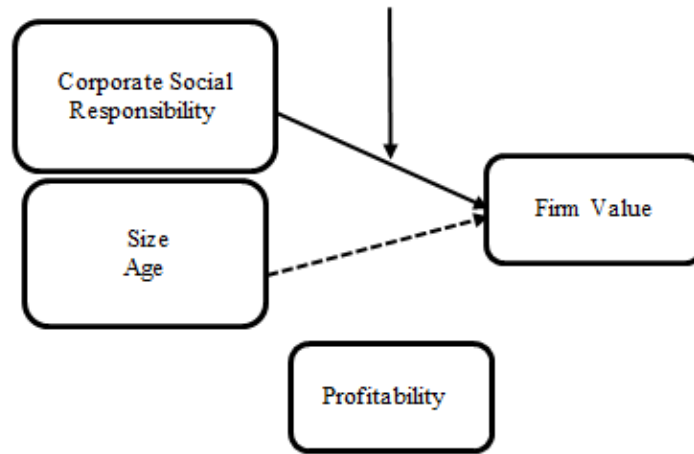


Figure 1: The Conceptual Framework

III. RESULTS AND DISCUSSION

A) Data Collection

For this think about, the author will collect information from freely accessible money-related reports of mining companies working in Brunei Darussalam, Indonesia, and Malaysia. They utilize a standardized information collection frame to extricate information from the reports and, at that point, carefully look at the information, with a center on distinguishing patterns and designs to keep up the budgetary status of the mining companies.

B) Data Analysis

Table 1: Variables Definition

Variable Name	Variable Description
	Dependent Variable
Y1: Firm Value	Using Price to Book Value (PBV) method: $PBV = \frac{\text{Closing Price}}{\text{Book Value}}$
	Independent Variable
X1: Corporate Social Responsibility	Using the GRI G4 Index that has been implemented by a company divided by the total of all 91 GRI indicators

	Controls Variable
Z1: Size	Firm Size=Ln (Total Assets)
Z2: Age	Subtract the present year with the year the company was founded Age = Present Year-Year Founded
Moderation: Profitability	Moderation
	Using ROA (Return On Asset)
	Return on Assets= $\frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$

Source: Processed by Author

Information will be analyzed utilizing factual computer programs, specifically SPSS version 27 software. The relationship between CSR practices and company value will be analyzed utilizing the moderation strategy. The subordinate variable is firm value, measured using the Price to Book Value method (PBV). The free factors are CSR-related factors, such as whether mining companies comply with CSR exercises and the number of CSR activities embraced using GRI G4 and calculated by dividing the number of indicators implemented by the company by the total of all existing indicators, which consist of 91 indicators. Control factors such as firm size and age will moreover be included within the examination. The firm size will be measured using LN(Total Asset), and age will be measured by subtracting the years the company was founded from the present. Also, profitability will be measured using ROA (Return on Asset).

The linear regression equation in this study can be written as follows:

$$Y_i = \alpha + \beta_1 \text{CSR}_i + \beta_2 \text{SIZE}_i + \beta_3 \text{AGE}_i + \beta_4 \text{ROA}_i + \varepsilon_i$$

Information:

Y = Firm Value

α = Constanta

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficient

ε = Error

i = Amount of Data

IV. CONCLUSION

A) Descriptive Statistics

Table 2: Descriptive Statistics Test

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CSR	53	0.19	0.86	0.4897	0.17617
Size	53	19.03	31.14	25.3982	3.69847
Age	53	20	178	75.94	41.724
ROA	53	-0.09	0.12	0.014	0.04194
PBV	53	0.09	4.88	1.5659	1.07871

A descriptive statistics test is a method used to summarize statistical data in a more understandable form, such as mean, median, mode, range, and standard deviation, as well as graphs and tables that reflect the characteristics of the data. By using descriptive statistical tests, we can identify patterns, anomalies or trends in the data, which will form the basis for more in-depth statistical analysis and better decision-making.

From the over table, ready to see that for the CSR variable, the highest (maximum) regard is 0.86, the lowest (minimum) is 0.19, and the average is 0.4897. For the Size variable, the highest (maximum) basic thought is 31.14, the lowest (minimum) thought is 19.03, and the average is 25.3982. For the Age variable, the highest (maximum) thought was 178, the lowest (minimum) essential thought was 20, and the average was 75.94. For the ROA variable, the highest (maximum) fundamental thought was found to be 0.12, the lowest (minimum) thought was -0.09, and the average was 0.0140. The author obtained minus results on ROA because in previous years, to be precise, in 2019, many companies suffered losses due to COVID-19. For this reason, a minus value on the profitability variable (ROA) can occur. For the variable PBV, the highest (maximum) thought was found to be 4.88, the lowest (minimum) predominance thought was 0.09, and the average was 1.5659.

B) Classical Assumptions Test

a. Normality Test

i) One Sample K-S

**Table 3: Normality Test One Sample K-S
One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		53
Normal Parameters ^{a,b}	Mean	0
	Std. Deviation	0.24168472
Most Extreme Differences	Absolute	0.092
	Positive	0.092
	Negative	-0.087
Test Statistic		0.092
Asymp. Sig. (2-tailed) ^c		.200 ^d
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		
e. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 299883525.		

The One-Sample Kolmogorov-Smirnov Test is a statistical tool used to test whether a sample of data has a distribution that fits a predetermined distribution, such as a normal distribution. The K-S test statistic is calculated to measure how much difference there is between the empirical distribution of the data sample and the reference distribution.

This test is useful for checking whether certain distribution assumptions hold for the observed data sample, which is important in inferential statistical analysis.

The derived value for Asymp. Sig (2-tailed) is 0.200, which, in accordance with the One-Sample Kolmogorov-Smirnov test results, indicates that Asymp. Sig (2-tailed) > 0.05. As a result, it can be assumed that the study's data has a normal distribution.

b. Multicollinearity Test

The multicollinearity test in this study was carried out using SPSS Version 27, and the outcomes were examined based on the tolerance and VIF values.

Table 4: Multicollinearity Test

Multicollinearity Test			
Model		Collinearity Statistics	
		Tolerance	VIF
1	TransCSR	0.981	1.02
	TransSize	0.752	1.329
	TransAge	0.718	1.393
	TransROA	0.916	1.092
a. Dependent Variable: TransPBV			

Multicollinearity test is an important method in regression analysis used to identify multicollinearity problems in a model. To address this issue, various testing techniques are used, such as calculating the Variance Inflation Factor for each independent variable in the model. The impact of multicollinearity can be unstable regression coefficients and large standard errors.

It is possible to say that there is no multicollinearity if the tolerance value is higher (>) than 0.1. On the other hand, it can be said that there is multicollinearity in case the tolerance esteem is less than (<) 0.1. None of the independent variables, according to Table 4's computations, have tolerance values lower than 0.10. In a similar vein, the Variance Inflation Factor (VIF) study results reveal that none of the independent variables had a VIF higher than 10. Therefore, it can be assumed that the regression model utilized in this study does not contain multicollinearity among the independent variables.

c. Heteroskedasticity Test

i) Scatter Plot

A scatter plot, or scatter diagram, is a useful visual tool in data analysis to visualize the relationship between two or

more variables. Scatter plots help us identify the type of relationship between the variables, whether it is linear, non-linear, or perhaps there is no clear relationship. Through scatter plots, we can observe the correlation between variables and gain an initial understanding of the data before conducting more in-depth statistical analysis.

To determine whether there was variation in the residuals between various data, the heteroscedasticity test was carried out in the regression model study (Aulia et al., 2020). The Scatterplot model image was examined to evaluate whether heteroscedasticity existed in the model or not. The data does not show heteroscedasticity if the data points are evenly distributed around the number 0, do not cluster primarily above or below, do not show fluctuating patterns of widening and narrowing variations, and do not show any discernible patterns.

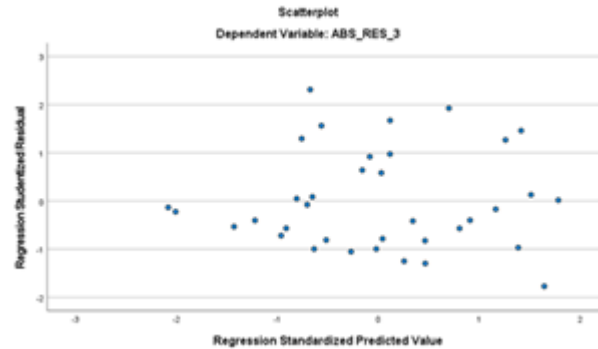


Figure 2: Heteroskedasticity Test-Scatter Plot

The data points are spread out both above and below the number 0 without being primarily concentrated in one direction, as seen by the findings in Figure 4. The distribution of the data points shows no discernible pattern or design, either. Therefore, it may be said that this study provides no evidence of heteroscedasticity.

ii) Glejser Test

The Glejser test is a statistical tool used in regression analysis to test whether there are symptoms of heteroscedasticity in a linear regression model. The main purpose of this test is to identify signs of inconsistency in residual variability, which can interfere with the results of statistical analysis, such as the F-test and t-statistics in regression. The test results can either confirm or reject the null hypothesis, where the null hypothesis states that there is no relationship between the residuals and the independent variables being tested. If the null hypothesis is rejected, this indicates there is evidence that the variability of the residuals varies with a particular independent variable, illustrating the presence of heteroscedasticity.

To detect heteroscedasticity in regression analysis, the Glejser test is a commonly used method. The goal of the Glejser test, according to (Suliyanto, 2011), is to find evidence of heteroscedasticity by comparing the regression coefficients of each independent variable to the absolute value of the residual. A conclusion that the model does not display heteroscedasticity can be drawn if the probability is greater than 0.05 (α).

Table 5: Heteroscedasticity-Glejser Test

GlejserTest						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.733	0.651		1.125	0.269
	TransCSR	-0.289	0.21	-0.236	-1.376	0.179
	TransSize	-0.065	0.11	-0.117	-0.597	0.555
	Trans Age	-0.009	0.014	-0.132	-0.659	0.515
	TransROA	0.451	0.332	0.241	1.358	0.184
a. Dependent Variable: TransPBV						

It is clear from Table 5 that each variable's significance value exceeds the predetermined alpha value of 0.05. This demonstrates that there are no signs of heteroscedasticity in the regression model.

d. Autocorrelation Test

An autocorrelation test, also known as a serial dependency test, is a statistical tool used to test whether there is a

dependency or relationship between values in a series of data measured sequentially in time or in a particular order. The process of testing for autocorrelation involves comparing adjacent values in a time series with a particular test statistic that measures the degree of correlation between those observations. If the test result is significant, it indicates the presence of serial dependence that needs to be addressed in the analysis. Handling autocorrelation usually involves the use of specialized models or data transformation to address this dependency issue.

Table 6: Autocorrelation Test

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.797 ^a	0.635	0.571	0.4478	1.765
a. Predictors: (Constant), TransROA, TransSize, TransCSR, TransAge					
b. Dependent Variable: TransPBV					

The autocorrelation test results shown in Table 6 show that the Durbin Watson value (DW test) for 3 independent variables ($k = 3$) is 1.765. Calculating dU as 1.7240 results in $4 - dU$, which is equivalent to 2.276. The data utilized in this investigation do not demonstrate autocorrelation, according to the criteria $dU < DW < 4 - dU$ ($1.7240 < 1.765 < 2.276$). As a result, the regression model is devoid of autocorrelation symptoms.

C) Multiple Regression Linear Test

The Multiple Regression Linear Test is a statistical tool used to test for a linear relationship between one or more independent variables and one dependent variable in a multiple regression model. In the context of this test, we formulate the null hypothesis that there is no linear relationship between at least one independent variable and the dependent variable. The F test is used to test the significance of the model as a whole, while the regression coefficients of each independent variable are tested to determine whether they contribute significantly to explaining the variability of the dependent variable.

The direction and intensity of the association between several variables can be determined statistically using multiple linear regression analysis, which enables the evaluation of the influence of these variables (Riskatari et al., 2020). In order to investigate the effects of CSR, size, age, and profitability on firm value within mining businesses operating in Brunei Darussalam, Indonesia, and Malaysia (BIM) between 2017 and 2021, multiple regression analysis was used in this study. Table 7 displays the results of the multiple linear regression analysis.

Table 7: Multiple Regression Linear Test

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.963	2.465		1.608	0.121
	TransCSR	0.311	0.265	0.15	1.176	0.252
	TransSize	-0.911	1.197	-0.101	-0.761	0.454
	TransAge	-0.41	0.298	-0.192	-1.377	0.182
	TransROA	0.554	0.09	0.811	6.131	<0.000
a. Dependent Variable: TransPBV						

The following regression equation is the result of the study's regression analysis, and it is shown in Table 7.

$$\text{"PBV} = 3.963 + 0.311\text{CSR} - 0.911\text{Size} - 0.410\text{Age} + 0.554\text{ROA} + \varepsilon"$$

The constant value (α) of 3.963 denotes that the Firm Value level is 3.963 when the values of the independent variables, namely CSR, Size, Age, and Profitability, are all set to zero. Assuming other factors remain constant, the coefficient value of $\beta_1 = 0.311$ shows that an increase in the CSR value of 1 percent results in an increase in the company value of 0.311. Assuming other variables remain constant, the coefficient value of $\beta_2 = -0.911$ indicates that a 1 percent rise in the Size value causes a 0.911 decrease in the firm value. Additionally, the coefficient value of $\beta_3 = -0.410$ shows that, assuming other variables stay constant, a 1 percent rise in the Age value results in a 0.410 fall in firm value. Last but not least, the coefficient value $\beta_4 = 0.554$ indicates that assuming other factors stay constant, a 1 percent increase in the Profitability value results in a 0.554 increase in firm value.

D) Hypothesis Test

a. T – Test

The T-test is a statistical tool used to compare the average or mean of two groups or samples of data. In this process, two hypotheses are proposed: a null hypothesis stating that there is no significant difference between the two groups and

an alternative hypothesis stating that there is a significant difference. T-test results are measured in the form of t-statistics and p-values, which are used to determine the level of statistical significance. If the p-value is smaller than the specified significance level, then the null hypothesis is rejected, and we conclude that there is a significant difference between the two groups.

In this study, hypothesis testing was done to determine the effects of each individual independent variable on the fluctuation of the dependent variable, Firm Value, which is assessed using PBV (Y). These independent variables are CSR (X1), Size (Z1), Age (Z2), and Profitability (Moderation). With a significance level of $\alpha = 0.050$, the t-test was used to examine if each independent variable in the regression model has a significant impact on the dependent variable. The regression coefficient is not considered significant under the first condition if the significance value is higher than 0.050. This shows that each independent variable affects the dependent variable both partially and significantly. Table 8 contains the results of the t-statistical test.

Table 8: Hypothesis - T Test

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	3.963	2.465		1.608
	TransCSR	0.311	0.265	0.15	1.176
	TransSize	-0.911	1.197	-0.101	0.454
	TransAge	-0.41	0.298	-0.192	0.182
	TransROA	0.554	0.09	0.811	6.131
a. Dependent Variable: TransPBV					

i) First Hypothesis (H1)

The CSR variable has a positive coefficient of 0.311 with a significant level of Tcount 0.252, which is higher than the threshold of 0.050, according to the findings of the t-test. H0 is approved, and Ha is denied when the Tcount value is calculated against the Ttable value ($Tcount < Ttable = 1.176 < 2.010$). The first hypothesis (H1), which states that "CSR has a significant effect on Firm Value," can thus be deemed to be false based on the results of the test that was conducted.

ii) Second Hypothesis (H2)

The Size variable has a negative coefficient of -0.911 with a significant level of Tcount 0.454, which is higher than the threshold of 0.050, according to the findings of the t-test. H0 is allowed, while Ha is denied when the Tcount value is compared to the Ttable value ($Tcount < Ttable = 0.761 < 2.010$). The second hypothesis (H2), which states that "Size has a significant effect on firm value," is thus disproved based on the results of the test that was performed.

iii) Third Hypothesis (H3)

The Age variable has a negative coefficient of -0.410 with a significant level of Tcount 0.182, which is higher than the threshold of 0.050, according to the t-test results. Additionally, Tcount is less than Ttable ($Tcount < Ttable = 1.377 < 2.010$). H0 is therefore approved, but Ha is disapproved. The third hypothesis (H3), which states that "Age has a significant effect on firm value," can be ruled out based on the results of this test.

iv) Fourth Hypothesis (H4)

The variable Profitability has a positive coefficient of 0.554 with a significance level of Tcount 0.000, which is lower than the threshold of 0.050, according to the findings of the t-test. In addition, $Tcount > Ttable$ ($6.131 > 2.010$) means that Tcount is bigger than Ttable. As a result, Ha is approved, whereas H0 is refused. The fourth hypothesis (H4), which states that "Moderability carried out by profitability have a significant effect on the mining industry's CSR on firm value," can be inferred to be true based on the results of this test.

b. F – Test

The F test is a statistical tool used to compare the variability between groups or models in statistical analysis. In ANOVA, the null hypothesis states that there is no significant difference between the groups, while the alternative hypothesis states that there is a significant difference. By comparing the resulting p-value with the predetermined alpha level of significance, we can determine whether the null hypothesis can be rejected and, thus, whether there is a significant difference between the groups or models being compared.

The feasibility test of the regression model is performed to evaluate the model's sufficiency and validity. The F test is performed to ascertain if each independent variable in the regression model has a cumulative impact on the dependent variable. A significance level of 0.05 is used in this test. The test criterion is based on the significance value of F, and if F is

0.05, H_0 is rejected because all independent factors significantly affect the dependent variable. In contrast, if $F > 0.05$, H_0 is accepted, indicating that there is no relationship between the independent and dependent variables. Table 9 displays the outcomes of the model's feasibility test (F Test).

Table 9: Hypothesis-F Test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.234	4	2.059	10.171	<0.000 ^b
	Residual	4.655	23	0.202		
	Total	12.89	27			
a. Dependent Variable: TransPBV						
b. Predictors: (Constant), TransROA, TransSize, TransCSR, TransAge						

The estimated F value for the model's feasibility test is 10.171 with a significance level of 0.000, which is less than = 0.05, in accordance with the results shown in Table 9. This shows that the model has been approved for use in the study. H_0 is disregarded when the test criterion of F 0.05 is taken into account, indicating that all independent factors have a significant impact on the dependent variable.

c. Coefficient of Determination

The coefficient of determination, also known as R-squared, is an important measure in regression analysis that gives an idea of the extent to which the regression model can explain variations in the data. Values between 0 and 1 reflect the proportion of variability in the dependent variable that can be explained by the independent variables in the model. Although R-squared provides insight into the quality of the model, it also has limitations, such as not providing information about the predictive accuracy or practical relevance of the model in everyday decision-making.

In regression analysis, the coefficient of determination, abbreviated as R-squared (R^2), is used to measure the percentage of the dependent variable's variability that can be explained by the independent variable(s). It offers information about how well the regression model explains all of the variation seen in the dependent variable. Table 10 displays the findings of the coefficient of determination analysis.

Table 10: Coefficient of Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.797 ^a	0.635	0.571	0.4478

The model has an Adjusted R Square value of 0.571, as shown in Table 10. This number, which falls within the range of 0 to 1, shows that the variables CSR, Size, Age, and Profitability can account for 57.1% of the variation in the Firm number variable, with other factors accounting for the remaining 42.9%. The regression model's performance in predicting the independent variables is indicated by the Standard Error of the Estimate (SEE), which is at 0.447.

d. Moderation Regression Analysis (MRA)

Moderation Regression Analysis is an important statistical tool in research that aims to understand how a third variable, called the moderating variable, affects or moderates the relationship between the independent variable and the dependent variable in a regression model. This is important in understanding the context in which the relationship may change, either becoming stronger, weaker, or remaining neutral.

A regression equation with a multiplicative term between two or more independent variables is used in the moderation regression test. Its goal is to determine whether the direct correlation between the independent variable (CSR) and the dependent variable (Firm Value) is strengthened or weakened by the moderating variable (Profitability). Table 11 displays the results of the moderation regression test.

Table 11: Moderation Regression Analysis Test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1318.899	1247.334		-1.057	0.294
	CSR	4350.972	2382.889	0.211	1.826	0.072
	Profitability	10878.105	13190.906	0.487	0.825	0.412
	CSR_Profitability	-21963.398	25351.629	-0.511	-0.866	0.389
a. Dependent Variable: PBV						

The significance level, which is shown in Table 11, is 0.389, which is greater than 0.05. It follows that the moderating variable's presence does not increase the impact of the independent variable on the dependent variable. In this situation, the moderating variable is also ineffective as a moderator.

V. CONCLUSION

This considers answers to the address "How CSR, Size, Age, and Productivity will influence Firm Value". Thus, in addition to what has been suggested by previous studies, the researcher will also identify the factors that are thought to be relevant. The author finds that there is a critical connection between Profitability and Firm Value. It was moreover found that there was no critical connection between CSR, Size, and Age on Firm Value; in other words, there was no coordinate connection between the free factors and the subordinate variable. The benefit is an essential driver for firm value in creating salary and money-related benefits. When productivity increases, the company will utilize assets productively, oversee costs viably, and produce tall pay. The author proposes that future authors increment the test measure or include other ASEAN nations for inquiry.

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