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Submission date: 25-Apr-2025 06:49PM (UTC+0700)

Submission ID: 2656526515

File name: 1._David_Goiyardi_Joni_1.pdf (375.04K)

Word count: 6441

Character count: 36272

CSR, Gender Diversity, and Firm Performance: Evidence from Mining and Energy Sector In Indonesia

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Received 23 January 2025; Revised 30 March 2025; Accepted

Abstrak

Tujuan – Penelitian ini bertujuan untuk menguji hubungan antara Corporate Social Responsibility (CSR) dan Keberagaman Gender terhadap Kinerja Perusahaan pada sektor pertambangan dan energi di Indonesia.

Desain/Metodologi/Pendekatan – Penelitian ini menggunakan teknik penyampelan purposive dengan kriteria sampel adalah perusahaan energi dan pertambangan yang terdaftar di Indonesia. Sampel akhir adalah 444 observasi. Dalam penelitian ini, regresi OLS digunakan untuk menguji hubungan ini. Penelitian ini juga menyelesaikan masalah endogenitas dengan menggunakan Generalized Method of Moments (GMM).

Temuan – Hasil analisis menunjukkan bahwa terdapat hubungan positif antara CSR dan Keragaman Gender dengan kinerja perusahaan. Perusahaan yang memiliki inisiatif CSR yang kuat cenderung memiliki kinerja yang lebih baik. Selain itu, temuan menunjukkan bahwa keragaman gender memiliki dampak positif pada kinerja perusahaan.

Keterbatasan/implikasi Penelitian – Studi ini memiliki implikasi penting bagi para pemangku kepentingan dan perusahaan-perusahaan di industri pertambangan dan energi di Indonesia. Praktik CSR yang kuat dan promosi keragaman gender dapat memberikan manfaat jangka panjang bagi perusahaan, seperti peningkatan reputasi, kepuasan karyawan, dan penciptaan nilai baru bagi pemegang saham. Temuan-temuan ini juga dapat digunakan oleh pemerintah dan organisasi terkait untuk merancang undang-undang dan peraturan yang mendorong praktik bisnis yang berkelanjutan dan adil di sektor pertambangan dan energi di Indonesia.

Kata Kunci: CSR, Keberagaman Gender, Kinerja Perusahaan, Sektor Energi dan Pertambangan



Abstract

Purpose – This study aims to examine the relationship between Corporate Social Responsibility (CSR) and Gender Diversity on Firm Performance in the mining and energy sector in Indonesia.

Design/methodology/approach – This study used purposive sampling with listed energy and mining companies in Indonesia as the main criteria. The final sample is 444 firm-year observation. In this study, OLS regression was used to test this relationship. This study also resolved the endogeneity issue by employing the Generalized Method of Moments (GMM).

Findings – The analytical results reveal that there is a positive relationship between CSR and Gender Diversity and firm performance. Companies that employ strong CSR initiatives tend to fare better. Furthermore, the findings indicate that gender diversity has a positive impact on firm performance.

Research limitations/implications – This study has important implications for stakeholders and firms in the mining and energy industries in Indonesia. Strong CSR practices and the promotion of gender diversity can give long-term benefits for businesses, such as increased reputation, employee satisfaction, and the production of new value for shareholders. These findings can also be used by the government and relevant organizations to design laws and regulations that encourage sustainable and equitable business practices in Indonesia's mining and energy sectors.

Keywords: CSR, Gender Diversity, Firm Performance, Energy and Mining Sector

Introduction

This study investigates the relationship between Corporate Social Responsibility (CSR) and firm performance in Indonesia's mining and energy sectors between 2015 and 2021. Topics concerning CSR practices have piqued the interest of various parties, including practitioners and academics. CSR can help a company's long-term viability. Furthermore, CSR is intended to assist the government in addressing numerous social problems that arise in society, such as unemployment, poverty, environmental harm, and so on. CSR can enhance a company's reputation and brand image. This is due to the fact that organizations that prioritize CSR implementation can achieve several benefits, including increased employee productivity, improved relationships with policy makers and stakeholders, expanded access to resources, cost reduction, and enhanced opportunities to receive awards (Scholtens, 2008; Lioui & Sharma, 2012; Tang *et al.*, 2012; Hadisurya

et al., 2025; Katenova & Qudrat-Ullah, 2024). Multiple studies have demonstrated an association between CSR and the financial performance of businesses. First, the research of Okafor *et al.* (2021) demonstrates positive and significant results regarding the relationship between CSR implementation and income growth. Second, Sakti (2017) conducted research from 2012 to 2015 on the effect of sustainable disclosure on the financial performance of mining companies listed on the IDX (Indonesian Stock Exchange). The results indicate that CSR influences firm performance positively. Cho *et al.* (2019) find positive outcomes associated to CSR and financial performance as well. The results, in particular, reveal that, while CSR activities have a positive influence on corporate performance, they do not have a statistically significant influence on financial success overall. With corporations focusing on CSR initiatives that produce significant results and ensuring that they only engage in activities that are efficient and productive for

firm performance. Then, there is a study by Kamatra & Kartikaningdyah (2015) that examines CSR with financial performance using profitability ratios that are proxied by Return on Assets, Return on Equity, Earnings Per Share, and Net Profit Margin. According to the results of their study, Return on Asset and Net Profit Margin are the metrics by which CSR impacts financial performance. However, CSR has no impact on Return on Equity and Earnings Per Share for IDX-listed companies in the mining and fundamental chemical industries.

Two characteristics distinguish this investigation from prior research. First, the scope of businesses in Indonesia's energy and mineral industries is used in this study. Second, the prevalence of a female board of commissioners in Indonesia's dual board system, an additional governance variable that is characteristic of Indonesian governance, was incorporated by the researchers. This exemplifies the distinctiveness of governance in Indonesia with regard to the oversight and supervisory responsibilities of women serving on the board of commissioners. Prior studies have demonstrated that the inclusion of women in corporate leadership positions results in enhanced firm performance and alternative perspectives when it comes to formulating strategic decisions. Rao & Tilt (2021), for example, investigate the impact of gender diversity on CSR decisions. Gender diversity affects board-level decisions, according to their test results, which also reveal that a number of moderating factor issues positively interact with the gender.

Furthermore, this study is organized as follows: section 2 discusses institutional background, followed by section 3 explaining the theoretical underpinning and hypothesis development. After that, Section 4 describes study methods, and Section 5 discusses research results. Finally, in section 6, there are conclusions.

Literature Review & Hypothesis

Institutional Background

CSR was first introduced in Indonesia in 1980, but has grown in popularity since the 1990s. In Indonesia, CSR is governed by a number of legislation. First, there is Law Number 40 of 2007. Article 74 paragraph (1) of Chapter 5 (5), relating to social and environmental duty, states that "State limited liability companies that carry out activities in the field and/or related to natural resources are obliged to fulfill their Social and Environmental Responsibilities." Second, there is Government Regulation No. 47 of 2012 on Limited Liability Company Social and Environmental Responsibility. Third, there is also Law No. 25 of 2007 concerning Capital Investment. The obligations of investors to uphold the principles of sound corporate governance and undertake corporate social responsibility are explicitly addressed in Article 15. Additionally, with regard to the obligations of investors, article 16 stipulates that one of these obligations is environmental preservation. Sanctions for non-compliance with the obligations outlined in paragraph (1) of article 34 are also included in this legislation. The presence of these regulations transforms CSR from a mere moral obligation into a legal requirement that is manifestly mandated. Fourth, there is Law Number 21 of 2014 concerning Geothermal Energy. Concerning CSR, it is stated in Article 65, paragraph 2b, concerning the community's rights to geothermal operations, that the community has the right to obtain benefits from geothermal operations through the company's obligation to fulfill its social responsibilities to the local community.

In Indonesia, governance is based on a dual board system, with the Board of Commissioners and the Board of Directors. The dual board system in Indonesia has its origins in efforts to increase internal business monitoring and avoid conflicts of interest between shareholders and firm management. The Board of Commissioners

has a strategic role and monitors the work of the Board of Directors. This is governed under Limited Liability Company Law Number 40 of 2007. The composition of the board of commissioners is typically smaller than that of the board of directors within an organization. However, this is contingent upon the particular requirements of every organization. A dual board system, also referred to as a two-tier system, divides the responsibility for administration and oversight between two boards of directors: the board of commissioners and the board of directors. Conversely, a one-tier system consolidates the oversight and management responsibilities into a single Board of Directors.

The inclusion of women is an important factor in the context of a dual board system. In many nations, including Indonesia, the issue of the presence of women in corporate leadership positions and decision-making processes is becoming more and more important. This relates to initiatives to reduce gender gaps in the corporate world and promote gender equality. The primary aim of incorporating women into the dual board system in Indonesia is to ensure that the company's decision-making process is enriched with a diverse range of perspectives through the representation of women on both the supervisory board and the board of directors. In addition to demonstrating the company's dedication to gender equality and inclusivity, the dual board system showcases the potential for women to contribute distinctive expertise, perspectives, and capabilities that foster innovation and critical thinking in corporate management.

Because it cannot be denied that the patriarchal system is still evolving in the majority of Indonesian societies, gender diversity is an important issue when it comes to implementing governance in Indonesia. The prioritization of men's roles over women's is dictated by cultural and social norms. Governance in Indonesia is likewise impacted by this cultural milieu. The idea

that women shouldn't lead males, for example. Women also have less access to more lucrative positions and face greater difficulty obtaining employment than men in Indonesia. Regarding gender equality, the Ministry of Women's Empowerment and Child Protection formulated a Draft Government Regulation in 2006. Along with these factors, the gender composition of a company has come under scrutiny because an increase in the number of women serving on corporate boards is likely to affect financial performance. The purpose of establishing this regulation is to fortify the legal framework pertaining to matters of gender diversity within organizations.

Theoretical Foundations and Hypothesis Development

Several related theories, including stakeholder theory and stakeholder and agency theory, can explain the relationship between CSR and firm performance. According to stakeholder theory, organizations must deliver advantages to stakeholders rather than operating solely for the benefit of the corporation (Widianto & Suryono, 2011). As stated by Ghozali & Chariri (2007), the primary objective of the organization is to optimize the returns for its shareholders. However, the perspective of stakeholders has begun to shift significantly over time. Social disclosure is an integral component of the communication process that a business engages in with its constituents.

CSR serves as an intermediary between the organization and its stakeholders by necessitating the disclosure of diverse types of data, including financial, social, and environmental. By furnishing information regarding all company operations, CSR has the ability to shape the expectations and perspectives of its stakeholders (Adam & McNicholas, 2007). In order to enhance the organization's prospects of survival, this disclosure is intended to satisfy information requirements and garner support from stakeholders. The

more effective the CSR initiatives implemented by the company, the more support it receives from its stakeholders. As the business would expect, this could have an impact on performance enhancement and profit growth. The company and its stakeholders are impacted by the mere existence of CSR. For instance, inadequate assimilation of CSR knowledge can result in significant financial ramifications for involvement strategies, as well as the need for supplementary resource investments, both of which are detrimental to the firm's performance and its ability to make informed decisions on behalf of its stakeholders. There is a relationship between the size of the board of commissioners and corporate social responsibility (CSR) disclosure, where companies with a smaller board of commissioners tend to disclose CSR more effectively than those with a larger board. Meanwhile, the level of ownership diffusion or public share ownership does not affect CSR disclosure. Furthermore, the presence of women on the board does not influence the company's operations in overseeing CSR disclosure (Septianingsih & Muslih, 2019).

As defined by agency theory (Jensen & Meckling, 2019), an agency relationship is established when the proprietor (principal) engages the services of another individual (agent) and delegates authority to the agent. Managers and shareholders' agreement regarding a company is analogous to a contract. Under the direction of the manager, the company proprietor delegates complete control of the business. The manager, who possesses complete authority and is responsible for issuing the financial reports of the subsidiary, often prioritizes the interests of the subsidiary over those of the shareholders. This will result in discord between shareholders and managers, or more commonly referred to as the negligence problem. With a monitoring system that strikes a balance between these diverse interests, the problem of agency can be minimized, thereby lowering agency costs.

A monitoring mechanism that aligns these interests in order to reduce agency costs can help to mitigate this issue. It is anticipated that agency conflicts will decrease and firm performance will improve when companies increase their accountability by disclosing financial and non-financial information, such as CSR. According to Yip *et al.* (2011), there is a significant disparity between owners and managers, with owners preferring as much CSR disclosure as possible. However, there are costs and benefits to making disclosures from the manager's perspective.

There is a significant and positive relationship between corporate social performance and financial performance, according to the results of empirical research by Griselda *et al.* (2020), which is measured by ROA and firm value (Tobin's Q) to test this relationship. Consistent with the findings of Martin *et al.* (2009), CSR will yield enduring advantages for the organization due to its contribution to the growth and improvement of its reputation and demonstration of loyalty to its stakeholders. Capital limitations may be mitigated through enhanced CSR disclosure. Effective CSR performance is demonstrated by engagement of stakeholders. By enhancing the internal control system, this will result in positive feedback such as increased company transparency and compliance with reporting regulations (Cheng *et al.*, 2014). The following hypothesis is to be tested in light of the preceding:

H₁: CSR has a positive effect on the company's financial performance, *ceteris paribus*

In addition to promoting CSR, the inclusion of women in an organization fosters superior performance through various means, such as mitigating workforce attrition due to demographic factors that extend beyond gender. Moreover, potential clients and suppliers may increase in number due to the presence of women (Robinson & Dechant, 1977). Encouraging a healthy work

culture can be facilitated by the presence of women through the promotion of an open and adaptable environment. Moreover, the presence of gender diversity on the board will generate diversity in the decision-making process, which will in turn prompt organizations to more thoroughly evaluate the various alternatives and associated risks (Carter *et al.*, 2003). Consequently, gender diversity is an intrinsic component of corporate governance that yields internal and external advantages for the organization. According to Bear *et al.* (2010), there is a positive relationship between the percentage of women in the boardroom and corporate reputation, and the inclusion of women on the board enhances ratings for corporate social affairs. On the basis of the preceding and prior research, the following hypothesis is to be examined:

H₂: Gender diversity is positively associated with firm performance, *ceteris paribus*

Research Method

Sample Selection

The mining and energy companies that are listed on the Indonesia Stock Exchange and have disclosed their CSR initiatives in their annual reports for the years 2015 to 2021 were used as the unit of analysis in this study. Secondary data were used in this study. They were obtained from the Thomson Reuters Database and the IDX (Indonesia Stock Exchange) website in the form of company annual reports. A total of 444 firm-year observations pertaining to the energy and mining sectors in Indonesia were obtained following data collection and processing. These samples spanned a duration of seven years, from 2015 to 2021. Subsequently, these data were used to construct the variables incorporated in this study.

Variable Measurement and Data Sources

Independent Variables

As determined by the results of the hypothesis formulation, this study employs two independent variables. First, CSR refers to the obligation of businesses to contribute resources and define their operations in a way that promotes the betterment of society (Kotler & Lee, 2005). Information for CSR disclosures is obtained from the Thomson Reuters Database and annual reports compiled through the IDX website (Indonesia Stock Exchange) of 66 companies operating in the energy and mining sectors in Indonesia. Following this, the 20 items of disclosures listed in Table 1 are analyzed.

Table 1
20 Items of Disclosures Listed

No.	Disclosure Dimension [Indicator]
I	Community Engagement [3 Indicators]
II	Environment [1 Indicator]
III	Employee Information [9 Indicators]
IV	Service And Product Data [6 Indicators]
V	Value Added Information [1 Indicator]

Source: Muttakin & Khan (2014)

Our investigation into CSR disclosure is consistent with the findings of Muttakin & Khan (2014). The company receives a score of 1 for its own application if the aforementioned items are disclosed, and a score of 0 otherwise. The results are then calculated and divided by the total number of 20 items. Additionally, all annual reports have been thoroughly read to ensure assessment consistency.

Second, the size of the number of women on the board of commissioners and directors received from the company's annual report, as well as the total of the board

of commissioners and board of directors, are used in this study to assess gender diversity. Gender diversity uses a dummy variable for its own value, which means that if there are women on the board of commissioners and directors, it is assigned a value of 1 and if there are none, it is assigned a value of 0. It is also based on the total number of both men and women who occupy the board of commissioners and board of directors.

Dependent Variable

In this study, the dependent variable is financial performance. The Return on Assets (ROA) ratio is used as a standard for evaluating firm performance in order to arrive at this result. A number of prior studies, including Puspita & Kartini (2022), which examined the impact of CSR on the financial performance of Indonesian institutions using ROA as a metric for financial performance evaluation, also utilized ROA as a benchmark. An additional study conducted by Ajaz *et al.* (2020) employed return on assets (ROA) as a metric to assess financial performance with respect to its impact on reputation, CSR, and gender diversity. An assessment of a company's financial performance can be conducted via the ROA ratio, which quantifies the firm's profitability efforts per rupiah of assets owned or profitability based on a specified level of assets owned. A positive correlation exists between a firm's ROA and its proficiency in asset management (Sa'adah & Sudiarto, 2022).

Control Variables

Following prior studies our studies applied several control variables. The Debt-to-Equity Ratio (DER) is utilized as a control variable since it is a source of funding for this debt, which has capital expenses in the form of interest on obligations every day the loan matures (Nugroho, 2006). There is also a company size variable (Firm Size). The natural logarithm (ln) of total assets is used to calculate firm size (Budiasih, 2009). This

study also takes into account fixed influences, such as year effects.

Table 2
Definition Table

Variable	Definition
Independent Variables	
CSR	CSR index with a total of 20 Indicators (Muttakin & Khan, 2014).
Fem_BOC	A dummy variable is used to calculate the number of women on the board of commissioners (Widjaja <i>et al.</i> , 2024)
BOC_size	Total number of members of the board of commissioners, both men and women (Widjaja <i>et al.</i> , 2024)
Fem_BOD	A dummy variable is used to count the number of women on the board of directors (Widjaja <i>et al.</i> , 2024)
BOD_size	Total number of members of the board of directors, both men and women (Widjaja <i>et al.</i> , 2024)
Dependent Variable	
ROA	Net profit divided by total assets at the end of the year for company i in year t (Wang <i>et al.</i> , 2018)
Control Variables - Firm Characteristic	
Firm Size	The measurement for calculating the size of a company is calculated using the natural logarithm (ln) of total assets (Budiasih, 2009).
DER	Funding from this debt has a capital cost in the form of interest on the obligation every day the debt matures (Nugroho, 2006)
Control Variable - Fixed Effect	
Year Effect	Vector of indicator variables for the period 2015-2021.

Source: Author (2025)

Research Model

In addition to descriptive statistics, the Pearson Correlation Test, the classical assumption test, the VIF, and the GMM (Generalized Method of Moments), this study employs the following model to examine the relationship between CSR and gender diversity and firm performance:

$$ROA = a + b \text{ CSR} + c \text{ Firm size} + d \text{ DER} + e \text{ Year effect} + f$$

$$ROA = a + b \text{ Fem_BOC} + c \text{ BOC_size} + d \text{ Fem_BOD} + e \text{ BOD_size} + f \text{ Firmsize} + g \text{ DER} + h \text{ Year effect} + i$$

Results and Discussion

Descriptive Statistics

Table 3 presents the results of descriptive statistics on a total sample of 444 firm-year observations collected over a 7-year period (2015-2021) to examine and analyze the relationship between CSR and Gender Diversity on firm performance as defined by ROA, including minimum, maximum, and average values. The table displays the average and standard deviation of each variable. The ROA exhibits a minimum value of -0.86 (maximum value of 0.92), with an average value of 0.50 and a standard deviation of 0.18. This means that several companies in our sample can reach the maximum return of their investment up to 92%. (1) Zero represents the minimum (maximum) CSR value; the mean value is 48.34; and the standard deviation is 0.43. It suggests that all mining listed companies in our sample apply almost 50 percent out of 20 CSR indicators defined. FEM_BOC is denoted by four parameters, the minimum (maximum) value of which is zero (1), the mean value of which is 0.25, and the standard deviation of which is 0.43. The mean value of gender diversity reflects the nominal presence of female board of commissioners in Indonesia. BOC_size is a metric that exhibits a range of values,

minimum (maximum) 2 (11), mean 3.59, and standard deviation 1.73. The minimum (maximum) value of Fem_BOD is zero (1), while its mean value is 0.28 and its standard deviation is 0.45. The minimum (maximum) value of BOD_size is 2 (9), while its mean value is 3.78 and its standard deviation is 1.67. The descriptive statistics of Gender Diversity, CSR, and ROA yield results that are consistent with those of prior research (Ajaz *et al.*, 2020). The FirmSize variable exhibits a minimum value of 2.04 (maximum: 27.09), an average value of 17.47, and a standard deviation of 7.06. The DER exhibits a minimum value of -4.43 (6.11), a maximum value of 0.48, and a standard deviation of 9.03. In comparison to prior investigations, FirmSize and DER are deemed rational (Ajaz *et al.*, 2020).

Table 3
Results Of Descriptive Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ROA	444	0.47	0.18	-0.08	0.92
CSR	444	0.50	0.25	0	1
Fem_BOC	444	0.25	0.43	0	1
BOC_size	444	3.59	1.73	2	11
Fem_BOD	444	0.28	0.45	0	1
BOD_size	444	3.78	1.67	2	9
FirmSize	444	17.47	7.06	2.04	27.09
DER	444	0.48	9.03	-4.43	6.11
Yeareffect	444	2018.06	1.98	2015	2021

Source: Author (2025)

This table contains summary statistics for the key variables in the study. The sample includes 444 firm-year observations from the period 2015-2021. We use all variables based on calendar year. Variable definitions are given in Table 2.

The correlation between critical variables in the industry-year effect model is then examined using a Pairwise Pearson

correlation test. The variable indicating the highest correlation between BOC_size and BOD_size is gender diversity ($r = 0.64$), as shown in Table 4. Table 5 of this study also

displays the results of a multicollinearity test conducted with VIF, which indicate that the model investigated in this study does not exhibit any multicollinearity issues.

Table 4
Correlation Matrix

	ROA	CSR	Fem	BOC	Fem	BOD	Firm	DER
				BOC	Size	BOD	Size	Size
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
1	1.00							
2	0.14 ***	1.00						
3	0.15 ***	0.03	1.00					
4	0.24 ***	0.23 ***	0.19 ***	1.00				
5	0.09 *	0.10 **	- 0.09 *	- 0.16 ***	1.00			
6	0.24 ***	0.22 ***	0.21 ***	0.65 ***	- 0.09 **	1.00		
7	0.02	0.12 **	0.04	0.04	-0.01	0.02	1.00	
8	0.03	0.12 ***	0.06	-0.04	-0.07	-0.07	0.10	1.00

Source: Author (2025)

This table lists the Pearson correlation results and includes indicators for 444 firm-year observations. For variable definitions see Table 2. Superscripts a-c indicate two-way significance at the 1%, 5%, and 10% levels.

The Effect of CSR Disclosure and Gender Diversity on Firm Performance

The results of the Ordinary Least Squares regression test to determine the impact of CSR and Gender Diversity on firm performance as measured by ROA are then presented in Table 5. Model 1's results indicate that, at the 1% significance level, the CSR coefficient on ROA is both positive and significant (coefficient = 0.15 and $t =$

3.13). The result supports hypothesis 1 which states that the implementation of CSR disclosures by the organization results in enhanced firm performance. These results are consistent with the Stakeholder Theory, which provides an explanation for the positive correlation between firm performance and CSR disclosure by corporations. The survival of a business can be impacted, according to stakeholder

theory, by the support of stakeholders. A company will receive greater stakeholder support in its efforts to enhance firm performance in proportion to the quality of information it discloses regarding CSR. A positive correlation exists between firm performance and company size and DER. However, there is no statistically significant year effect.

The results of the second model indicate that the coefficient of gender diversity on return on assets (ROA), which is comprised of four variables, is also positive and statistically significant at the 5% level for Fem_BOC (coefficient = 0.39 and $t = 1.98$). Furthermore, both the BOC_size and Fem_BOD variables exhibit positive and statistically significant relationships at the 1% level (coefficient = 0.17 and $t = 2.76$ and 0.53 and 2.82, respectively). Ultimately, the significance threshold of 5% is applied to the positive and statistically significant relationship between BOD_size and firm performance (coefficient = 0.14 and $t = 2.12$). These findings support hypothesis 2 which indicate that gender diversity in the composition of a company's board encompasses both commissioners and directors improve firm performance. Agency problems arise when the proprietor (principal) requests that another party (agent) perform an action or have decision-making authority. These results are consistent with Agency Theory, which posits that such issues arise. This theory posits that, with regard to gender diversity in corporate board membership, the prudential decision-making and independent thought of female directors contribute to their enhanced monitoring capabilities. The inclusion of gender diversity on corporate boards has the potential to enhance overall firm performance, according to this viewpoint.

Table 5
CSR Disclosure and Gender
Diversity on Financial
Performance

	Model 1	Model 2
INTERCEPT		
CSR	-0.95(-2.42)	-0.17(-3.66)
Fem_BOC	0.15 ^a (4.05)	
BOC_size		0.39 ^b (1.98)
		0.17 ^a (2.76)
Fem_BOD		0.53 ^a (2.82)
BOD_size		0.14 ^b (2.12)
FirmSize	0.01(0.18)	0.01(0.05)
DER	0.01(0.05)	0.01(0.41)
YearEffect	Included	Included
Average VIF		
Adj. R ²	1.69	1.64
	0.04	0.10
F	3.48	5.22
Prob > F	0.0004 ^a	0.0000 ^a
N	444	444

Source: Processed Data

This table lists the estimated OLS coefficients and includes the indicators. Regression was used to control for year fixed effects, but results are not available due to space limitations. For variable definitions see Table 2. Superscripts a-c indicate two-way significance at the 1%, 5%, and 10% levels.

Sensitivity Analysis

The general moment method (GMM) test is used in this study to enhance the reliability of the results. This action was taken to bolster the body of evidence indicating that firms that disclose their CSR and have a female representation on the board of directors and commissioners have a positive impact on the improvement of firm performance. In order to examine the relationship between CSR disclosure and gender diversity on firm performance, Table 6 reports the results of an alternative analysis using the GMM model to examine the endogeneity issue. After undergoing the GMM test, it was determined that the results

of the data testing remained unchanged. This shows the robustness of our main testing.

Table 6
CSR Disclosure Model and Gender
Diversity on Firm Performance-GMM

	Model 1	Model 2
INTERCEPT	-0.95(-2.88)	-0.17(-3.84)
CSR	0.15 ^a (4.14)	
Fem_BOC		0.39 ^b (2.04)
BOC_size		0.17 ^a (2.58)
Fem_BOD		0.53 ^a (2.85)
BOD_size		0.14 ^b (1.78)
FirmSize	0.01(0.20)	0.01(0.05)
DER	0.01(0.03)	0.01(0.28)
Year Effect	Included	Included
N	444	444

Source: Processed Data

Table 5 reports the results of the generalized method of moments (GMM). The definitions of the variables used in table 5 are in table 1. Superscripts a-c indicate two-way significance level at the 1%, 5%, and 10% levels.

Conclusion and Recommendation

Our study finds that the implementation of CSR and the representation of women on corporate boards are positively influence the performance of corporations. This implies that firms operating in the energy and mining industries will experience a positive influence on progressing firm performance and achieve greater return on assets (ROA) when they exhibit commendable environmental practices and gender diversity.

For practitioners working in the mining and energy sectors in Indonesia, the results of this study have significant

implications. The findings of this study may help practitioners in the mining industry become more cognizant of the significance of gender diversity on company boards and CSR initiatives. Organizations can adopt policies and procedures that promote gender diversity in response to the benefits that practitioners can identify as a result of effective CSR implementation. A critical determinant that must be taken into account when formulating strategic and operational determinations in the energy and mining industries, this possesses the capacity to positively influence performance. The findings of this study may serve as inspiration for regulators in Indonesia's mining and energy industries to develop more inclusive policies concerning corporate social responsibility and gender diversity. In order to promote gender diversity in the industry and foster robust CSR practices, regulators should contemplate the development of a regulatory framework. This could potentially motivate regulators to develop more efficient mechanisms for overseeing the impact of CSR on performance and ensuring its proper implementation. In addition to bolstering CSR implementation and promoting gender diversity in this sector, collaboration with practitioners and other stakeholders can be enhanced. According to the findings of this study, energy and mining firms in Indonesia that disclose CSR and have a gender-diverse board of directors produce superior results. Therefore, we can draw the conclusion that corporate social responsibility and sustainability initiatives are becoming more and more integrated into business operations and have an important impact on a company's bottom line. Investors may find the findings of this study useful when deciding whether to invest in companies based in developing countries that have implemented CSR or not. Additionally, the results provide evidence for policymakers and company managers to mobilize resources in support of CSR and to increase

the proportion of women on company boards.

In evaluating the relationship between CSR disclosure and gender diversity on firm performance as an additional test, this study also examines and resolves the endogeneity issue. Consistent results were obtained from endogeneity testing as a whole. However, due to various research limitations, the results of this study still require further interpretation. First, only one nation is the subject of this study. Second, the ROA metric, which only measures operational performance, is the only one used in this study as a benchmark to assess firm performance.

Therefore, recommendations and contributions for future research include the inclusion of a more extensive sample that encompasses multiple developing nations. This enables analyses across countries, which may uncover commonalities and distinctions. Furthermore, it is suggested that forthcoming investigations explore the feasibility of incorporating alternative performance metrics, including Return on Investment (ROI), Return on Sales (ROS), Net Profit Margin (NPM), and others, as reference variables when assessing the performance of a company. The advantages of CSR disclosure and gender diversity on corporate boards will be more fully understood and depicted thanks to this approach.

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