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Do Sharia-Indexed Firms Enhance ESG Disclosure? Evidence from Indonesian Mining

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Abstract

This study explores the influence of asset retirement obligations and firm size on environmental, social, and governance disclosure, with Sharia index inclusion as a moderating factor among mining companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2024. The aim is to assess how environmental liabilities and organizational resources affect environmental, social, and governance disclosure and whether Sharia compliance modifies these relationships, contributing to ESG and Islamic finance literature. The research analyzes panel data from mining firms using moderated regression to evaluate the impact of asset retirement obligations, firm size, and Sharia index inclusion on environmental, social, and governance disclosure. Findings show that of asset retirement obligations and firm size positively influence ESG disclosure, driven by transparency needs and resource availability. However, Sharia index inclusion does not strengthen the asset retirement obligations environmental, social, and governance link, as firms view reclamation as a financial burden rather than a sustainability commitment. Conversely, it enhances the firm size-environmental, social, and governance relationship, reflecting higher stakeholder expectations for Sharia-compliant firms. The study highlights of asset retirement obligations and firm size as key drivers of ESG disclosure, with Sharia compliance amplifying the size effect but not environmental commitments. It offers practical insights for regulators, investors, and managers to foster sustainable governance in resource-intensive sectors.

Keywords

Asset Retirement Obligations, ESG Disclosure, Firm Size, Mining Companies, Sharia Index, Sustainable Governance.

1. Introduction

Sustainable development has become a global priority, urging all economic sectors, especially corporations and investors, to align with Environmental, Social, And Governance (ESG) principles (Yu et al., 2020). In Indonesia, a resource-rich nation and a new BRICS member, the mining sector is a cornerstone of the economy, contributing 12% to the GDP in 2024, with 9.15% from mining and quarrying, 1.82% from coal and oil/gas refining, and 1.02% from basic metal industries. ESG disclosure is increasingly vital for companies to demonstrate accountability, enhance firm value, and meet evolving investor expectations (Chen & Xie, 2022; Wulandari et al., 2025). Mining companies, due to their environmental impact, face heightened scrutiny to adopt robust ESG practices to support sustainable economic growth and social equity (Saha et al., 2023; Shen et al., 2023; Jin et al., 2024).

Indonesia's Financial Services Authority (*Otoritas Jasa Keuangan*/OJK) has reinforced this through regulations like Financial Services Authority Regulations (*Peraturan Otoritas Jasa Keuangan*/POJK) Number 51/POJK.03/2017, mandating sustainability reports for public companies. Additionally, mining firms are required to recognize Asset Retirement Obligations (AROs) for post-operation environmental restoration under Law Number 3 of 2020 and PSAK 237, aligning with global standards like IFRS and US GAAP. These obligations reflect a company's commitment to environmental rehabilitation, influencing ESG disclosure quality and transparency.

The mining sector's significant environmental footprint and economic volatility, driven by global events like the COVID-19 pandemic and the Russia-Ukraine conflict, underscore the need for transparent ESG reporting. The pandemic disrupted supply chains, reducing export demand and mining profitability, while the 2022 coal price surge boosted market capitalization by 152% for IDX-listed coal firms, reaching IDR 1,221 trillion by 2023. However, a 4% decline to IDR 1,174 trillion by mid-2024 highlights the sector's sensitivity to external shocks. Despite regulatory mandates, the extent and quality of ESG disclosures vary widely, raising questions about the factors driving effective reporting and whether Sharia-compliant firms, guided by Islamic principles, exhibit distinct ESG behaviors.

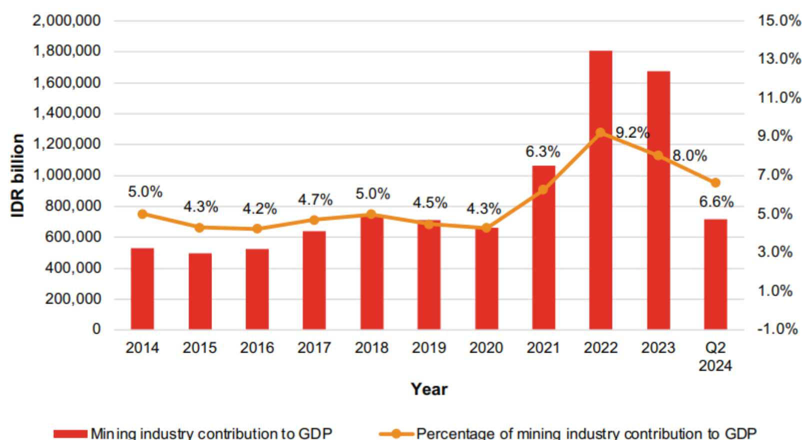

Figure 1. Contribution of the Mining Industry to Indonesian Gross Domestic Product between 2014-Q2 2024

Figure 1 illustrates the mining industry's contribution to Indonesia's GDP from 2014 to Q2 2024. The red bar shows the absolute contribution in billions of rupiah, and the orange line represents the GDP share. From 2014 to 2020, contributions

were stable at IDR 400,000–600,000 billion (4.2%–5.0% of GDP). In 2021, it rose to IDR 1,000,000 billion (6.3%), peaking in 2022 at IDR 1,800,000 billion (9.2%). It declined to IDR 1,650,000 billion (8.0%) in 2023 and further to IDR 650,000 billion (6.6%) in Q2 2024, reflecting a spike in 2021–2023 followed by a decline.

Two key factors influence ESG disclosure in mining companies: Asset Retirement Obligations (AROs) and firm size. AROs, representing provisions for mine reclamation, signal a firm's environmental responsibility and are expected to enhance ESG transparency due to stakeholder and regulatory pressures. Larger firms, measured by total assets, typically have greater resources and face higher public scrutiny, leading to more comprehensive ESG disclosures (Clarkson et al., 2008; Sharma et al., 2020; Deng et al., 2023; Saha et al., 2023). Additionally, Sharia-indexed companies, adhering to Islamic principles like *maslahah* (public welfare), khalifah (stewardship), and *amanah* (transparency), are expected to prioritize ESG reporting (OJK, 2019; Wulandari et al., 2025). These principles align with ESG goals, emphasizing ethical governance and environmental stewardship (Mercyana & Kurnianti, 2022). Sharia index inclusion may moderate the relationship between AROs, firm size, and ESG disclosure, as these firms face heightened expectations from stakeholders and regulators (Podolny, 1993; Olegario & McKenna, 2013).

While prior studies have explored ESG disclosure determinants, most focus on conventional firms, leaving a gap in understanding how Sharia compliance influences ESG practices (Kim & Park, 2018; Aboud & Diab, 2018; Avramov et al., 2022; Qian & Yu, 2024). Sharia-indexed companies operate under unique ethical frameworks, yet empirical evidence on their ESG disclosure behavior, particularly in high-impact sectors like mining, remains limited. Despite extensive research on ESG disclosure determinants in conventional firms, there is limited empirical evidence on how Sharia index inclusion influences the relationship between Asset Retirement Obligations (AROs), firm size, and ESG disclosure, especially in Indonesia's mining sector (Alkadrie & Khairunnisa, 2023). Addressing this gap, this study examines how Sharia index inclusion moderates the impact of AROs and firm size on ESG disclosure, offering a novel perspective on the interplay between Islamic finance principles and sustainability reporting, and providing practical insights for regulators, investors, and corporate managers.

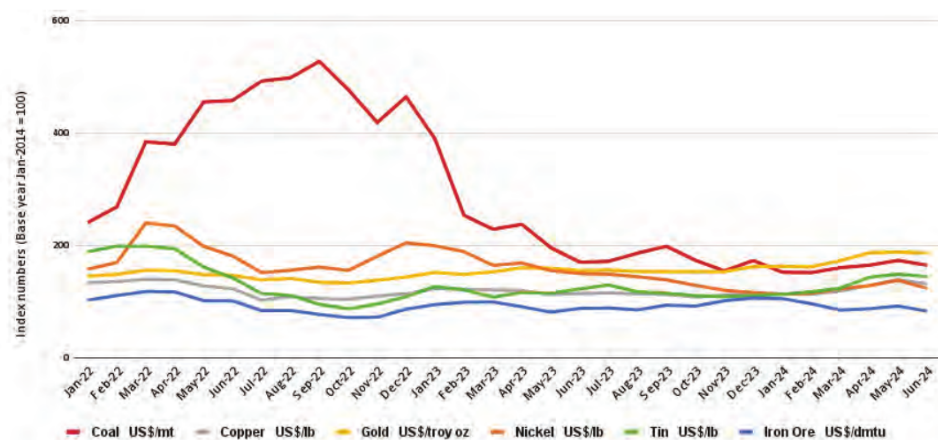

Figure 2. Mineral and Coal Price from 2022-Q2 2024

Figure 2 presents index figures (base year 2014 = 100) for various mineral prices from January 2022 to June 2024, including Coal (US$/mt), Copper (US$/lb), Gold (US$/troy oz), Nickel (US$/lb), Tin (US$/lb), and Iron Ore (US$/dmtu). Coal prices exhibited the most significant fluctuations, reaching a sharp peak in mid-2022 around 700, driven by global demand and geopolitical factors, before declining

steadily to around 200 in mid-2024. Copper, Gold, Nickel, Tin, and Iron Ore exhibited relatively stable trends with small fluctuations, ranging between 100 and 300, with Nickel experiencing a significant peak in early 2022. Overall, this graph highlights the volatility of coal prices compared to the more stable trends of other minerals over the observation period.

This study aims to analyze the impact of AROs and firm size on ESG disclosure among mining companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2024, with Sharia index inclusion as a moderating factor. It seeks to provide theoretical insights into ESG drivers, empirical evidence on Sharia-compliant firms' disclosure practices, and practical guidance for regulators, investors, and managers to enhance sustainable governance in the mining sector. By integrating financial metrics like AROs and assets with ethical dimensions of Sharia compliance, the study contributes to both ESG and Islamic finance literature, recommending policies to strengthen ESG reporting.

2. Literature Review and Hypothesis Development

2.1. Sharia Enterprise Theory and Legitimacy in ESG Disclosure

Corporate ESG disclosure is a strategic effort to achieve societal legitimacy, aligning with stakeholder expectations and norms, influenced by pressures like Asset Retirement Obligations (AROs) and firm size. Sharia Enterprise Theory (SET) further shapes this process, especially for Sharia-compliant firms facing significant environmental liabilities, by embedding a distinct ethical framework (Haneef, 1997; Lewis, 2001; Deegan, 2002). Legitimacy Theory, a key concept in social and environmental accounting, asserts that firms align operations with societal values to maintain legitimacy perceived as desirable actions within a normative system to secure resources and viability (Suchman, 1995). This involves an implicit social contract, where a legitimacy gap, arising from deviations, threatens a firm's social license, reputation, and sustainability (Dowling & Pfeffer, 1975). In high-impact sectors like mining, comprehensive ESG disclosure bridges this gap, demonstrating compliance, influencing perceptions, and ensuring stakeholder validation (O'Donovan, 2002; Cho & Patten, 2007; Schaltegger & Hörisch, 2017).

SET, distinct from profit-maximization theories, holds businesses accountable to shareholders, stakeholders, and God, prioritizing ethical, social, and environmental duties rooted in Islamic principles. These include *maslahah* (public welfare and harm prevention), *khalifah* (resource stewardship), *amanah* (transparency and accountability), and prohibitions against *fasad*, *riba*, and *gharar* (Karim, 2001; Othman & Thani, 2010; Abedifar et al., 2015; OJK, 2019). As a moderating variable, SET drives comprehensive ESG disclosure, instilling a moral imperative for sustainability and transparent reporting of liabilities like mine closures. The *maslahah* principle enhances community accountability, while *amanah*, supported by a Sharia Supervisory Board, boosts governance transparency (Wulandari et al., 2025). This synergy motivates Sharia-compliant firms to excel in ESG reporting, responding effectively to pressures from environmental liabilities and firm size (Kim & Park, 2018; Aboud & Diab, 2018; Qian & Yu, 2024; Avramov et al., 2022).

2.2. The Determinants of ESG Disclosure

The presence of significant Asset Retirement Obligations (AROs) in companies, particularly those in the mining industry, reflects substantial environmental liabilities that necessitate enhanced ESG disclosures to legitimize operations and address stakeholder expectations, especially regarding environmental impact. Legitimacy Theory suggests that such transparency is crucial, as it signals a company's commitment to environmental stewardship, risk management, and social responsibility, thereby maintaining public trust and regulatory approval (Deegan, 2002; O'Donovan, 2002; Clarkson et al., 2008; Tasios & Bekiaris, 2014). Sharia

Enterprise Theory adds a deeper layer, emphasizing that firms, particularly those listed on the Sharia stock index, are accountable not only to shareholders but also to all stakeholders and ultimately to God, guided by values such as *maslahah* (public benefit), *khalifah* (stewardship), and *amanah* (trustworthiness) (Lewis, 2001; Karim, 2001). This framework motivates Sharia-compliant mining companies to proactively disclose ESG information, including AROs, as both a compliance measure and a fulfillment of ethical and religious obligations.

As companies grow in scope and impact, their visibility and stakeholder attention increase, subjecting them to greater scrutiny and expectations for transparency in environmental, social, and governance practices (Saha et al., 2023; Jin et al., 2024). Legitimacy Theory indicates that this heightened attention drives firms to enhance ESG disclosures to maintain societal approval and protect their reputation (Deegan, 2002; O'Donovan, 2002; Cho & Patten, 2007). Firm size, typically measured by total assets, emerges as a critical factor, as larger firms possess greater resources and influence, making them more accountable to diverse stakeholders (Clarkson et al., 2008; Shakil, 2022). From a Sharia Enterprise Theory perspective, this accountability is amplified for Sharia-compliant enterprises, where larger, more prominent companies face heightened ethical and societal obligations rooted in transparency (*amanah*) and stewardship (*khalifah*) (Lewis, 2001). Consequently, larger mining companies, especially those adhering to Sharia principles, are expected to engage in more extensive ESG disclosure to meet regulatory, stakeholder, and religious commitments.

H1: Assets Retirement Obligations (AROs) has a positive and significant impact on ESG Disclosure
H2: Firm size (measured by total assets) has a positive and significant impact on ESG Disclosure

2.3. The Moderating Role of Sharia Index Inclusion

The presence of Sharia principles in corporate governance introduces a distinct ethical and accountability framework that shapes how firms address and communicate their social and environmental responsibilities. Sharia Enterprise Theory emphasizes values such as *maslahah* (public benefit), *khalifah* (stewardship), and *amanah* (trustworthiness), requiring companies not only to comply with regulatory standards but also to uphold broader social and religious obligations (Lewis, 2001; Wulandari et al., 2025).

Companies listed on a Sharia index are held to a higher standard of transparency and ethical conduct, both by regulators and by the expectations of ethically conscious stakeholders (Karim, 2001; Muhammad et al., 2025). Drawing upon Sharia Enterprise Theory and prior empirical research, this study contends that the Sharia-indexed company status operates as a moderating factor, reinforcing the positive relationships between assets retirement obligations, firm size, and ESG disclosure. Sharia-compliant mining firms, driven by both religious and ethical frameworks, are anticipated to exhibit superior ESG reporting practices compared to their conventional counterparts.

H3: Mining companies listed on the sharia stock index strengthen the positive effect of AROs on ESG disclosure
H4: Mining companies listed on the sharia stock index strengthen the positive effect of company size on ESG disclosure

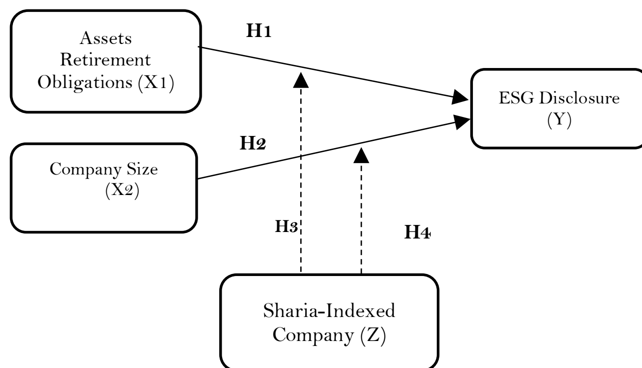

Figure 3. Research Framework

Figure 3 shows a conceptual framework linking ESG Disclosure (Y) with three variables: Assets, Pension Liabilities (X1), Company Size (X2), and Sharia-Indexed Companies (Z) as a moderator. Arrows labeled H1 and H2 indicate a direct positive relationship between X1 and Y, and X2 and Y. Sharia-Indexed Companies (Z) moderates this relationship through the arrow labeled H3 (connecting Z to X1 and X2) and directly influences Y through H4. The black background with white text and arrows ensures a clear visualization of the hypothesized relationships.

3. Methods

The population in this study consists of all mining companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2024. This research utilizes quantitative methods with purposive sampling to select the sample. The results of purposive sampling yielded a sample of 18 companies over a period of 4 years, resulting in a total of 72 data points. The selection of these 18 companies is based on the availability of complete ESG reports, financial statements, and consistent inclusion or exclusion in the Jakarta Islamic Index, ensuring reliability and comparability across the study period. The variables in this research are defined with specific measurement methods and sources. Environment, Social, and Governance (ESG) Disclosure is measured using the GRI Standard Disclosure Index, drawing from the works of Meiyana and Aisyah (2019) and Zha et al. (2022). Assets Retirement Obligations (AROs) are assessed based on Reclamation and Rehabilitation Provisions, as referenced in Tunpornchai and Hensawang (2018) and Adams et al. (2024). Company Size is determined by the logarithm of total company assets, supported by the studies of Muneer et al. (2025). Lastly, Sharia-Indexed Company is identified through inclusion in the Jakarta Islamic Index, with insights provided by Wulandari et al. (2025).

The study employs a panel data analytical model using moderated regression analysis, facilitated by EViews 12 software. The use of EViews ensures accurate data processing, estimation of coefficients, and interpretation of interaction effects. Data handling procedures include verification of completeness and consistency of financial and ESG data for all selected companies over the 4-year period. This approach is chosen to effectively handle the longitudinal nature of the data across the 18 companies over four years. In this framework, the regression equation incorporates an interaction term formed by multiplying the independent variable with the moderating variable to assess whether the influence of the independent variable on the dependent variable varies across different levels of the moderator. This method allows for a detailed examination of how Sharia-Indexed Company moderates the relationships between Assets Retirement Obligations, Company Size, and ESG Disclosure. The panel data structure, combining cross-sectional and time-series data,

enhances the robustness of the analysis by controlling for individual company effects and time-specific variations. The use of EViews 12 ensures accurate estimation and interpretation of the moderated regression results, providing a reliable basis for testing the hypothesized relationships. Accordingly, the regression equation for this study is formulated to capture these dynamics, enabling a comprehensive evaluation of the moderating effects and their implications for ESG disclosure practices in the mining sector.

$Y = a + b1X1 + b2X2 + e$
$Y = a + b1X1*Z + b2X2*Z + e$

Y= dependent variable
X1=independent variables
X2=independent variables

4. Results

Table 1 presents data from 72 observations collected between 2021 and 2024, showing notable variability. The ESG metric, which evaluates economic, social, and corporate governance disclosures, has an average of 0.606811 and a standard deviation of 0.211557, reflecting significant differences in ESG performance across companies. ESG values range from a low of 0.190480 to a high of 0.833330, highlighting a wide gap in ESG performance. ARO, representing provisions for mine reclamation, rehabilitation, and processing, averages 0.010358 with a standard deviation of 0.014211. Its values range from 0 to 0.081180, indicating diverse environmental commitments, with some companies allocating substantial provisions while others report none. Company Size, with a mean of 12.72810, suggests that the average firm in the sample possesses large assets. The standard deviation of 0.856786 for Company Size reflects significant variation in asset sizes among companies. The minimum Company Size value of 9.448686 indicates some companies have relatively low assets, while the maximum of 13.84028 points to others with very high assets. For Sharia-Indexed Company, which indicates inclusion in the Jakarta Islamic Index (JII), the mean is 0.194444 with a standard deviation of 0.398550, suggesting that only a small proportion of coal mining companies are listed in the JII.

The research data reveals substantial variations in ESG and financial performance among the sampled companies, indicating significant differences in company size, operational efficiency, and business strategies. These descriptive statistics align with prior studies highlighting heterogeneity in ESG disclosure and environmental commitments among mining firms (Clarkson et al., 2008; Sharma et al., 2020).

Table 1. Descriptive Statistics

Variables	Mean	Std Dev	Min	Max
ESG	0.606811	0.211557	0.190480	0.833330
ARO	0.010358	0.014211	0.000000	0.081180
Company Size	12.72810	0.856786	9.448686	13.84028
Sharia-Indexed Company	0.194444	0.398550	0.000000	1.000000

The chow test is a test used to choose the best approach between the Common Effect Model (CEM) and the Fixed Effect Model (FEM) in estimating panel data.

Table 2. Chow Test

Effects Test	Statistic	Prob.
Cross-section F	0.886235	0.5511
Cross-section Chi-square	10.775679	0.3753

The result of the chow test shows on Table 2 that the cross-section F probability value is 0.5511, meaning that H0 is accepted. Thus, the most appropriate model in estimating the regression equation is the Common Effect Model (CEM).

Table 3. Hausman Test

Statistic	Value
Cross-section	Cross-Section Random
Chi-Sq. Statistic	3.114901
Prob	0.2107

The results of the Hausman test on Table 3 show that the probability value of cross section random is 0.2107 > 0.05, meaning that H0 is accepted. Thus, the most appropriate model in estimating the regression equation is the Random Effect Model (REM). The Breusch-Pagan test results for the cross-sectional and time-series data, as well as the combined cross-section and time hypothesis, indicate the presence of heteroskedasticity in the panel data model. For the cross-section alone, the test statistic is 1.580395 with a p-value of 0.2087, suggesting no significant heteroskedasticity at conventional levels. Similarly, for the time hypothesis, the test statistic is 2.299576 with a p-value of 0.1294, also indicating no significant evidence of heteroskedasticity. These results imply that the variance of the errors appears to be relatively stable across both cross-sectional units and time periods in the dataset, supporting the assumption of homoskedasticity.

The multiplier test is a test to determine which method is more appropriate to use between the Common Effect Model and the Random Effect Model. The results of the Lagrange Multiplier test show that the Breusch-pagan cross section > 0.05 is 0.2087, so H0 is accepted so that the most appropriate model to use is the Common Effect Model (CEM).

Table 4. Data Panel Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.214004	0.368617	-0.580559	0.5634
ARO	4.415461	1.722523	2.563369	0.0125
Company Size	0.060895	0.028571	2.131379	0.0366

Based on the results of data processing in table 4, the following linear regression equation is obtained:

$$Y = -0.214 + 4.4161\ X1 + 0.061\ X2 + e$$

Description:
Y = ESG Disclosure
X1 = Asset Retirement Obligations
X2 = Company Size

Based on the linear regression equation, it can be explained that the Asset Retirement Obligations (ARO) variable has a regression coefficient value of 4.416 with a significance value of 0.0125, which is less than 0.05, indicating that this variable is statistically significant. Consequently, the first hypothesis stating that Asset Retirement Obligations has a positive effect on ESG disclosure is accepted (H1 Accepted). Similarly, the Company Size variable exhibits a regression coefficient

value of 0.061 with a significance value of 0.0366, also below the 0.05 threshold, suggesting its statistical significance. As a result, the second hypothesis positing that Company Size has a positive effect on ESG disclosure is accepted (H2 Accepted).

Table 5. Data Panel Moderated Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.630571	0.059129	10.66427	0.0000
Syariahxaro	6.994850	3.724243	1.878194	0.0849

Table 5 presents the results of a panel data moderated regression analysis, focusing on the interaction between the Sharia-Indexed Company and Asset Retirement Obligations (SYARIAHXARO) as a moderating variable on ESG Disclosure. The constant term (C) has a coefficient of 0.630571 with a standard error of 0.059129, yielding a t-statistic of 10.66427 and a highly significant p-value of 0.0000, indicating a strong baseline effect. The interaction term SYARIAHXARO shows a coefficient of 6.994850 with a standard error of 3.724243, resulting in a t-statistic of 1.878194 and a p-value of 0.0849, which is slightly above the 0.05 threshold, suggesting that the moderating effect of Sharia-Indexed Company on the relationship between Asset Retirement Obligations and ESG Disclosure is not statistically significant at the 5% level but approaches significance.

Table 6. Data Panel Moderated Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.582306	0.027177	21.42675	0.0000
Syariahxsize	0.126027	0.061631	2.044874	0.0446

Based on the results of data processing in table 6, the panel data regression equation is obtained:

$Y = 0.631 + 6.994\ X1^{*}Z + e$
$Y = 0.582 + 0.126\ X2^{*}Z + e$
Description:
Y = ESG Disclosure
X1= Asset Retirement Obligations
X2 = Company size
Z = Sharia-Indexed Company

The variable of Asset Retirement Obligations and Sharia-Indexed Company has a regression coefficient value of 6.995 and with a significance of 0.0849. This means that the moderating variable Sharia-Indexed Company on Asset Retirement Obligations is not significant because it is more than 0.05. Thus, it can be concluded that the third hypothesis which states that Sharia-Indexed Company cannot strengthen the relationship of Asset Retirement Obligations to ESG Disclosure is rejected (H3 Rejected).

The variable Sharia-Indexed Company and Company Size has a regression coefficient value of 0.582306 and with a significance of 0.0446. This means that the moderating variable, Sharia-Indexed Company on ESG disclosure, is significant because it is less than 0.05. Thus, it can be concluded that the third hypothesis, which states that Sharia-Indexed Company can strengthen the relationship of Company Size to ESG Disclosure, is accepted (H4 Accepted).

The findings demonstrate that both ARO and firm size positively influence ESG disclosure, while the moderating role of Sharia index is significant only for the size ESG relationship. These results provide empirical evidence linking environmental provisions, firm resources, and ethical governance to ESG practices in the

Indonesian mining sector, contributing to the literature on sustainability reporting and Islamic finance.

5. Discussion

The first result in this study shows that Asset Retirement Obligations (AROs) positively affects ESG Disclosure, aligning with studies finding that reclamation provisions, as environmental costs, enhance ESG Disclosure (Adyaksana & Adhivinna, 2022; de Souza Barbosa et al., 2023; Yulyan et al., 2024; Anggraini & Kusuma, 2024). Recording reclamation provisions reflects a company's commitment to sustainable environmental responsibility and adherence to the polluter pays principle, addressing ecological impacts and future obligations (Hassan et al., 2023). Disclosing these provisions in ESG reports boosts transparency, accountability, reduces legal risks, and showcases good governance. The findings align with Sharia Enterprise Theory, emphasizing a pivotal influence on managing AROs for Sharia-compliant firms facing environmental liabilities, with long-term sustainability benefits. Additionally, Legitimacy Theory supports this, asserting that companies must align operations with societal norms under a social contract, using community resources and fulfilling obligations through environmental rehabilitation costs (Deegan, 2014; Lanis & Richardson, 2012). Compared to prior studies, this reinforces that environmental provisions are a core driver of ESG performance across both conventional and Sharia-compliant firms, suggesting that transparency in environmental obligations remains a universal signal for stakeholder trust.

The second finding in this study is that company size has a positive effect on ESG disclosure. The results align with previous studies (Astuti & Ramantha, 2014; Prakoso, 2020; Hardianti & Anwar, 2020; Zhang & Sharon, 2023). Larger companies are associated with greater resource slack, significantly impacting their ESG participation. Large companies generally have greater financial resources than small companies, enabling better engagement in sustainability practices. Additionally, Hasan and Habib (2017) found that at the mature stage of the firm's life cycle, firms invest more in social responsibility fulfillment due to abundant resources and competitive advantages. Large companies also possess more slack resources to build sustainability management systems and formal reporting structures compared to small companies (Drempetic et al., 2020). The results are consistent with Shariah Enterprise Theory, which states that companies are not entities operating solely for their own interests but must provide social and spiritual benefits. Furthermore, they align with Legitimacy Theory, asserting that companies must ensure operational activities conform to societal norms and limits (Deegan, 2014). High assets guarantee company sustainability, allowing societal benefits. This finding corroborates prior research while highlighting that large Sharia-indexed firms can uniquely leverage their resources to meet both conventional ESG standards and Islamic ethical expectations, thereby enhancing credibility among diverse stakeholder groups.

The third finding in this study is that mining companies listed on the sharia stock index are unable to moderate the positive effect of AROs on ESG disclosure. The results align with Wang et al. (2016) and Wulandari et al. (2025), which found that Sharia-Indexed Company does not strengthen the relationship between environmental costs and ESG disclosure. Despite maqāṣid al-sharīʿah's sustainability emphasis, sharia status often leads to symbolic CSR disclosure for compliance rather than substantive environmental commitment (Kartikasari, 2023). Reclamation provisions, seen as a financial burden, are prioritized less than Islamic financial criteria (Muneer et al., 2025). This contradicts Sharia Enterprise Theory and Legitimacy Theory, which expect companies to benefit society and beliefs (Deegan, 2014). Compared with previous literature, this suggests that Sharia-indexed firms may prioritize Sharia financial compliance over environmental

initiatives when reporting ESG, highlighting a potential gap between ethical principles and operational practice.

The last finding in this study is that Sharia-Indexed Company as a moderating variable can strengthen the relationship between company size and ESG disclosure. The results of this study are in line with research of Wulandari et al. (2025) which found that Sharia-Indexed Company affects ESG disclosure. This is because, in the perspective of Islamic teachings, sharia-indexed companies carry a mandate to run a business according to the maqāṣid al-sharī'ah principle, which emphasizes the protection of religion, soul, mind, offspring, and property (Kim & Park, 2018). Based on descriptive statistics, few coal mining companies are listed in the Jakarta Islamic Index (JII), and those with significant environmental impacts face heightened public pressure against ecosystem-damaging extractive practices (Ma'ruf et al., 2021). Shariah status raises stakeholder expectations for compliance with halal criteria and maqāṣid al-sharī'ah values, including environmental protection (*hifz al-bi'ah*) and social benefit (Fadly, 2022).

The results align with Sharia Enterprise Theory, stating that companies must benefit Islamic markets, including investors and regulators, who demand social reporting reflecting Islamic values. Large companies, with resource slack, can meet these expectations through extensive, quality ESG disclosures. Based on Legitimacy Theory, large firms face greater public pressure to maintain reputation, and Sharia-indexed status heightens expectations for business practices aligned with maqāṣid al-sharī'ah, emphasizing social justice, environmental responsibility, and transparency (Deegan, 2014). Compared to previous studies, these findings emphasize that Sharia indexing has a unique role in amplifying the influence of firm size on ESG performance, serving as a signal of ethical credibility and trustworthiness to stakeholders, particularly in sectors with high environmental impact. This underscores the importance of integrating Islamic ethical principles with sustainability reporting to strengthen stakeholder confidence.

6. Conclusion

This study finds that Asset Retirement Obligations (AROs) and firm size positively influence ESG disclosure in Indonesian mining companies, with Sharia-indexed status moderating only the firm size ESG relationship. AROs, representing reclamation provisions, reflect environmental responsibility and adherence to the polluter-pays principle, enhancing transparency and stakeholder trust. Larger firms, leveraging greater resources, produce more comprehensive ESG reports, aligning with Shariah Enterprise Theory and Legitimacy Theory. Sharia-indexed status does not significantly strengthen the ARO ESG link, as firms may prioritize financial compliance over environmental transparency; however, it amplifies the effect of firm size on ESG disclosure by signaling ethical accountability and alignment with Islamic principles, including social justice, stewardship, and *amanah* (trustworthiness).

Practically, these findings guide mining firms, particularly Sharia-compliant companies, to enhance ESG reporting strategies that balance regulatory requirements, environmental responsibility, and Islamic ethical expectations. For policymakers and regulators, the study highlights the need to incentivize substantive environmental reporting in Sharia-compliant firms. Theoretically, the results enrich Shariah Enterprise and Legitimacy Theories by demonstrating how firm resources and ethical mandates interact to shape ESG practices.

This study is limited to 18 IDX-listed mining firms from 2021–2024, which may restrict generalizability. Future research should extend to other industries and countries, include larger sample sizes, and investigate additional moderating factors such as cultural norms, regulatory environments, or investor pressure to deepen

understanding of ESG disclosure dynamics in both conventional and Sharia-compliant contexts.

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The data that support the findings of this study are available from the corresponding author upon reasonable request.

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