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DETERMINANTS OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE IN THE MINING COMPANIES

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Abstract: This study examines the influence of firm size, profitability, and leverage on Corporate Social Responsibility (CSR) disclosure among mining companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. Employing a quantitative research design with a descriptive approach, the study utilizes secondary data obtained from annual reports and sustainability reports. The sample consists of 13 mining companies selected from a population of 59 companies through purposive sampling. Data were analyzed using multiple linear regression to assess both partial and simultaneous effects of the independent variables on CSR disclosure. The findings reveal that firm size has a significant positive effect on CSR disclosure, indicating that larger companies tend to disclose more comprehensive CSR information. In contrast, profitability and leverage do not exhibit a significant influence on CSR disclosure when assessed individually. Nevertheless, the simultaneous test demonstrates that firm size, profitability, and leverage collectively have a significant effect on CSR disclosure. These results suggest that while firm size serves as a key determinant of CSR disclosure practices in the mining sector, the combined interaction of financial and organizational characteristics also contributes to variations in CSR reporting.

Keywords: Corporate Social Responsibility Disclosure, Firm Size, Profitability, Leverage, Mining Companies

INTRODUCTION

Indonesia's utilization of natural resources is closely linked to its geographical and ecological characteristics as one of the world's megadiverse countries (Anwar et al., 2021). The country possesses abundant natural resources, including substantial nickel reserves on Obi Island, South Halmahera, which exhibit significant potential and extensive deposit distribution (Trisusanti et al., 2025). In addition, coal reserves in Sanga Desa, Musi Banyuasin Regency, are estimated at approximately 84.4 million tons (Permana et al., 2025). Indonesia also has approximately 95.5 million hectares of forest area, accounting for 51.1% of its total land area, which serves as a crucial ecological asset while simultaneously supporting economic activities (Ministry of Forestry, 2025). The abundance of these natural resources has contributed significantly to the development of various industries, particularly the mining sector.

The mining industry plays a strategic role in supporting Indonesia's national economy. In eastern Indonesian provinces, mining activities have substantially contributed to regional gross domestic product (GRDP), job creation, and infrastructure development (Ramadanti et al., 2024). Despite its economic significance, mining operations inherently carry the potential to generate environmental and social challenges (Fauzi & Nulhaqim, 2024). The expansion of nickel mining activities in Sulawesi, for instance, has resulted in substantial forest loss and increased areas of exposed land (Lo et al., 2024). Such conditions create complex environmental issues. The conversion of forested areas, which previously functioned as ecological buffers, into open mining sites can significantly reduce environmental quality in surrounding areas. The absence of forest cover accelerates the movement of sediment and mineral residues into water bodies. Under adverse weather conditions, large volumes of surface runoff may increase the likelihood of flooding. Furthermore, unprotected soil becomes more susceptible to erosion and landslides, thereby increasing the risk of ecological disasters in mining regions. Consequently, the adverse impacts of mining activities extend beyond environmental degradation and may also affect the welfare of local communities.

In response to these challenges, companies are expected to undertake environmental restoration initiatives accompanied by transparent Corporate Social Responsibility (CSR) disclosure. CSR disclosure serves not only as a means of communication but also as a strategic instrument through which companies demonstrate their commitment to mitigating the environmental and social impacts of their operations. Through comprehensive and transparent reporting, companies can foster positive public perceptions, reduce social conflicts, and restore public legitimacy that may have been weakened by the negative consequences of mining activities. Therefore, CSR disclosure has become an essential mechanism for ensuring that corporate actions are aligned with the values and expectations of stakeholders and local communities.

Given the importance of CSR disclosure in the mining industry, this study aims to examine and re-evaluate the influence of firm-specific characteristics, namely firm size, profitability, and leverage, on CSR disclosure among mining companies listed on the Indonesia Stock Exchange (IDX). The study population consists of 59 mining companies listed on the IDX during the 2020–2024 period. Using a purposive sampling technique, 13 companies were selected as the research sample :

Table 1
List of Sample Mining Companies

No.	Code	Companies Name
1.	PTBA	PT Bukit Asam Tbk
2.	CNKO	PT Exploitasi Energi Indonesia Tbk
3.	FIRE	PT Alfa Energi Investama Tbk
4.	PKPK	PT Paragon Karya Perkasa Tbk
5.	SURE	PT Super Energy Tbk
6.	SQMI	PT Wilton Makmur Indonesia Tbk
7.	ANTM	PT Aneka Tambang Tbk
8.	DKTF	PT Central Omega Resources Tbk
9.	IFSH	PT Ifishdeco Tbk
10.	ZINC	PT Kapuas Prima Coal Tbk
11.	TINS	PT Timah Tbk
12.	NICL	PT PAM Mineral Tbk
13.	CITA	PT Cita Mineral Investindo Tbk

Source: Indonesia Stock Exchange (IDX) Website, 2026

LITERATURE REVIEW

Corporate Social Responsibility (CSR)

According to Sudana (as cited in Suyono & Sastika, 2023), Corporate Social Responsibility (CSR) refers to a company's obligation to take responsibility for the impacts arising from its decisions and operational activities. Through the implementation of relevant and credible CSR practices, companies demonstrate their commitment to social and environmental values, thereby strengthening their legitimacy in the eyes of the public and reducing the risk of conflicts or reputational damage (Budiyani & Erawati, 2024; Merawati et al., 2022). Consequently, CSR is no longer viewed merely as a social initiative but has evolved into a strategic instrument for building public trust and ensuring long-term operational sustainability.

Corporate Social Responsibility Disclosure

Corporate Social Responsibility Disclosure (CSRD) refers to a company's transparency in communicating information regarding its social, economic, and environmental responsibilities to stakeholders, with the

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objective of enhancing accountability, corporate reputation, and public trust (Hatuwe & Hamidah, 2025; Saraswati et al., 2022). Furthermore, Article 66 paragraph (2c) of Indonesia's Law No. 40 of 2007 stipulates that a company's annual report must include information on the implementation of social and environmental responsibility activities. Accordingly, CSR disclosure serves as an important mechanism for bridging communication between companies and their stakeholders (Jamaluddin, 2025).

The extent of CSR disclosure can be measured using the Corporate Social Responsibility Disclosure Index (CSRDI), which is designed to assess the degree to which a company systematically reports its social and environmental activities. The assessment is commonly conducted through content analysis, whereby each disclosure item (nj) is evaluated using a binary scoring approach (∑Xij), assigning a value of 1 if the item is disclosed and 0 if it is not disclosed.

$$CSRD = \frac{\sum Xij}{nj}$$

Firm Size

Firm size refers to the relative scale that distinguishes large companies from small ones (Prabandari et al., 2023). This relative scale not only reflects the magnitude of a company's resources but also indicates its capacity to compete in the market, expand its market reach, and sustain long-term business operations. Firm size can be measured using several indicators, including shareholders' equity, sales volume, and total assets (Rukmana et al., 2020). Among these measures, total assets (TA) are most commonly used because they provide a comprehensive representation of a company's operational scale and financial capacity.

$$Size = Ln(Total\ Assets)$$

Profitability

Profitability refers to a company's ability to generate earnings from its operational activities (Thian, 2022, p. 116). In other words, profitability reflects how effectively a company utilizes its resources, including capital, investments, and sales volume, to produce profits (Lestari & Pabulo, 2023). One of the most commonly used ratios for measuring profitability is Return on Equity (ROE), which assesses a company's ability to generate net income from shareholders' equity.

Return on Equity (ROE) = Earning After Tax / Total Equity

Leverage

Leverage describes the extent to which a company's assets are financed through debt (Thian, 2022, p. 79). In other words, leverage refers to a company's reliance on external sources of financing. As the proportion of debt increases, the company's financial obligations also rise due to the requirement to repay both principal and interest (Nopitasari et al., 2018). This condition increases financial risk, as the company must fulfill these obligations even when experiencing fluctuations in revenue. In this study, leverage is proxied by the Debt-to-Equity Ratio (DER), which measures the proportion of total debt relative to total shareholders' equity.

Debt to Equity Ratio (DER) = Total Debt / Total Equity

RESEARCH METHOD

This study examines mining sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The sample was selected using a purposive sampling technique. The study utilizes secondary data obtained from the companies' annual reports and sustainability reports. Data were collected from the official IDX website (http://www.idx.co.id) and the respective official websites of the sampled companies. Data analysis was conducted using several parametric statistical techniques with the assistance of Microsoft Excel and SPSS version 27.

Classical Assumption Tests

Classical assumption tests were conducted to ensure that the regression model satisfied the underlying statistical assumptions required for unbiased coefficient estimation (Iba & Wardhana, 2024, p. 40). The

tests performed in this study included the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test.

Normality Test
The normality test aims to determine whether the residuals in the regression model are normally distributed. Normality was assessed using the Probability Plot (P–P Plot) and the Kolmogorov–Smirnov (K–S) test based on the model's residuals (error terms). The data are considered normally distributed when the points on the P–P Plot follow the diagonal line and the Asymp. Sig. (2-tailed) value of the K–S test exceeds 0.05 (Iba & Wardhana, 2024, p. 47).

Multicollinearity Test
The multicollinearity test was performed to ensure that the independent variables were not highly correlated with one another. High multicollinearity may lead to unstable regression coefficients and increased estimation variance, thereby reducing the reliability of coefficient interpretation. Multicollinearity was assessed using the Tolerance value and the Variance Inflation Factor (VIF) (Kormen & Anik, 2025). The model is considered free from multicollinearity when the Tolerance value is greater than 0.10 and the VIF value is less than 10 (Iba & Wardhana, 2024, p. 55).

Heteroscedasticity Test
The heteroscedasticity test aims to determine whether the residual variance remains constant across all predicted values. Heteroscedasticity was examined using a Scatterplot analysis. If the data points are randomly dispersed around the zero line on the Y-axis without forming a specific pattern, the model is considered free from heteroscedasticity (Iba & Wardhana, 2024, pp. 50–51).

Autocorrelation Test
The autocorrelation test was conducted to identify whether correlations exist among error terms across different time periods (t and t−1). Autocorrelation is more likely to occur in time-series data because observations are often related over time. The presence of autocorrelation was assessed using the Durbin–Watson (DW) statistic. According to Santoso (2020, p. 217), the general decision criteria are as follows:
1. A DW value below −2 indicates positive autocorrelation.
2. A DW value between −2 and +2 indicates no autocorrelation.
3. A DW value above +2 indicates negative autocorrelation.

Multiple Linear Regression Model
Multiple linear regression analysis is used to examine the effect of more than one independent variable on a dependent variable (Iba & Wardhana, 2024, p. 61). The general form of the multiple linear regression equation is expressed as follows:

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + e$$

The regression equation indicates that every change in an independent variable (X) is associated with a change in the dependent variable (Y) equal to β (the regression coefficient), assuming that all other variables remain constant. The value of *α (alpha)*, or the constant term, represents the baseline value of the dependent variable when all independent variables are equal to zero. In other words, (*α)* reflects the initial or average value of (Y) before being influenced by the independent variables (X). Meanwhile, the error term *(e)* represents the effects of factors outside the model that are not included in the regression analysis, such as unobserved variables, measurement errors, and random influences.

Hypothesis Testing
t-Test (Partial Test)
The t-test is conducted to examine the individual (partial) effect of each independent variable on the dependent variable. The decision criteria are based on the calculated t-value and the significance level. If the calculated t-value (t-calculate) is greater than the critical t- table and the significance value (Sig.) is less than 0.05, the alternative hypothesis is accepted (Ariyanti & Hermawan, 2022).

F-Test (Simultaneous Test)
The F-test is used to determine whether all independent variables jointly (simultaneously) affect the dependent variable. The decision is based on the calculated F-value and its significance level (Simanjuntak,

2021). If the calculated F-value (F calculate) is greater than the critical F-table and the significance value (Sig.) is less than 0.05, the alternative hypothesis is accepted. This indicates that the independent variables collectively have a significant effect on the dependent variable.

Coefficient of Determination Test

The coefficient of determination R^2 is used to assess the extent to which the independent variables (X) explain the variation in the dependent variable (Y) (Hwihanus, 2024, p. 147). In other words, R^2 indicates the explanatory power of the regression model. A value of R^2 close to 1 suggests that the model is highly effective, as most of the variation in Y can be explained by the independent variables. Conversely, a value of R^2 close to 0 indicates that the model has limited explanatory power, as the independent variables explain only a small proportion of the variation in Y.

However, a high R^2 value does not necessarily indicate a good model, as an overly complex model may suffer from overfitting and therefore have poor generalizability to other datasets. To address this issue, the adjusted coefficient of determination (Adjusted R^2) is often used. Adjusted R^2 is a modified version of R^2, that accounts for both the sample size and the number of independent variables included in the model (Hwihanus, 2024, p. 146). It provides a more accurate measure of model performance, particularly when comparing models with different numbers of predictors.

RESULTS AND DISCUSSION

The companies selected as research objects belong to the mining sector and were listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The following 13 companies were included in the research sample:

1. PT Bukit Asam Tbk

PT Bukit Asam Tbk traces its history to coal exploration activities during the Dutch colonial era in Tanjung Enim, Muara Enim, South Sumatra. In 1981, pursuant to Government Regulation No. 42/1980, coal mining operations in Tanjung Enim were transferred to a legal entity known as PT Tambang Batubara Bukit Asam (Persero). The company subsequently conducted its Initial Public Offering (IPO) in 2002 and was officially listed on the Indonesia Stock Exchange under the stock code PTBA. In 2017, the company became part of the State-Owned Mining Holding and was renamed PT Bukit Asam Tbk.

2. PT Exploitasi Energi Indonesia Tbk

The company was established in 1999 under the name PT Central Korporindo Internasional. Commercial operations in coal mining and coal trading commenced in 2001, following the issuance of Letter No. S-2710/PM/2001 by the Financial Services Authority (OJK), which approved the company's IPO. Through a General Meeting of Shareholders (GMS) in 2010, the company changed its name to PT Exploitasi Energi Indonesia Tbk (CNKO). To date, CNKO continues to supply coal to seven coal-fired power plants owned by PT Perusahaan Listrik Negara (PLN) across Java under long-term contractual agreements. The company has also developed its own coal-fired power plant in Pangkalan Bun, Central Kalimantan, with an initial capacity of 2 × 7 MW.

3. PT Alfa Energi Investama Tbk

PT Alfa Energi Investama Tbk (FIRE) was established in 2015 and became a publicly listed company after receiving an effective statement from the Financial Services Authority (OJK) on June 9, 2017. The company's primary operations are conducted through its indirect ownership of coal mining activities managed by its subsidiary, PT Alfara Delta Persada. The subsidiary holds a Mining Business License (IUP) covering 2,089 hectares in Kutai Kartanegara, East Kalimantan, and has been operating commercially since 2016. The coal produced is classified as low- to medium-grade coal and is marketed in three calorific-value categories: 3,500, 4,200, and 4,500 kcal/kg. The coal is characterized by a moisture content of approximately 30%, a maximum sulfur content of 0.6%, and an ash content of 8%.

4. PT Paragon Karya Perkasa Tbk

PT Paragon Karya Perkasa Tbk (PKPK) was established in 1983 under the name PT Perdana Karya Kaltim. Initially, the company operated in various business sectors, including construction, general trading, transportation, manufacturing, and natural resource-based industries. The company became publicly listed through its Initial Public Offering on the Indonesia Stock Exchange in 2007. In 2023, through amendments to its Articles of Association, PKPK designated civil construction activities—particularly in the oil and gas, mining, geothermal, and mechanical installation sectors—as its core business focus. Further expansion was

undertaken in 2024 through the acquisition of 99.94% of the shares of PT Bhakti Harapan Sejahtera (BHS), resulting in indirect ownership of PT Tri Oetama Persada (TOP). TOP commenced commercial operations in September 2024 in the coal mining and excavation industry.

5. PT Super Energy Tbk

PT Super Energy Tbk (SURE) operates in the oil and gas sector as well as investment activities, with a particular focus on flare gas processing and utilization. The company was established in 2011 and expanded its business portfolio in 2016 through the acquisition of PT Gasuma Federal Indonesia, aimed at strengthening its processing capabilities and marketing activities related to flare gas conversion products. In 2018, the company conducted its Initial Public Offering on the Indonesia Stock Exchange as a strategic initiative to enhance transparency and access to capital. A significant development occurred in 2020 when SURE established a strategic partnership with Tokyo Gas Asia Pte. Ltd. During the same year, the company acquired PT Energy Mina Abadi (EMA) and designated it as a sub-holding entity to manage various business operations. Under this ownership structure, SURE holds 81.5% of EMA's shares, while the remaining shares are owned by Tokyo Gas Asia Pte. Ltd.

6. PT Wilton Makmur Indonesia Tbk

PT Wilton Makmur Indonesia Tbk was established in 2000 under the name PT Sanex Qianjiang Motor International. Four years later, the company conducted its Initial Public Offering (IPO) on the Jakarta Stock Exchange under the ticker symbol SQMI. The company's corporate journey has been marked by several identity changes, including its renaming to PT Renuka Coalindo Tbk in 2010, before ultimately adopting the name PT Wilton Makmur Indonesia Tbk in 2019. Through an inbreng mechanism (asset contribution), the company acquired concession rights to the Ciemas Gold Project from Wilton Resources Corporation Limited (WRC), a company listed on the Singapore Exchange (SGX). Currently, SQMI is listed on the Development Board of the Indonesia Stock Exchange and focuses on gold exploration, mining, and dore gold production in Indonesia, one of the world's major gold-producing countries. The Ciemas Gold Project, which represents the principal asset of the group (comprising the parent company and its subsidiaries, PT Wilton Investment, PT Wilton Wahana Indonesia, and PT Liektucha Ciemas), covers an area of 3,078.5 hectares and is located in West Java.

7. PT Aneka Tambang Tbk

PT Aneka Tambang Tbk, commonly known as ANTAM, was established in 1968 through the merger of several mining projects and operational units owned by the Indonesian government. During its early years, ANTAM developed the Pongkor and Cikotok gold mines and initiated nickel production activities. ANTAM operates a precious metals refining and processing facility accredited as a Good Delivery List Refiner by the London Bullion Market Association (LBMA). The company subsequently expanded into other mineral commodities, including bauxite mining in West Kalimantan, while also developing processing facilities to support both domestic industrial demand and export markets. ANTAM owns Indonesia's only chemical-grade alumina processing plant. In 2017, ANTAM became part of the State-Owned Mining Industry Holding Company, MIND ID.

8. PT Central Omega Resources Tbk

PT Central Omega Resources Tbk (DKFT) is a nickel ore mining company integrated with downstream processing facilities (smelters). The company was established in 1995 under the name PT Duta Kirana Finance and initially operated in the financing services industry. Two years later, it became publicly listed on the Indonesia Stock Exchange (then the Surabaya Stock Exchange). A significant transformation occurred in 2011 when the company undertook a capital increase without pre-emptive rights (PMTHMETD). This corporate action was followed by a shift in its core business activities from financing services to trading and mining, as well as the acquisition of several mineral mining companies in Central and Southeast Sulawesi, namely PT Mulia Pacific Resources, PT Mega Buana Resources, and PT Bumi Konawe Abadi. These acquisitions strengthened the company's operational foundation in the nickel mining industry. In 2013, the company further expanded its industrial integration through a partnership with PT Macrolink Nickel Development to establish PT COR Industri Indonesia (CORII).

9. PT Ifishdeco Tbk

PT Ifishdeco Tbk (IFSH) was established in 1971 and underwent several strategic transformations before ultimately focusing its business activities on the mining sector. The transition began when mineral deposits were discovered on plantation land managed by the company. As a result, the company obtained a

Production Operation Mining Business License (IUP) in 2010 and commenced nickel production later that year. Commercial sales activities continued following the acquisition of export quotas and the development of processing facilities through PT Bintang Smelter Indonesia. In 2019, the company was officially listed as a public company and subsequently pursued various business expansion initiatives. In 2023, the company increased its investment in PT Patrindo Jaya Makmur through debt conversion, implemented a share buyback program to maintain stock price stability, and established IFISH Battery Minerals Pte. Ltd. in Singapore as a holding company. In 2024, the company restructured its investment portfolio through the divestment of interests in several subsidiaries and the acquisition of a portion of shares in PT Lingke Sulawesi Mineral.

10. PT Kapuas Prima Coal Tbk

PT Kapuas Prima Coal Tbk (ZINC) operates as an integrated mineral mining company with production lines covering iron ore (Fe), galena (PbS), lead concentrate (Pb), and zinc concentrate (Zn). Since commencing commercial operations in 2010, the company has conducted mining activities under a Mining Business License (IUP) covering an area of 5,569 hectares located in Bintang Mengalih Village, Belantikan Raya District, Lamandau Regency, Central Kalimantan. In carrying out its operations, the company prioritizes workforce competency development and the implementation of Occupational Health, Safety, and Environmental (OHSE) principles as fundamental aspects of its business practices.

11. PT Timah Tbk

PT Timah Tbk is one of the world's largest producers and exporters of tin metal, headquartered in Pangkalpinang, Bangka Belitung Islands. The company's business activities encompass mining, processing, trading, transportation, and various supporting services, including engineering, shipbuilding, and property development. The company manages 125 Mining Business Licenses (IUPs) with a total concession area of 473,310 hectares across Bangka, Belitung, Singkep, Karimun, and Kundur, with estimated tin reserves of approximately 300,000 tons. The company traces its origins to the long history of tin mining in Indonesia, which was managed by the Dutch colonial government. As part of the restructuring of Indonesian state-owned enterprises in 2017, PT Timah Tbk became a member of MIND ID, with the holding company serving as its controlling shareholder. In conducting its operations, the company applies sustainable mining principles throughout the exploration, extraction, and processing stages. In 2024, PT Timah Tbk recorded improvements in both operational and financial performance through strengthened corporate governance, reserve optimization, enhanced production efficiency, and improved tin ore recovery rates.

12. PT PAM Mineral Tbk

PT PAM Mineral Tbk was established on January 15, 2008, with a primary focus on nickel mining activities, both through direct operations and its subsidiaries. The company’s business operations are concentrated in two strategic regions, namely Southeast Sulawesi and the coastal areas of Central Sulawesi. On July 9, 2021, the company conducted its Initial Public Offering (IPO) on the Indonesia Stock Exchange under the ticker symbol NICL. The IPO was intended to strengthen the company’s capital structure, enhance transparency, and create opportunities for long-term growth. In addition, NICL emphasizes sustainable business practices through responsible environmental management and the continuous development of human resource capabilities.

13. PT Cita Mineral Investindo Tbk

PT Cita Mineral Investindo Tbk was established in 1992 under the name Cipta Panelutama, based on Deed No. 333 issued by Notary Arikanti Natakusumah, and initially operated in the furniture manufacturing sector. In 2002, Cipta Panelutama was officially listed on the Indonesia Stock Exchange under the ticker symbol CITA. A strategic transformation was undertaken in 2005 through diversification into the bauxite mining industry by acquiring an equity interest in PT Harita Prima Abadi Mineral. In line with this new business focus, the company changed its name to PT Cita Mineral Investindo Tbk in 2007. In 2013, CITA initiated the construction of a Smelter Grade Alumina (SGA) processing and refining facility in West Kalimantan through its associated entity, WHW, as part of its strategy to enhance the value-added processing of bauxite. The facility officially commenced operations in 2016, making CITA, through WHW, the first producer of Smelter Grade Alumina in Indonesia. The ownership structure of WHW consists of 30% held by CITA, 56% by China Hongqiao Group Limited, 9% by Winning Investment (HK) Company, and 5% by Shandong Weiqiao Aluminium and Electricity Co., Ltd.

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Table 2
Research Variable Data for the 2020–2024 Period

No	Code	Year	Independent			Dependent
			Size (X1)	ROE (X2)	DER (X3)	CSRD (Y)
1.	PTBA	2020	23,904	0,141	0,420	0,709
		2021	24,310	0,326	0,489	0,675
		2022	24,538	0,435	0,569	0,966
		2023	24,381	0,283	0,798	0,966
		2024	24,456	0,225	0,845	0,966
2.	CNKO	2020	20,828	0,229	-1,965	0,145
		2021	20,911	0,060	-1,985	0,205
		2022	20,624	0,042	-1,705	0,222
		2023	20,699	0,031	-1,736	0,239
		2024	20,629	-0,058	-1,724	0,265
3.	FIRE	2020	20,041	0,039	0,432	0,197
		2021	20,019	-0,149	0,608	0,419
		2022	19,714	-0,442	0,702	0,350
		2023	19,853	-0,002	0,961	0,350
		2024	19,665	0,106	0,449	0,368
4.	PKPK	2020	18,045	1,700	0,700	0,128
		2021	17,984	1,614	0,614	0,188
		2022	18,087	-2,761	5,725	0,205
		2023	19,953	-0,015	0,143	0,256
		2024	20,220	0,026	1,361	0,291
5.	SURE	2020	20,813	-0,032	0,810	0,171
		2021	20,721	-0,106	0,865	0,256
		2022	20,684	-0,148	1,122	0,248
		2023	20,707	-0,253	1,123	0,256
		2024	20,908	-0,463	3,119	0,248
6.	SQMI	2020	19,837	0,176	-3,271	0,333
		2021	19,916	-0,092	1,322	0,325
		2022	19,981	-0,195	1,965	0,393
		2023	20,048	-0,524	3,859	0,385
		2024	20,101	-2,911	19,268	0,556
7.	ANTM	2020	24,181	0,060	0,667	0,564
		2021	24,217	0,089	0,580	0,598
		2022	24,239	0,161	0,419	0,957
		2023	24,481	0,099	0,375	0,966
		2024	24,519	0,113	0,383	0,966
8.	DKFT	2020	21,665	-0,237	2,670	0,179
		2021	21,532	-0,518	5,250	0,248
		2022	21,590	0,152	5,164	0,239
		2023	21,666	0,150	5,131	0,248
		2024	21,656	0,432	1,999	0,154
9.	IFSH	2020	20,849	0,059	1,089	0,205
		2021	20,732	0,266	0,581	0,248
		2022	20,814	0,255	0,401	0,291
		2023	20,793	0,269	0,365	0,359
		2024	20,731	0,100	0,203	0,350
10.	ZINC	2020	21,053	0,038	0,717	0,111
		2021	21,445	0,090	1,320	0,265
		2022	21,630	-0,133	2,203	0,299
		2023	21,680	-0,028	2,497	0,308
		2024	21,607	-0,197	2,936	0,291
11.	TINS	2020	23,399	-0,069	1,939	0,487
		2021	23,411	0,207	1,329	0,530
		2022	23,293	0,148	0,856	0,974
		2023	23,277	-0,072	1,059	1,000
		2024	23,273	0,159	0,718	1,000
12.	NICL	2020	19,061	0,296	0,777	0,094
		2021	19,849	0,131	0,202	0,205
		2022	20,214	0,301	0,208	0,214

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		2023	20,569	0,036	0,149	0,214
		2024	20,772	0,362	0,196	0,274
13.	CITA	2020	22,144	0,188	0,199	0,111
		2021	22,183	0,155	0,173	0,265
		2022	22,482	0,195	0,191	0,709
		2023	22,552	0,130	0,127	0,650
		2024	22,796	0,327	0,042	0,735

Source: Processed by the authors,2026

Discussion

Table 3

Descriptive Statistics Test Result

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SIZE	65	17,984	24,538	21,42972	1,707802
ROE	65	-2,911	1,700	,01532	,619159
DER	65	-3,271	19,268	1,21535	2,800919
CSRD	65	,094	1,000	,40906	,273530
Valid N (listwise)	65				

Source: SPSS 27 Output Results, 2026.

Based on the descriptive statistics results, the dataset consists of 65 observations, representing 13 companies observed over a five-year period. The first independent variable, firm size (Size), measured using the natural logarithm of total assets (lnTA), has a minimum value of 17.984, recorded by PT Paragon Karya Perkasa Tbk in 2021, and a maximum value of 24.538, recorded by PT Bukit Asam Tbk in 2022. The mean value of Size is 21.429, indicating that, on average, the companies in this study belong to the medium-to-large asset category. Furthermore, the standard deviation of 1.707 suggests a relatively high dispersion of values, implying substantial variation in total assets across companies and observation periods. The second independent variable, profitability, measured by Return on Equity (ROE), has a minimum value of −2.911, recorded by PT Wilton Makmur Indonesia Tbk in 2024, indicating a significant loss condition. In contrast, the maximum value of 1.700 was recorded by PT Paragon Karya Perkasa Tbk in 2020. The mean ROE of 0.0153 indicates that the overall profitability level of the sampled companies is relatively low, as a return of 1.53% is considered insufficient for a high-risk industry such as mining. The standard deviation of 0.619 further suggests that the variation in profitability among the observations is not particularly large.

The third independent variable, leverage, measured using the Debt-to-Equity Ratio (DER), exhibits a highly extreme range of values, primarily attributable to PT Wilton Makmur Indonesia Tbk. The minimum DER value is −3.271 in 2020, while the maximum value reaches 19.268 in 2024. This extreme range is associated with the company's increasing reliance on debt financing in 2024, resulting in substantial variation in the leverage variable. The mean DER of 1.215 indicates that, on average, the sampled companies maintain a relatively balanced proportion of debt to equity. However, the standard deviation of 2.801 reflects considerable heterogeneity in financing structures across companies, particularly due to firms with negative equity positions or exceptionally high leverage levels.

The dependent variable, Corporate Social Responsibility Disclosure (CSRD), has a minimum value of 0.094, recorded by PT PAM Mineral Tbk in 2020, and a maximum value of 1.000, recorded by PT Timah Tbk in both 2023 and 2024. The mean CSRD score of 0.409 indicates that, on average, the sampled companies disclosed approximately 40.9% of the GRI Standards indicators used in this study, equivalent to about 47 out of 117 disclosure items. In addition, the standard deviation of 0.273 suggests that the variation in CSRD among the sampled companies is relatively low, indicating a fairly consistent level of CSR disclosure across observations.

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Table 4

***Kolmogorov-Smirnov* Test Result**

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			65
Normal Parameters[a,b]	Mean		,0000000
	Std. Deviation		,17019321
Most Extreme Differences	Absolute		,110
	Positive		,093
	Negative		-,110
Test Statistic			,110
Asymp. Sig. (2-tailed)[c]			,050
Monte Carlo Sig. (2-tailed)[d]	Sig.		,053
	99% Confidence Interval	Lower Bound	,047
		Upper Bound	,058

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 926214481.

Source: SPSS 27 Output Results, 2026.

The results of the Kolmogorov–Smirnov (K–S) normality test indicate an Asymp. Sig. (2-tailed) value of 0.050, which is at the significance threshold. Therefore, the data still satisfy the assumption of normality. Based on the normality assessments conducted using both the Normal Probability Plot and the Kolmogorov–Smirnov test, it can be concluded that the residual values generated by the model, as well as the data used in this study, are normally distributed.

Table 5
Multikolinearitas Test Result

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	SIZE	,982	1,018
	ROE	,523	1,911
	DER	,528	1,895

a. Dependent Variable: CSRD

Source: SPSS 27 Output Results, 2026

Based on the multicollinearity test results, the tolerance and Variance Inflation Factor (VIF) values for the Size variable are 0.982 and 1.018, respectively. The ROE variable has a tolerance value of 0.523 and a VIF value of 1.911, while the DER variable has a tolerance value of 0.528 and a VIF value of 1.895.

The test results indicate that all independent variables have tolerance values greater than 0.10 and VIF values below 10. Therefore, it can be concluded that the regression model used in this study is free from multicollinearity problems, indicating that there is no strong linear relationship among the independent variables.

Table 6

Autocorrelation test Result

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,783[a]	,613	,594	,174328	,901

a. Predictors: (Constant), DER, SIZE, ROE
b. Dependent Variable: CSRD

Source: SPSS 27 Output Results, 2026

Based on the autocorrelation test results presented in the table, the Durbin–Watson (DW) statistic is 0.901. This value falls within the range of −2 to +2, indicating that the regression model does not exhibit autocorrelation. Therefore, it can be concluded that the model and all variables used in this study are free from autocorrelation problems.

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Table 7
Mutiple Linear Regression Test Result

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-2,305	,277		-8,316	<,001
	SIZE	,126	,013	,789	9,820	<,001
	ROE	-,025	,049	-,057	-,520	,605
	DER	,004	,011	,041	,373	,711

a. Dependent Variable: CSRD

Source: SPSS 27 Output Results, 2026

Based on the results of the multiple linear regression analysis shown in Table X, the regression equation can be expressed as follows:
Y = -2,305 + 0,126 X1 - 0,025 X2 + 0,004 X3 + *e*

Description:
a. The constant value (α) of −2.305 indicates that when the variables Size, ROE, and DER are equal to zero, the value of CSRD is −2.305.
b. The positive regression coefficient of 0.126 indicates that a one-unit increase in the Size variable will lead to an increase of 0.126 in CSRD, assuming that all other variables remain constant.
c. The negative regression coefficient of −0.025 indicates that a one-unit increase in the ROE variable will result in a decrease of 0.025 in CSRD, assuming that all other variables remain constant.
d. The positive regression coefficient of 0.004 indicates that a one-unit increase in the DER variable will lead to an increase of 0.004 in CSRD, assuming that all other variables remain constant.

Table 8
T - Test Result

Coefficients[a]

Model		t	Sig.
1	(Constant)	-8,316	<,001
	SIZE	9,820	<,001
	ROE	-,520	,605
	DER	,373	,711

a. Dependent Variable: CSRD

Source: SPSS 27 Output Results, 2026

Based on the results presented in the table above and a critical t-value of 1.999 (α = 0.05; df = 61), the findings of the partial t-test are described as follows:
a. Firm Size (Size) has a calculated t-value of 9.820 and a significance value of less than 0.001. Since 9.820 > 1.999 and 0.001 < 0.05, the alternative hypothesis (H1) is accepted. This result indicates that firm size has a significant effect on Corporate Social Responsibility Disclosure (CSRD).
b. Return on Equity (ROE) has a calculated t-value of 0.520 and a significance value of 0.605. Since 0.520 < 1.999 and 0.605 > 0.05, the alternative hypothesis (H2) is rejected. This finding indicates that profitability does not have a significant effect on Corporate Social Responsibility Disclosure (CSRD).
c. Debt-to-Equity Ratio (DER) has a calculated t-value of 0.373 and a significance value of 0.711. Since 0.373 < 1.999 and 0.711 > 0.05, the alternative hypothesis (H3) is rejected. This result indicates that leverage does not have a significant effect on Corporate Social Responsibility Disclosure (CSRD).

Table 9
F – Test Result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,935	3	,978	32,188	<,001[b]
	Residual	1,854	61	,030		
	Total	4,788	64			

a. Dependent Variable: CSRD
b. Predictors: (Constant), DER, SIZE, ROE

Source: SPSS 27 Output Results, 2026

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Based on the table above, the F-count and Sig. values are 32.188 and <0.001. With an F-table of 2.755 (α = 0.05; df_1 = 3; df_2 = 61), it can be concluded that the F-count > F-table and Sig. <0.05, so the alternative hypothesis (H4) is accepted. This means that the variables of company size, profitability, and leverage simultaneously influence the CSR disclosure variable.

Table 10
Coefficient of Determination Test result

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,783[a]	,613	,594	,174328

a. Predictors: (Constant), DER, SIZE, ROE

b. Dependent Variable: CSRD

Source: SPSS 27 Output Results, 2026

Based on the results of the coefficient of determination test presented in the table, the Adjusted R^2 value obtained is 0.594. This indicates that 59.4% of the variation in Corporate Social Responsibility Disclosure (CSRD) can be explained by firm size, profitability, and leverage, while the remaining 40.6% is explained by other factors not included in this study

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the results of the firm size analysis, the calculated t-value is 9.820, which is greater than the critical t-value of 1.999, with a significance level of 0.001, which is below 0.05. This indicates that firm size has a significant effect on Corporate Social Responsibility Disclosure (CSRD). From an economic perspective, this finding suggests that companies with larger asset bases tend to possess greater resources and financial capacity to bear the costs associated with implementing and disclosing CSR activities.

Based on the profitability analysis, the calculated t-value is 0.520, which is lower than the critical t-value of 1.999, with a significance level of 0.605, which exceeds 0.05. This indicates that profitability does not have a significant effect on Corporate Social Responsibility Disclosure (CSRD). From an economic perspective, this finding suggests that the profits generated by a company are not directly allocated to CSR disclosure activities. Instead, companies tend to prioritize the use of profits for other purposes, such as dividend distribution, operational investments, or strengthening their financial structure. Consequently, decisions regarding CSR disclosure are not solely determined by the level of profitability.

Based on the leverage analysis, the calculated t-value is 0.373, which is lower than the critical t-value of 1.999, with a significance level of 0.711, which is greater than 0.05. This indicates that leverage does not have a significant effect on Corporate Social Responsibility Disclosure (CSRD). Economically, this finding suggests that a company's dependence on debt financing is not a primary factor influencing its CSR disclosure decisions.

Based on the analysis of all three independent variables, the calculated F-value is 32.188, which exceeds the critical F-value of 2.755, with a significance level of 0.001, which is below 0.05. This indicates that firm size, profitability, and leverage jointly (simultaneously) have a significant effect on Corporate Social Responsibility Disclosure (CSRD). This finding suggests that these three factors collectively shape the company's economic condition and influence its decisions regarding CSR disclosure.

Recommendations

As for the limitations of the current research which only focuses on the mining sector in Indonesia, future researchers are advised to expand the sample by adding other sectors so that the results of the study can reflect a wider variety of CSR practices and allow for comparisons between companies.

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