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ESG DIMENSIONS AND CORPORATE PERFORMANCE – FINANCIAL SLACK AS A MODERATING VARIABLE: EVIDENCE FROM EMERGING MARKETS

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Abstract

This paper analyzes the effects of Environmental, Social, and Governance (ESG) factors, including their three pillars and ESG controversies, on corporate performance in environmentally sensitive industries across ASEAN countries. ESG issues have gained prominence due to their association with environmental degradation, labor exploitation, and lack of transparency, all of which pose risks to corporate sustainability. In emerging markets, the implementation of ESG practices faces challenges such as inadequate infrastructure and financial limitations, which may hinder companies from adopting sustainable practices and improving performance. This study addresses these challenges by introducing financial slack as a moderating variable, aiming to determine if financial flexibility impacts the relationship between ESG engagement and corporate performance, assessed through Return on Equity (ROE), Return on Assets (ROA), and Tobin's Q. Utilizing panel data from 2019 to 2023 and applying moderated regression analysis reveals that ESG engagement and its pillars are negatively linked to corporate performance. Furthermore, financial slack mitigates the negative outcome of overall ESG engagement, along with the Environmental and Governance pillars, on these performance indicators. These findings highlight the importance of financial flexibility in supporting ESG implementation in emerging economies and environmentally sensitive industries.

Keywords: ***Corporate performance, Emerging market, ESG, Financial slack***

INTRODUCTION

The concept of sustainability is fundamental to understanding Environment, Social, and Governance (ESG). Initially, sustainability focused on environmental degradation from corporate resource exploitation. However, as environmental damage grew, demands for companies to consider social and governance impacts emerged. ESG evolved in response to negative outcomes from excessively profit-driven companies neglecting other crucial factors. Examples like deforestation (Waluyo, 2024), oil spills (Antara News, 2016), human rights violations, and governance failures illustrate problems stemming from an overemphasis on profit.

ESG's three pillars—environment, social, and governance—support corporate sustainability. The Indonesia Stock Exchange identifies ESG as a sustainability measurement standard, crucial for investment decisions. ESG is now a central concern for investors, regulators, academics, and the public (Edmans, 2023), as ESG information disclosure influences corporate continuity (Lavin and Montecinos-Pearce, 2021). ESG isn't new; it's an evolution of corporate social responsibility, guiding companies to pursue profits while also prioritizing social and environmental impacts.

Implementing ESG offers significant corporate benefits. Theoretically, ESG practices can improve operational efficiency, reduce costs, and enhance performance. Strong ESG performance can lower capital costs, increase stock value, and support carbon neutrality (Chen et al., 2023). Companies with Effective ESG practices typically contribute to higher firm value and serve as evidence of a strong sustainability commitment (Rahat and Nguyen, 2024), also building positive reputations, increasing customer loyalty, and enhancing corporate value. This aligns with the rapid expansion of ESG investment, now supported by market participants, regulators, and capital markets (Chen et al., 2023), having reached USD 40 trillion in 2021 or a 30 percent of total global assets under management and projected to hit USD 53 trillion by 2025 (Diab and Adam, 2021). Strong ESG practices can also reduce corporate risk allowing companies to access alternative funding and lower capital costs (Gao et al., 2023), furthermore, effective ESG implementation improves employee morale and productivity, fostering harmonious relationships with regulators and

communities. In essence, ESG implementation creates long-term value and sustainability for companies, beyond mere obligation.

ESG principles now bind many countries and companies (Saini et al., 2023), with global implementation varying by region; open economic systems and global trade integration often correlate with more effective ESG adoption (Pinheiro et al., 2023). Europe leads with stringent regulations, and North American multinationals have integrated ESG into strategies. In Asia, developed nations like Singapore, South Korea, and Japan show advanced implementation, but emerging markets and Africa exhibit limited adoption.

While ESG implementation in emerging markets offers benefits such as risk reduction, capital preservation, and regulatory compliance (Rahat and Nguyen, 2024), it faces significant challenges. Economic and regulatory barriers are primary obstacles, as developing countries often prioritize poverty alleviation and short-term growth over initial ESG investments. Weak regulations, ineffective law enforcement often influenced by corruption, and a lack of awareness regarding ESG's importance also impede progress. Inadequate infrastructure further complicates comprehensive ESG integration. Similar challenges are evident in Southeast Asia (ASEAN), largely comprising developing nations, with low ESG adoption despite Singapore's progress. Countries like Indonesia, the Philippines, and Thailand experience regulatory shortcomings and weak enforcement, with Indonesian companies struggling due to limited resources and insufficient policymaker support (Nareswari et al., 2023). Despite limitations, ASEAN countries are enhancing sustainability practices. For instance, Malaysia and Indonesia launched carbon credit trading in 2023, while Indonesia issued a carbon capture and storage regulation and Vietnam revised its Power Development Plan VIII for decarbonization. These measures reflect a growing regional commitment to sustainable practices.

The implementation of all ESG dimensions, including ESG pillars and controversy, is crucial for companies in environmentally sensitive industries including energy, industrials, basic materials, and utilities sectors. Their core activities often involve large-scale, unsustainable natural resource exploitation. These sectors face significant public and regulatory pressure (Juca et al., 2024; Naeem et al., 2022) due to their operations' close link to resource extraction and environmental degradation, posing challenges to maintaining reputation and prompting ESG integration into corporate strategies.

On the other hand, ESG implementation in emerging markets and environmentally sensitive industries can yield negative consequences. Increased operational costs for green technologies and compliance burden companies, potentially reducing profit margins (Qureshi et al., 2021) and impacting competitiveness. This is particularly challenging compared to developed countries with easier green financing. Strict ESG commitment can also create competitive pressure (Pursiainen et al., 2023), especially when global ESG standards fail to account for the diverse economic conditions in emerging markets, leading to high compliance burdens without proportional short-term benefits. This pressure might even force companies to abandon non-compliant projects. Stringent regulations may also divert funds from innovation and business development. Additionally, ESG pressures can introduce investor uncertainty, particularly in sensitive sectors like oil and gas, where fluctuating environmental policies impact long-term prospects and increase stock price volatility. Ultimately, excessively strict ESG requirements may prove counterproductive.

Garcia et al. (2017) and Juca et al. (2024) provide support for the critical role of ESG implementation in environmentally sensitive industries, showing higher adoption and scores in these sectors. In the ASEAN context, the impact of these sectors is evident through high rates of deforestation (Tanhati, 2025; Arif, 2024), water pollution, carbon emissions, and community conflicts. Companies in these sectors bear greater responsibility for implementing ESG, not only to minimize environmental harm but also to generate social value, necessitating environmentally friendly technologies, rehabilitation, carbon emission reduction, and transparent ESG reporting to build public trust.

The implementation of ESG practices is closely linked to a company's ability to allocate adequate resources; greater resource availability makes ESG initiatives more feasible. In this regard, the concept of slack theory, specifically financial slack, plays a significant role. Financial slack is defined as a firm's available surplus financial assets, such as surplus liquidity or accessible cash, available without disrupting core operations (Uyar et al., 2023). This provides strategic flexibility, enabling firms to fund ESG projects, innovation, expansion, and sustainability commitments without jeopardizing core stability. Financial slack can also moderate and strengthen the association between ESG and performance, especially as observed in emerging markets. In such settings, ESG adoption is complex due to limited financial resources, underdeveloped regulations, inadequate infrastructure, and high costs for environmentally friendly technologies, social programs, and improved governance. In such dynamic and uncertain environments, financial slack enables firms to undertake long-term strategic initiatives, supporting competitiveness and evolving into sustainable enterprises without overburdening operational capacity or financial stability.

The effect of ESG on firm performance has gained considerable attention in academic discourse. Numerous studies have investigated this relationship, yet the results remain inconsistent. For instance, studies by Alareeni and Hamdan (2020) and Naeem et al. (2022) found that ESG positively influences firm performance, while research by Rao et al. (2023) and Khoury et al. (2023) reported no significant effect. These discrepancies motivate further investigation into the topic. Moreover, most existing ESG studies predominantly investigate the aggregate influence of ESG on firm performance, a trend reflected in the research of Chen et al. (2023) and Bruna et al. (2022). Limited research explores the individual effects of the three ESG pillars: environment, social, and governance. Therefore, this study aims to address this gap by incorporating each ESG pillar as separate variables. Additionally, this research introduces ESG controversies as an independent variable. This research further examines the moderating influence of financial slack on the connection between ESG and firm performance. Research on the moderating role of financial slack in ESG studies remains limited and has only been explored by a few scholars, including Duque-Grisales and Aguilera-Caracuel (2021), Singh et al. (2023), and Gao et al. (2023), with inconsistent findings.

Consequently, this research explores the comprehensive impact of ESG, the individual contributions of each ESG pillar, and the effect of ESG controversies on corporate performance. It also explores the moderating effect of financial slack on the ESG and corporate performance relationship. The proposed contributions and modifications are expected to offer novel insights to the academic discussion on ESG. This study refers to Naeem et al. (2022) and Duque-Grisales and Aguilera-Caracuel (2021) as primary references, but distinguishes itself by utilizing updated data (2019–2023), focusing on ASEAN companies, incorporating financial slack as a moderator, including ESG controversies along with the inclusion of ROE and Tobin's Q as performance metrics. The literature on ESG and firm performance in emerging markets remains limited (Naeem et al., 2022) and has yielded inconsistent results (Mohammad and Wasiuzzaman, 2021), with most studies conducted in developed countries. Firms in regions with unstable economies and limited regulatory support face significant ESG implementation barriers. Thus, the moderating role of financial slack is crucial, potentially highlighting how financial flexibility helps companies overcome these constraints and achieve effective ESG integration despite economic and regulatory challenges.

Given the background, limited ESG research in emerging markets, and inconsistent prior findings, this study, titled "ESG Dimensions and Corporate Performance – Financial Slack as a Moderating Variable: Evidence from Emerging Markets," proposes new academic insights on ESG's firm performance benefits for various stakeholders in emerging markets.

LITERATURE REVIEW

Stakeholder Theory

Freeman's (1984) stakeholder theory underpins sustainability, obliging companies to consider environmental and social aspects beyond profit. It emphasizes benefiting diverse stakeholders for maximum value (Mahajan et al., 2023) and long-term success (Saini et al., 2023), creating value for all, not just shareholders (Hart and Zingales, 2017). ESG further aids communication with these stakeholders (Pinheiro et al., 2023). Corporate stakeholders comprise internal (shareholders, employees, board) and external (customers, suppliers, creditors, investors, government, community) parties. Each holds distinct interests, from maximizing profits to fair wages. Companies must effectively manage these divergent concerns to ensure accommodation for all.

Social and environmental impacts of corporate operations are increasingly crucial, driven by issues like exploitation and ecosystem damage. Stakeholder theory offers a new method for corporate responsibility (Mu et al., 2024); ethical conduct and a clean track record improve business and reputation. Managing stakeholder relationships well boosts corporate performance (Shin et al., 2023). Publicly disclosing comprehensive non-financial information, via ESG or Sustainability Reports, allows stakeholders to assess performance.

Corporate Performance

Corporate performance is measured through financial performance and firm value. Financial performance is assessed using financial ratios that compare the company's condition with specific indicators, such as ROA to measure asset utilization efficiency and ROE to assess shareholder returns (Naeem et al., 2022; Alareeni et al., 2020).

Firm value is measured using Tobin’s Q, a forward-looking valuation measure introduced by Tobin (1969). Tobin’s Q is widely employed in finance and management as an indicator of market-based valuation. However, its original formulation requires estimating asset replacement costs, which presents challenges due to the absence of active markets. To address this issue, Chung and Pruitt (1994) proposed a simplified version by substituting replacement costs with total assets. Similar approaches have been employed in studies including Mohammad and Wasiuzzaman (2021) and Naeem et al. (2022). Following this modification, this study defines Tobin’s Q as the sum of market value of equity, preferred stock, and debt, divided by total assets.

Environmental, Social and Governance (ESG)

The modern concept of sustainability, rooted in Rachel Carson's "The Silent Spring" (1962), and gained institutional recognition by the 1980s (Staniforth, 2013; UN, 1992). This evolution, intensified by corporate scandals, led to the UN's "Who Cares Wins" report (2004) invent "ESG" word for the first time (Steen et al., 2023). ESG, a non-financial assessment framework is now a crucial sustainability standard in investment, identifying non-financial risks and opportunities (KPMG, 2024; PwC Australia; Deloitte). Its complex implementation, exacerbated by global challenges, underscores the importance of corporate responsibility across its three pillars.

The first hypothesis examines ESG's overall impact on corporate performance. While many studies (e.g., Naeem, 2022; Alareeni & Hamdan, 2020) indicate a positive relationship, some research (e.g., Gutiérrez-Ponce & Wibowo, 2024) presents contradictory negative findings. Effective ESG integration can enhance operational efficiency and reduce risk-related costs, thereby boosting profitability (Aydogomus et al., 2022; Alareeni & Hamdan, 2020) and improving financial ratios. A strong ESG profile also attracts investors, increasing trust and valuations due to perceived stability and lower long-term risk, which can accelerate market value growth.

Conversely, ESG implementation can negatively affect financial performance and firm value, especially in emerging markets and environment-sensitive industries (Naeem et al., 2022). Significant investments in green technologies and compliance can increase operational costs (Nareswari et al., 2023), potentially hindering expansion. Furthermore, factors like limited infrastructure and low investor awareness in developing markets can diminish ESG benefits and reduce competitiveness. Based on these mixed impacts, Hypothesis 1 is formulated as follows:
Hypothesis I: ESG influences corporate performance.

Environmental Pillar

The environmental pillar of ESG manages corporate operational impact, emphasizing sustainability and risk mitigation (Gao et al., 2022). Key aspects include efficient resource use, emissions control, waste management, and environmental risk assessment, with transparent reporting being crucial. Effective environmental management can boost profitability through cost reduction, efficiency, and enhanced reputation, attracting investors and fostering loyalty.

Hypothesis II examines the environmental pillar's impact on corporate financial performance and firm value. While studies like Ramírez-Orellana (2023) and Chandrasekaran (2022) show a positive link to financial performance, and Alareeni and Hamdan (2020) to firm value, some research, such as Alfalih (2023), indicates no significant effect. Efficient environmental practices, such as emission reduction and waste management, is capable of bringing down operational expenses, which in turn boosts profitability and benefits performance (Aydogomus et al., 2022). Furthermore, minimizing environmental risks enhances reputation, increasing firm value.

However, stringent environmental policies can negatively impact performance, particularly in resource-dependent industries (Alareeni & Hamdan, 2020). High investment in green technologies and compliance can increase costs (Nareswari et al., 2023), reduce margins, and slow expansion, especially in emerging markets with limited green financing. This can suppress profitability and investor appeal. Based on these varied impacts, Hypothesis II is formulated as follows:
Hypothesis II: The environmental pillar influences corporate performance.

Social Pillar

According to Manurung & Bratajaya (2022), the ESG social pillar focuses on a company's engagement with human rights, its employees, safety protocols, diversity initiatives, customer interactions, and ethical conduct. Crucial for long-term operations (JP Morgan, 2022), it emphasizes human rights, safe workplaces, and fair treatment, which boost employee well-being, productivity, and retention. Community involvement and inclusive workplaces enhance reputation and market position, attracting investors and customers. Socially conscious companies gain loyalty, expand markets, and increase market valuation.

Hypothesis III investigates the social pillar's influence on corporate performance. While studies (e.g., Chandrasekaran, 2022; Alareeni & Hamdan, 2020) largely show a positive impact on financial performance and firm value, while other research by Menicucci & Paolucci (2023) finds no significant effect. Prioritizing social aspects, such as human rights and fair labor, enhances employee well-being, leading to increased efficiency, quality, and financial performance. Strong commitment to social welfare also improves reputation and stakeholder relations, potentially expanding market reach and increasing firm value.

Conversely, stringent social policies can raise operational burdens and reduce profitability (Duque-Grisales & Aguilera-Caracuel, 2021; Buallay, 2019). Significant funding for welfare, CSR, and diversity can compress profit margins, especially in labor-intensive or emerging markets. Stricter social standards can also reduce operational

flexibility and slow production in environmentally sensitive industries. If market incentives are insufficient, companies may lose competitiveness. Based on these varied impacts, Hypothesis III is formulated as follows:
Hypothesis III: The social pillar influences corporate performance.

Governance Pillar

This **pillar** ensures ethical, responsible, and accountable corporate operations. This involves diverse, independent management structures, fair compensation, and protection of shareholder rights, all fostering transparency (Naeem et al., 2022). Good governance directly impacts performance by boosting investor trust, reducing capital costs, improving efficiency, and enhancing risk management, contributing to long-term stability.

Hypothesis IV examines the governance pillar's influence on corporate financial performance and firm value. While studies (e.g., Aydoğmuş et al., 2022; Alareeni & Hamdan, 2020) largely show a positive impact, some research (e.g., Alareeni & Hamdan, 2020; Menicucci & Paolucci, 2023) finds no significant effect. Strong governance, through ethical operation and transparency, boosts investor confidence, lowers capital costs, and increases profitability (Naeem et al., 2022; Aydoğmuş et al., 2022). Competent leadership and diverse boards improve decision-making and risk management, enhancing credibility and ultimately firm value.

Conversely, stringent governance can hinder operational flexibility, particularly in emerging markets. Complex regulations and increased compliance costs (Buallay, 2019) can slow decision-making and reduce competitiveness. Overly strict governance might also stifle innovation, negatively impacting financial performance and firm value. Based on these mixed impacts, Hypothesis IV is formulated as follows:
Hypothesis IV: The governance pillar influences corporate performance.

ESG Controversy

ESG controversies negatively impact a company's standing, diverging from commitments (MSCI, 2023; Refinitiv, 2022). Involvement in environmental damage, labor exploitation, or fraud severely damages reputation and trust, triggering boycotts, sales decline, and customer loss. Legal sanctions and high operational costs for litigation or reputation repair diminish overall performance. Conversely, effective controversy management, through prompt and transparent action, can restore reputation, rebuild trust, and mitigate negative impacts, fostering long-term relationships.

Hypothesis V investigates the impact of ESG controversy scores on corporate performance. Refinitiv scores controversies on a scale of 1 to 100, where 100 signifies the absence of any controversy (Naeem et al., 2022). While Juca et al. (2024) observed a positive impact, Naeem et al. (2022) found no effect on financial performance but noted a positive one on firm value. Conversely, Ting et al. (2019) reported a negative impact on both measures. ESG controversies, such as environmental damage or financial scandals, are presumed to negatively affect financial performance and firm value by damaging reputation and trust. This can lead to consumer boycotts, sales declines, and reduced investor confidence, lowering market value and increasing future uncertainty.

Conversely, strict ESG compliance in response to controversies can negatively impact companies, especially in emerging markets or environmentally sensitive industries. High compliance costs and sudden strategic changes (e.g., halting operations or closing plants) can lead to operational instability and reduced profitability (Buallay, 2019). Furthermore, litigation or large fines due to controversies can burden finances and reduce market competitiveness. Based on these mixed impacts, Hypothesis V is formulated as follows:
Hypothesis V: ESG controversies influence corporate performance.

Slack Theory

Cyert & March (2015) define slack theory by positing it as the divergence between overall resources and obligations, highlighting surplus resources that enable organizational flexibility and adaptability (Penrose, 1959). This surplus enables seizing growth opportunities and fostering innovation (Moses, 1992; Heubeck & Ahrens, 2024). Financial slack, as defined by Bourgeois (1981), refers to a firm's financial resources available for use without disrupting core operations, providing flexibility to manage uncertainties or seize opportunities. High financial slack empowers ESG investments (Duque-Grisales & Aguilera-Caracuel, 2021) and funding of initiatives like renewable energy transitions without sacrificing core operations. Conversely, firms lacking financial slack struggle to finance ESG projects, hindering strategic sustainability goals.

Financial slack is often considered crucial for flexible strategic decisions, including sustainability initiatives. It is hypothesized that financial slack moderates the association between ESG (and its individual pillars) and corporate performance, which is evaluated using ROE, ROA, and Tobin's Q. Notably, Duque-Grisales and Aguilera-Caracuel (2021) observed that financial slack positively mitigates the negative impacts of ESG on financial

performance, and Hassan (2024) found it significantly strengthens the ESG-financial performance link. However, Gao et al. (2023) observed financial slack significantly weakening this relationship, while Singh et al. (2023) found no moderating effect.

Companies with higher financial slack can better navigate uncertainties and capitalize on strategic opportunities (Bourgeois, 1981), encouraging ESG investments (Duque-Grisales & Aguilera-Caracuel, 2021). This financial support enables sustainability programs without compromising core operations. Similar effects are presumed for individual ESG pillars: adequate financial slack allows investments in environmental initiatives, improving investor confidence; social programs like employee training or community development, strengthening company image; and governance enhancements, boosting decision-making and transparency. Financial slack is also expected to moderate the negative impact of ESG controversies, providing flexibility to manage reputational fallout through strategic adjustments.

Conversely, high financial slack can lead to inefficient ESG investments that lack direct profitability impact, potentially causing operational inefficiencies and reduced shareholder returns. Excess financial slack might also encourage opportunistic managerial behavior, diverting resources to non-value-adding projects. This holds true for individual ESG pillars: excessive financial slack could lead to suboptimal environmental investments, social programs lacking shareholder value, or weakened market discipline on governance. For ESG controversies, high financial slack might make companies less responsive to market pressure for improvement.

Hypothesis VI.a: Financial slack moderates the relationship between ESG and corporate performance.
Hypothesis VI.b: Financial slack moderates the relationship between the environmental pillar and corporate performance.
Hypothesis VI.c: Financial slack moderates the relationship between the social pillar and corporate performance.
Hypothesis VI.d: Financial slack moderates the relationship between the governance pillar and corporate performance.
Hypothesis VI.e: Financial slack moderates the relationship between ESG controversies and corporate performance.

METHOD

This study analyzes how ESG aspects affect corporate performance and investigates financial slack's modulatory function. The conceptual framework is detailed below:

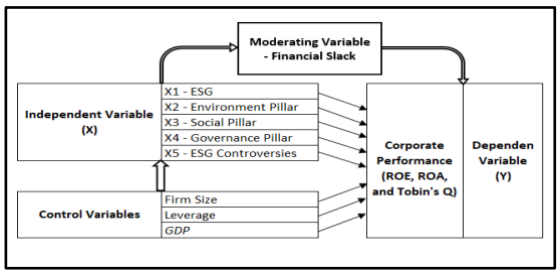

Figure 1. The conceptual framework

This study employs an empirical approach to examine the relationship between ESG and corporate performance, and further investigates the moderating effect of financial slack on this relationship using moderated regression analysis. Consistent with prior research by Naeem et al. (2022), a one-year lag was imposed on the ESG variables to accurately reflect their impact on firm performance and to address potential endogeneity issues. A total of 15 regression models are utilized, formed by combining three dependent variables (ROE, ROA, and Tobin's Q) with five ESG-related independent variables. Financial slack serves as the moderating variable. Additionally, firm size, leverage, and GDP growth are incorporated as control variables.

Research Model Equations:

$$Y_{it} = A + \beta1(ESG_{i,t}\text{-}1) + \beta2(Financial\ Slack_{i,t}) + \beta3(Size_{i,t}) + \beta4(Leverage_{i,t}) + \beta5(GDP\ Growtht_{t}) + \beta6(ESG_{i,t}\text{-}1 \times Financial\ Slack_{i,t}) + ui + \varepsilon it$$

$$Y_{it} = A + \beta1(Environmental\ Pillar_{i,t}\text{-}1) + \beta2(Financial\ Slack_{i,t}) + \beta3(Size_{i,t}) + \beta4(Leverage_{i,t}) + \beta5(GDP\ Growtht_{t}) + \beta6(Environmental\ Pillar_{i,t}\text{-}1 \times Financial\ Slack_{i,t}) + ui + \varepsilon it$$

$$Y_{it} = A + \beta1(Social\ Pillar_{i,t}\text{-}1) + \beta2(Financial\ Slack_{i,t}) + \beta3(Size_{i,t}) + \beta4(Leverage_{i,t}) + \beta5(GDP\ Growth_{t}) + \beta6(Social\ Pillar_{i,t}\text{-}1 \times Financial\ Slack_{i,t}) + ui + \varepsilon it$$

$$Y_{it} = A + \beta1(\text{Governance Pillar}_{i,t}\text{-}1) + \beta2(\text{Financial Slack}_{i,t}) + \beta3(\text{Size}_{i,t}) + \beta4(\text{Leverage}_{i,t}) + \beta5(\text{GDP Growtht}_{t}) + \beta6(\text{Governance Pillar}_{i,t}\text{-}1 \times \text{Financial Slack}_{i,t}) + ui + \varepsilon it$$

$$Y_{it} = A + \beta1\ (\text{ESG Controversy}_{i,t}\text{-}1) + \beta2(\text{Financial Slack}_{i,t}) + \beta3(\text{Size}_{i,t}) + \beta4(\text{Leverage}_{i,t}) + \beta5(\text{GDP Growtht}_{t}) + \beta6(\text{ESG Controversy}_{i,t}\text{-}1 \times \text{Financial Slack}_{i,t}) + ui + \varepsilon it$$

Population and Sample

This study's population consists of publicly traded companies active in environmentally sensitive industries in ASEAN stock markets during the 2019–2023 period, with available data in Refinitiv. The sampling criteria are as follows:

- Companies operating in environmentally sensitive industries (industrial, basic materials, energy, utilities) and listed on ASEAN stock markets from 2019 to 2023.
- Availability of ESG data in Refinitiv for at least two years within the observation period.
- Availability of supporting ESG data (2018–2022) in Refinitiv.
- Availability of complete financial statements in Refinitiv websites
- Availability of other relevant data required for analysis.

Based on the specified sampling criteria, the final dataset comprises 736 firm-year observations. The dataset constitutes an unbalanced panel due to variations in the number of observations across years. The yearly distribution of observations is as follows:

Table 1. The number of observations

Year	Number of Observations
2019	67 companies
2020	88 companies
2021	110 companies
2022	236 companies
2023	235 companies
Total	**736 companies**

Research Variables

This study measures corporate performance, its dependent variable, through ROE, ROA and Tobin's Q. The ESG score, comprising its three dimensions and associated controversies, serves as the independent variable in this investigation. Data is sourced from Refinitiv (2018–2022) and follows a T-1 lag model, meaning ESG data from the previous year (T-1) is used to predict the performance in the following year (T-0). This approach aligns with Naeem et al. (2022), ensuring a causal analysis between ESG and corporate performance while addressing endogeneity.

The moderating variable is financial slack, which refers to a company's financial resources available without disrupting core operations (Bourgeois, 1981). It provides firms with flexibility to navigate uncertainties or capitalize on unexpected opportunities. Financial slack is measured using the same formula as Duque-Grisales & Aguilera-Caracuel, (2021).

This study integrates control variables specifically firm size, leverage, and GDP to ensure the robustness of its findings and mitigate potential bias in the results. Larger firms are often better equipped with resources to undertake ESG endeavors, which can lead to enhanced performance. Conversely, smaller firms may face constraints. Firm size also reflects economies of scale, impacting financial outcomes (Naeem et al., 2022). Consistent with earlier findings, Duque-Grisales & Aguilera-Caracuel (2021) and Alfalih (2023) also advocate for its inclusion. Then Leverage. While moderate debt levels can improve efficiency, excessive leverage burdens a firm's balance sheet (Naeem et al., 2022). Highly leveraged firms might prioritize financial risk management over sustainability initiatives. Consistent with prior literature, this variable is also supported by studies from Naeem et al. (2022), Chen et al. (2023), and Alfalih (2023). By controlling for GDP growth, this research aims to pinpoint ESG's isolated impact on corporate performance across different national economic environments (Duque-Grisales & Aguilera-Caracuel, 2021). We obtained the GDP growth data from the World Bank (data.worldbank.org).

Table 2. Regression variables

Variables	Formula
ROE	Net Income / Total Equity

ROA	Net Income / Total Assets
Tobin's Q	(Market Value of Equity + Preferred Stocks + Debt) / Total Assets
ESG	Aggregate ESG score calculated by Refinitiv
Pillar E/S/G	Pillar performance score by Refinitiv Eikon.
ESG controversy	Controversies and scandals concerning ESG, as scored by Refinitiv Eikon
Financial Slack	Current Assets / Current Liabilities
Firm Size	Ln (Total Assets)
Leverage	Total Liabilities / Total Equity
GDP growth	GDP growth data

Data Analysis Method

This study employs a comprehensive data analysis method, beginning with descriptive statistics to summarize collected data using measures like mean, standard deviation, maximum, minimum, and sum (Ghozali, 2016), providing an initial overview of data distribution. Subsequently, to identify the most appropriate regression model for the combined cross-sectional and time-series data, panel data tests are then applied. The selection methodology includes the Chow test (assessing FEM against CEM), the Hausman test (evaluating FEM against REM), and the Lagrange Multiplier test (comparing CEM with REM through Breusch-Pagan). Following model selection, classical assumption tests validate model reliability. These include multicollinearity (Pearson correlation < 0.8 - Ghozali, 2016), heteroskedasticity (Breusch-Pagan/Cook-Weisberg), and autocorrelation (Wooldridge test), confirming the model's suitability for regression.

Moderated regression is subsequently used for hypothesis testing to assess the influence of ESG dimensions on corporate performance (ROE, ROA, Tobin's Q). In this framework, financial slack serves as a moderating variable, while the natural logarithm of total assets, leverage, and GDP are included as control variables. This stage includes t-tests for individual significance, F-tests for simultaneous effects, and the coefficient of determination (R^2) for explanatory power, ensuring a robust analysis.

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The descriptive statistics on the table 3 show that ROE has an average of 6.58% with a standard deviation of 13.09%, and its values span from -75.59% to 69.37%. ROA averages 3.79% (SD = 7.00%), ranging from -40.22% to 55.71%. For Tobin's Q, the mean is 0.9298, with a standard deviation of 0.9983, and observed values fall between -0.2758 and 7.4750. The ESG score exhibits a mean of 48.19, a standard deviation of 18.58, and a range from 6.72 to 90.58. Examining the individual ESG pillars, the Environmental pillar has an average of 41.77, a standard deviation of 23.45, and a range of 0 to 94.11. The Social pillar's mean is 51.64, with a standard deviation of 22.03, and its values fall between 1.56 and 96.05. The Governance pillar demonstrates an average of 52.34, a standard deviation of 21.27, and ranges from 1.47 to 95.75. Lastly, the ESG Controversy score averages 97.41, with a standard deviation of 11.81, and ranges from 17.14 to 100. Financial Slack averages 2.02, with a standard deviation of 1.54, and is observed between 0.17 and 13.37. The mean of Ln Total Assets is 21.19, with a standard deviation of 1.76, and values ranging from 16.70 to 25.34. Leverage has an average of 1.23, a standard deviation of 1.02, and its range is from 0.07 to 7.82. Lastly, GDP Growth shows an average of 3.55% (SD = 4.14%), with a minimum of -9.50% and a maximum of 9.70%.

Table 3. Descriptive Statistical Analysis

Var	*Mean*	*St. Deviasi*	*Min*	*Max*
ROE	0.0658	0.1309	-0.7559	0.6937
ROA	0.0379	0.0700	-0.4022	0.5571
Tobin'Q	0.9298	0.9983	-0.2758	7.4750
ESG	48.1926	18.5823	6.7198	90.5811
Environtment Pillar	41.7724	23.4457	0	94.1097
Social Pillar	51.6358	22.0273	1.5602	96.0482
Governance Pillar	52.343	21.2709	1.4715	95.7500
ESG Controversy	97.405	11.8095	17.142	100
Financial Slack	2.0168	1.5377	0.1665	13.3653
Ln total aset	21.1898	1.7561	16.7048	25.3358

Var	*Mean*	*St. Deviasi*	*Min*	*Max*
ROE	0.0658	0.1309	-0.7559	0.6937
ROA	0.0379	0.0700	-0.4022	0.5571
Tobin'Q	0.9298	0.9983	-0.2758	7.4750
ESG	48.1926	18.5823	6.7198	90.5811
Environtment Pillar	41.7724	23.4457	0	94.1097
Social Pillar	51.6358	22.0273	1.5602	96.0482
Leverage	1.2321	1.0190	0.0667	7.8167
GDP growth	0.0355	0.0414	-0.0950	0.0970

Panel Data Regression Model Selection

Table 4. Selection Model Panel Data

Model	Chow Test		Hausman Test	
	Prob>f	Decision	Prob>f	Decision
1-15	0.0000	FEM	< 0.0021	FEM

The table 4 show that all models should use the FEM model in the regression.

Classical Assumption Tests

Table 5. Pearson correlation matrix

	Roe	Roa	Tobin's Q	ESG	E	S	G	Controversy	Fin slack	Ln Total Asset	Debt	Gdp
Roe	1.0000											
Roa	**0.8973**	1.0000										
Tobin's q	0.2028	0.2333	1.0000									
ESG	0.0787	0.0472	0.1145	1.0000								
E	0.0692	0.0185	0.0350	**0.8909**	1.0000							
S	0.0451	0.0230	0.1242	**0.9008**	0.7520	1.0000						
G	0.0982	0.0992	0.0720	0.6220	0.3283	0.3773	1.0000					
Controversy	0.0677	0.0830	0.0554	-0.0954	-0.0981	-0.0749	-0.0478	1.0000				
Financial Slack	0.0812	0.1734	-0.4430	-0.1379	-0.1663	-0.1418	0.0047	0.0431	1.0000			
Ln Total Asset	0.0516	-0.0382	-0.0219	0.4171	0.5297	0.3895	0.0037	-0.1862	-0.3160	1.0000		
debt	-0.2266	-0.2635	-0.0576	0.0710	0.0848	0.0683	0.0133	-0.0219	-0.4327	0.2976	1.0000	
gdp	0.0356	0.0418	-0.1284	-0.1797	-0.2003	-0.2112	0.0205	0.0507	0.0717	-0.2363	-0.0536	1.0000

Pearson correlation results showed high correlation between ROE and ROA (0.8973), ESG and E (0.8909), and E and S (0.9008). However, this isn't problematic as these highly correlated variables appear in separate regression models and are used as dependent variables. Thus, the Pearson correlation test suggests no significant multicollinearity issues in the study's regression models. Following this, tests for heteroskedasticity and autocorrelation were conducted with the Breusch-Pagan/Cook-Weisberg and Wooldridge tests. The findings revealed that all models were affected by both heteroskedasticity and autocorrelation problems ($p < 0.05$). To address these issues and ensure robust and reliable estimates, the Driscoll-Kraay standard errors approach was used. This method is appropriate for panel data because it yields consistent standard errors even when heteroskedasticity, autocorrelation, and cross-sectional dependence are present.

Regression results

Table 6. Model 1-5 for Variable ROE

Var (ROE)	Model

	1	2	3	4	5
ESG	-0.0021				
	0.003***				
Environtment Pillar		-0.0016			
		0.002***			
Social Pillar			-0.0017		
			0.004***		
Governance Pillar				-0.0006	
				0.074*	
ESG Controversy					-0.0013
					0.058*
Financial Slack	-0.0190	-0.0142	-0.0113	-0.0178	-0.0634
	0.005***	0.004***	0.033**	0.000***	0.166
Ln total aset	0.1110	0.1090	0.1111	0.1003	0.0947
	0.029**	0.031**	0.026**	0.045**	0.055*
Leverage	-0.0360	-0.0368	-0.0363	-0.0370	-0.0363
	0.114	0.113	0.098*	0.112	0.096*
GDP growth	0.3285	0.3242	0.3223	0.3121	0.2990
	0.001***	0.001***	0.001***	0.001***	0.001***
ESG x Slack	0.0003				
	0.054*				
Environtment x Slack		0.0002			
		0.010***			
Social x Slack			0.0001		
			0.373		
Governance x Slack				0.0002	
				0.031**	
ESG Controversy x Slack					0.0006
					0.176
Cons	-2.1451	-2.1353	-2.1564	-1.9812	-1.7628
	0.036	0.037	0.031	0.052	0.075
R-Square	0.1129	0.1112	0.1163	0.0980	0.0992
F-Stat	0.0000	0.0000	0.0007	0.0000	0.0000
	***	***	***	***	***

***p < 1%, **p < 5%, *p < 10%

Table 6 presents regression results examining the determinants of ROE across five models. In Model 1, ESG has a negative and highly significant effect on ROE (coefficient = -0.0021, $p < 0.01$). Disaggregated analyses reveal that the Environmental (E) pillar in Model 2 also negatively and significantly affects ROE (-0.0016, $p < 0.01$), as does the Social (S) pillar in Model 3 (-0.0017, $p < 0.01$). Governance (G) in Model 4 shows a negative but marginally significant relationship (-0.0006, $p < 0.10$), while ESG Controversy in Model 5 is likewise negative and marginally significant (-0.0013, $p < 0.10$). Across all models, financial slack consistently shows a significant negative effect on ROE (coefficients between -0.0190 and -0.0634, $p < 0.01$ or $p < 0.05$). In contrast, firm size, represented by the natural log of total assets, has a positive and significant influence (0.0947–0.1110, $p < 0.05$ or $p < 0.01$). However, diverging from expectations, debt is negatively and significantly associated with ROE (around -0.036, $p < 0.01$). GDP growth positively and significantly influences ROE in all models (coefficients above 0.31, $p < 0.01$).

Interaction terms show mixed results. ESG × Slack in Model 1 and E × Slack in Model 2 are both positive with respective significance at the 10% and 5% levels. S × Slack in Model 3 is not significant. G × Slack in Model 4 is positive and significant ($p < 0.05$), while Controversy × Slack in Model 5 is positive, but lacking statistical significance.

Table 7. Model 6-10 for Variable ROA

Var (ROA)	Model				
	6	7	8	9	10

ESG	-0.0012 0.002***				
Environtment Pillar		-0.0010 0.000***			
Social Pillar			-0.0008 0.002***		
Governance Pillar				-0.0004 .027**	
ESG Controversy					-0.0005 0.305
Financial Slack	-0.0145 0.009***	-0.0106 0.000***	-0.0068 0.046***	-0.0132 0.000***	-0.025 0.453
Ln total aset	0.0546 0.031**	0.0545 0.035**	0.0548 0.029**	0.0509 0.046**	0.0483 0.060*
Leverage	-0.0055 0.175	-0.0058 0.168	-0.0060 0.109	-0.0065 0.148	-0.006 0.111
GDP growth	0.1222 0.005***	0.1202 0.007***	0.1196 0.005***	0.1149 0.002***	0.1101 0.008***
ESG x Slack	0.0003 0.037**				
Environtment x Slack		0.0003 0.004***			
Social x Slack			0.0001 0.327		
Governance x Slack				0.0002 0.005***	
ESG Controversy x Slack					0.0002 0.470
Cons	-1.061 0.040	-1.0728 0.043	-1.0755 0.036	-1.0094 0.056	-.9238 0.084
R-Square	0.0773	0.0800	0.0719	0.0659	0.0583
F-Stat	0.0001 ***	0.0005 ***	0.0002 ***	0.0000 ***	0.0111 **

***p < 1%, **p < 5%, *p < 10%

Table 7 displays the regression outcomes, investigating factors influencing ROA across five models. Within Model 6, a significantly negative relationship is observed between the overall ESG score and ROA (coefficient = -0.0012, $p < 0.01$). Disaggregating ESG into its components, the Environmental (E) pillar in Model 7 also shows a significantly negative (-0.0010, $p < 0.01$), as does the Social (S) pillar in Model 8 (-0.0008, $p < 0.01$). The Governance (G) pillar in Model 9 exhibits a negative and moderately significant effect (-0.00040, $p < 0.05$), while ESG Controversy in Model 10 shows a negative but statistically insignificant coefficient (-0.0005, $p > 0.10$). Across all models, financial slack consistently shows a statistically significant negative effect on ROA (coefficients between -0.0145 and -0.0132, $p < 0.01$). Similarly, firm size maintains a positive significant association with ROA across all model ($p < 0.05$), with coefficients approximately ranging from 0.054 to 0.060. Debt is positively associated with ROA, but the relationship is statistically insignificant across the models. Meanwhile, GDP growth shows a positive and highly significant effect in every model ($p < 0.01$), indicating that macroeconomic expansion contributes positively to firm performance in terms of ROA.

Regarding interaction effects, in Model 6, the ESG × Slack interaction term is positive and significant (0.0003, $p < 0.05$), this implies that financial slack moderates the negative ESG–ROA relationship. Similarly, E × Slack in Model 7 is positive and highly significant (0.0003, $p < 0.01$), while S × Slack in Model 8 is not significant. In Model 9, G × Slack shows a positive and significant effect while Controversy × Slack in Model 10 is positive but insignificant.

Table 8. Model 11-15 for Variable Tobin's Q

Var (Tobin's Q	Model				
	11	12	13	14	15
ESG	-0.0088 0.003***				
Environtment Pillar		-0.0068 0.001***			
Social Pillar			-0.0037 0.114		
Governance Pillar				-0.0077 0.004***	
ESG Controversy					-0.0010 0.468
Financial Slack	-0.1075 0.009***	-0.1006 0.030**	0.0014 0.932	-0.2409 0.002***	-0.1223 0.385
Ln total aset	-1.0275 0.001 ***	-1.0390 0.001***	-1.0135 0.001***	-1.0630 0.000***	-1.0910 0.001***
Leverage	0.05183 0.009***	0.04956 0.012***	0.0396 0.029**	0.0516 0.016**	0.0491 0.011**
GDP growth	-0.6904 0.041**	-0.7099 0.049**	-0.7307 0.020**	-0.7469 0.013**	-0.7896 0.023**
ESG x Slack	0.0099 0.045**				
Environtment x Slack		0.0010 0.132			
Social x Slack			-0.0018 0.087*		
Governance x Slack				0.0033 0.004***	
ESG Controversy x Slack					0.0005 0.660
Cons	23.2107 0.001	23.3190 0.001	22.7585 0.001	23.9550 0.000	24.2633 0.001
R-Square	0.1971	0.1956	0.2110	0.2118	0.1821
F-Stat	0.0026 ***	0.0063 ***	0.0011 ***	0.0000 ***	0.0000 ***

***p < 1%, **p < 5%, *p < 10%

Table 8 displays the regression results, with Tobin's Q being the dependent variable across Models 11 to 15. Model 11 indicates that the aggregate ESG score is negatively related to Tobin's Q (coefficient = -0.0088, $p < 0.01$). Disaggregating ESG into its components, Model 12 shows that the Environmental (E) dimension also exerts a significant negative on Tobin's Q (-0.0068, $p < 0.01$). While the Social (S) component in Model 13 reveals a negative yet statistically insignificant effect, the Governance (G) dimension in Model 14 is significantly negative (-0.0077, $p < 0.04$), this suggests that the Environmental (E) and Governance (G) pillars are likely the primary drivers of the negative association between ESG and firm valuation. Financial slack exhibits a negative significant toward Tobin's Q in Models 11 to 13 ($p < 0.05$). However, this outcome becomes statistically insignificant in Models 14 and 15. Variable ln total asset consistently demonstrates a strong positive relationship with Tobin's Q across all models, achieving significance at the 1% level. Debt level is also positively and significantly associated with firm value in all five models ($p < 0.05$ or $p < 0.01$). Additionally, GDP growth consistently shows a statistically significant positive effect demonstrated across all models ($p < 0.05$ or $p < 0.01$), implying that favorable macroeconomic conditions enhance firm valuation.

Interaction terms serve to evaluate how financial slack moderates the relationship between ESG and Tobin's Q. In Model 11, the ESG × Slack interaction term is found to be positive and significant ($p < 0.05$), implying that financial slack alleviates the detrimental effect of ESG on firm value. Conversely, the E × Slack interaction in Model 12 is not significant. A positive and 10% significant effect is observed for the S × Slack term in Model 13. Notably,

he G × Slack term in Model 14 is positively linked to Tobin's Q and demonstrates high significance ($p < 0.01$), confirming that slack strengthens the valuation effect of governance efforts. The interaction between ESG controversy and slack in Model 15 is statistically insignificant.

Analysis

ESG and its dimensions and Corporate Performance

The regression outcomes reveal a consistently significant negative connection observed between ESG engagement and corporate performance across various indicators. The results showed coefficients of -0.0021 for ROE ($p = 0.003$), -0.0012 for ROA ($p = 0.002$), and -0.0088 for Tobin's Q ($p = 0.003$). The results empirically support **accepting Hypothesis I**, which argues that ESG influences corporate performance, as it is accepted across all three dependent variables. This outcome aligns with previous studies that also found a negative and significant impact of ESG on ROE, ROA, and Tobin's Q (Gutiérrez-Ponce and Wibowo, 2024; Nareswari et al., 2023; Duque-Grisales and Aguilera-Caracuel, 2021; Hassan, 2024). This contrasts with other research indicating a positive effect (Alareeni, 2020; Naeem et al., 2022) or no significant impact at all (Naeem et al., 2022; Rahat and Nguyen, 2024).

In emerging markets, ESG adoption creates substantial costs, particularly for environmentally sensitive industries like mining, utilities, energy, and basic industries, which require continuous capital for sustainability measures (Duque-Grisales and Aguilera-Caracuel, 2021). Companies investing in ESG experience declining profitability (Gutiérrez-Ponce and Wibowo, 2024; Qureshi et al., 2021) due to high costs for sustainability standards, certification, reporting, and audits (Nareswari et al., 2023). Limited market incentives and policy support exacerbate this burden, reducing firm competitiveness (Pursiainen et al., 2023).

ESG adoption negatively affects firm value, reflected in lower Tobin's Q, as investors prioritize cash flow, efficiency, and short-term profitability over sustainability (Gutiérrez-Ponce and Wibowo, 2024; Nareswari et al., 2023). Stakeholder theory suggests that while ESG benefits various stakeholders, its short-term financial trade-offs create a conflict between non-financial responsibilities and shareholder returns.

Furthermore, regarding the ESG pillars, the regression outcomes consistently demonstrate a negative significant relationship between the environmental pillar and corporate performance across all key metrics: ROE (-0.0016; $p = 0.002$), ROA (-0.0010; $p = 0.000$), and Tobin's Q with a coefficient of -0.0068 ($p = 0.001$). The results offer empirical evidence for **accepting Hypothesis II**, which posits that the environmental pillar influences corporate performance, as the hypothesis is accepted across all three dependent variables. These findings are consistent with studies reporting similar results for ROE (Alareeni, 2020; Chandrasekaran, 2022), ROA (Alareeni, 2020; Duque-Grisales and Aguilera-Caracuel, 2021), and Tobin's Q (Alfalih, 2023; Khoury et al., 2023). However, these results contradict studies showing a positive (Buallay, 2019; Aydogmus et al., 2022; Naeem et al., 2022) or no significant impact (Gutiérrez-Ponce and Wibowo, 2024).

The Environmental Pillar emphasizes environmental protection, resource efficiency, and carbon emission reduction. However, its implementation increases financial pressure, especially in mining, energy, and manufacturing, where companies must allocate substantial capital to green technology, waste management, and emission reduction without immediate revenue gains. These costs reduce ROA and ROE by increasing operational expenses and decreasing capital efficiency (Alareeni and Hamdan, 2020; Alfalih, 2023). Environmental spending without short-term returns negatively affects investor perceptions. Investors in emerging markets prioritize traditional financial metrics over ESG, leading to stagnant share prices and lower Tobin's Q, reflecting a gap between financial and sustainability-focused stakeholders (Banerjee and David, 2024). Eco-friendly technologies raise product prices, reducing consumer demand in price-sensitive regions like ASEAN, weakening corporate competitiveness and profitability (Market Research Southeast Asia, 2022; Pieters et al., 2022). Limited regulatory support and fiscal incentives in developing regions further burden firms, increasing costs without sufficient compensation (Cho, 2023). Companies allocate resources to sustainability instead of faster-returning investments, weakening financial performance. These factors demonstrate how cost pressures, structural barriers, and incentive imbalances hinder sustainability adoption, particularly in resource-intensive sectors within regions lacking mature sustainability frameworks.

Then, the regression analysis reveals a negative and significant relationship between the Social pillar and corporate performance, specifically in terms of ROE (coefficient = -0.0017562, $p = 0.004$) and ROA (coefficient = -0.0008141, $p = 0.002$). In contrast, No statistically significant effect of the Social pillar on Tobin's Q is observed (coefficient = -0.0037497, $p = 0.114$). These findings provide empirical support for **accepting Hypothesis III** with regard to ROE and ROA, which posits that the Social pillar has influence on corporate financial performance. These findings align with prior research that also identifies a negative and significant impact of the Social pillar on both ROE and ROA (Duque-Grisales & Aguilera-Caracuel (2021), Alareeni (2020); Alareeni (2020), Khoury et al.

(2023)), and a statistically insignificant effect on Tobin's Q. In contrast, these results stand in opposition to earlier studies reporting a positive effect of the Social pillar on ROE (Chandrasekaran (2022)), ROA (Chandrasekaran (2022), Aydogomus et al. (2022)), and Tobin's Q (Alareeni (2020), Naeem et al. (2022)), as well as those reporting a non-significant impact on ROE and ROA (Naeem et al. (2022).

High costs from Corporate Social Responsibility (CSR) programs increase expenses without immediate returns, reducing ROA and ROE (Henderson, 2001). Some CSR projects prioritize managerial or board interests, leading to suboptimal outcomes (Buallay, 2019). Significant spending on human rights, worker protection, and safety improvements further raises operating costs, lowering profitability. These expenses benefit employees and communities but conflict with shareholder expectations. In emerging markets, limited regulatory support and incentives intensify this challenge. Companies must balance social initiatives with financial performance, highlighting a conflict between stakeholder expectations and shareholder interests.

In examining the relationship between the Governance (G) pillar and corporate performance, the regression outcomes demonstrate a negative and statistically significant effect on both financial performance and market valuation. A negative effect is evident in the regression coefficients for ROE (coefficient = -0.0006, p = 0.074), ROA (coefficient = -0.0004, p = 0.027), and Tobin's Q (coefficient = -0.0077, p = 0.004). These findings provide empirical support for **accepting Hypothesis IV**, which posits that the governance pillar influences corporate performance.

In emerging markets, stronger governance practices impose short-term costs exceeding financial gains due to administrative restructuring, training, and compliance expenses, diverting resources from core operations and reducing efficiency. Weak legal and institutional environments further increase compliance costs without enhancing investor confidence or capital access. Enhanced oversight slows decision-making, limiting managerial discretion and reducing investor optimism, negatively affecting firm value. The benefits of GCG reforms are delayed, with measures like internal controls reducing long-term financial risks without immediately improving profitability. Investor preferences in emerging markets remain focused on traditional metrics such as earnings growth and cash flow. Without institutional support or investor education, governance reforms are viewed as compliance costs with limited immediate value.

ESG Controversy is shown by the regression analysis to have a statistically significant negative effect on ROE (coefficient = -0.0013307; p-value = 0.058); however, it does not significantly affect ROA or Tobin's Q. These findings provide partial empirical support for **accepting Hypothesis V**, confirming the influence of ESG controversies on ROE, while **rejecting Hypothesis V** to ROA and Tobin's Q.

The results align with research from Juca et al. (2024) and Agnese et al. (2024) that similarly point to a significant effect of ESG Controversy on ROE. The results contradict Naeem et al. (2022), which found no significant effect of ESG Controversy on ROE, but align with Naeem et al. (2022) regarding ROA and Banerjee and David (2024) concerning Tobin's Q.

The negative relationship with ROE arises from financial burdens linked to ESG compliance, including costs for environmentally friendly technology, policy reforms, and stricter management systems, which reduce financial performance (Duque-Grisales and Aguilera-Caracuel, 2021). Not all ESG controversies cause immediate financial harm; some trigger only symbolic public or social media responses without disrupting core operations, explaining limited effects on ROA and Tobin's Q.

Investor sensitivity to ESG controversies in emerging markets is relatively low, with investors focusing on fundamental metrics and investment ease rather than ESG concerns (Lamech and Saeed, 2003). The sample primarily consists of firms operating in environmentally sensitive industries. These firms tend to maintain higher ESG scores and actively avoid negative publicity due to the heightened reputational risks they face (Juca et al., 2024).This focus results in a high average ESG Controversy score (97.41/100) in the study.

Examining the Moderating Role of Financial Slack in the ESG–Corporate Performance

To explore this relationship further, a moderation regression was executed to determine financial slack's role in moderating the ESG-corporate performance link. Given the preliminary finding of a negative and statistically significant effect of ESG on firm performance, the subsequent interaction analysis between ESG and financial slack showed a positive and statistically significant coefficient across all three dependent variables: ROE (0.0003, p = 0.054), ROA (0.0003, p = 0.037), and Tobin's Q (0.00099, p = 0.045). This implies that sufficient financial slack can cushion the detrimental impacts of ESG initiatives on corporate performance. This result provide empirical support for **accepting Hypothesis VI.a.** This provides confirmation that financial slack influences the relationship between ESG and corporate performance.

Industries sensitive to the environment in emerging markets experience regulatory uncertainty and high ESG implementation costs that harm firm performance, as shown in this study (Hassan, 2024). Financial slack reduces the negative impact of ESG by providing flexibility to meet stakeholder demands without lowering profitability, supporting stakeholder theory. This positive and significant effects indicating financial reserves enable efficient ESG implementation, including green technology, audits, and training, without liquidity stress (Duque-Grisales and Aguilera-Caracuel, 2021). Firms balance ESG compliance with short-term financial goals, critical in sectors facing strong public and regulatory environmental pressure to avoid reputational and operational risks.

Investor sensitivity to sustainability remains low in emerging markets like ASEAN, where ESG efforts without financial slack can lower perceived firm value. Financial slack functions as a buffer, stabilizing financial performance under rising ESG demands, reducing the trade-off between sustainability and profitability, and increasing stakeholder confidence in long-term sustainable transformation.

When examining the interaction between the Environmental pillar and financial slack, the analysis revealed a positive and statistically significant interaction coefficient in models using ROE and ROA as dependent variables (0.0002 with a p-value of 0.010 and 0.0003 with a p-value of 0.004, respectively). This suggests that financial slack moderates the negative impact of environmental initiatives on financial performance. Specifically, firms with adequate financial reserves are better positioned to absorb the costs associated with environmental initiatives without compromising short-term profitability. These findings provide empirical support for **accepting Hypothesis VI.b** This confirms that financial slack moderates the relationship between the Environmental pillar and corporate performance, particularly concerning ROE and ROA.

In emerging markets like ASEAN, firms with adequate financial slack can implement ESG initiatives without harming short-term profitability. Financial slack provides flexibility to fund environmental projects while maintaining financial objectives, acting as a buffer that absorbs ESG transition costs and reduces the trade-off between ESG expenses and firm performance. It signals organizational readiness for proactive sustainability strategies, enabling firms to sustain financial performance during ESG investments (Duque-Grisales and Aguilera-Caracuel, 2021; Hassan, 2024). However, the interaction is not substantial for Tobin's Q (p-value 0.132), indicating market valuation does not yet fully reflect the benefits of ESG initiatives despite financial flexibility. Tobin's Q depends on investor sentiment and external factors, which may undervalue long-term environmental efforts. These results highlight that successful ESG implementation, especially environmental aspects, relies on firms' financial capacity. Without financial slack, environmental efforts risk causing negative short-term financial outcomes. Corporate ESG policies must therefore consider financial capacity to ensure sustainability goals align with performance.

In contrast, the regression analysis demonstrates a insignificant impact of the Social pillar on both ROE and ROA. Rejecting hypothesis VI.c for financial metrics and contradicting Duque-Grisales and Aguilera-Caracuel (2021). Social investments bring long-term benefits not reflected in short-term profits. These findings provide empirical support for **rejecting Hypothesis VI.c** on ROE and ROA variables. However, the interaction exhibits a significant negative effect on Tobin's Q. (-0.0019; p=0.087), meaning financial slack used for social initiatives may worsen market value perception, **supporting hypothesis VI.c** for market-based performance. These findings provide empirical support for accepting Hypothesis VI.c on Tobin's Q. Markets may view social spending as inefficient, lowering firm value. Stakeholder theory explains this tension between shareholder profit focus and social stakeholder welfare, where excess financial slack use for social efforts signals inefficiency and reduces market valuation.

Next, the interaction between the Governance Pillar to corporate performance with financial slack as a moderate variable was tested. As discussion before the governance pillar have negative and significant effect on all variabel dependent However, the moderation analysis provides a critical insight. The negative impact of governance implementation on corporate performance seems to be buffered by financial slack. When testing the interaction between the Governance pillar and financial slack, the regression models show all three performance indicators yielded positive and statistically significant coefficients to ROE (0.0002; p-value = 0.031), ROA (0.0002; p-value = 0.005), and Tobin's Q (0.0033; p-value = 0.004). These results suggest that firms with sufficient internal financial reserves are better positioned to carry out governance improvements without sacrificing financial performance or market valuation. These findings provide empirical support for **accepting Hypothesis VI.d.** This confirms that financial slack moderates the relationship between the governance pillar and corporate performance.

Findings show firms with sufficient financial slack implement governance initiatives efficiently without harming financial performance or market value, supporting hypothesis VI.d (Duque-Grisales and Aguilera-Caracuel, 2021; Hassan, 2024). The availability of financial slack provides organizations with the flexibility needed to reconcile governance compliance with stakeholder expectations, effectively acting as a strategic reserve to cover

implementation expenses. In developing markets, slack enables more robust governance practices, moving beyond symbolic actions to genuinely build stakeholder trust, strengthen risk management, and contribute to sustainable value creation. Slack supports governance improvements such as audits, legal consultations, and recruiting skilled personnel, enhancing legitimacy and efficiency in ESG matters (Hassan, 2024; Duque-Grisales and Aguilera-Caracuel, 2021). Results highlight financial flexibility as essential for effective governance, allowing firms to meet regulatory and investor demands without sacrificing short-term competitiveness or market valuation.

Lastly, the interaction between ESG Controversy and financial slack shows positive but statistically insignificant effects on ROE, ROA, and Tobin's Q, resulting in the rejection of the hypothesis VI.e (p-values: ROE 0.176, ROA 0.470, Tobin's Q 0.660). These findings provide empirical support for **rejecting Hypothesis VI.e**. The findings confirm that financial slack does not play a moderating role in the relationship between ESG Controversy and corporate performance.

The high and clustered ESG Controversy scores (mean 97.41, SD 11.81) limit variance and reduce the regression model's ability to detect meaningful relationships. Firms in environmentally sensitive industries maintain uniformly high ESG Controversy scores due to regulatory and public scrutiny, focusing on reputation management rather than differing strategies or financial impact. These uniform scores reflect efforts to meet stakeholder expectations and sustain reputation without immediate financial performance effects. Financial slack does not significantly alter this dynamic, failing to differentiate firm responses to ESG Controversy pressures. Findings confirm ESG Controversy does not significantly affect ROE, ROA, or Tobin's Q directly or via financial slack interaction in reputation-conscious industries within emerging markets.

CONCLUSION

Focusing on environmentally sensitive industries in emerging markets between 2019 and 2023, this study examines the influence of ESG dimensions on corporate performance. The analysis reveals a negative association between ESG implementation and firm performance, as both the constituent ESG pillars and ESG Controversy lead to a significant reduction in firm performance. Serving as an effective buffer, financial slack mitigates the detrimental impacts of ESG on firm performance, especially concerning the environmental and governance dimensions.

The ESG Controversy scores concentrate heavily around a mean of 97 with limited variability (SD 11%), indicating that most firms maintain similarly high scores. This narrow distribution reduces the regression model's ability to identify significant differences or relationships between ESG Controversy and firm performance. The lack of variance suggests uniformity in how firms manage or report controversies, which may reflect consistent reputation management strategies rather than genuine performance differences. Consequently, this limits the statistical power to detect meaningful impacts of ESG Controversy within the sample.

Companies should carefully manage ESG implementation costs to prevent negative financial impacts, especially in emerging markets and environmentally sensitive sectors. Maintaining sufficient financial slack is critical to absorb short-term ESG-related costs and risks. Investors need to understand the potential short-term financial drawbacks of ESG implementation and consider the emerging market context for balanced investment decisions. Regulators must create supportive policies for sustainable ESG adoption, including fiscal incentives, clear regulations, and awareness programs for firms, investors, and the public. To gain deeper insights into the relationship between ESG and firm performance in emerging markets**,** scholars are encouraged to conduct further research. This might include examining additional moderating influences and performing comparisons across different industries and countries.

REFERENCES

Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance: The International Journal of Business in Society, 20*(7), 1409–1428. https://doi.org/10.1108/CG-06-2020-0258

Agnese, P., Cerciello, M., Oriani, R., & Taddeo, S. (2024). ESG controversies and profitability in the European banking sector. *Finance Research Letters, 61*, 105042. https://doi.org/10.1016/j.frl.2023.105042

Alfalih, A. A. (2023). ESG disclosure practices and financial performance: A general and sector analysis of S&P-500 non-financial companies and the moderating effect of economic conditions. *Journal of Sustainable Finance & Investment, 13*(4), 1506–1533. https://doi.org/10.1080/20430795.2023.2177749

Antara News. (2016, October 1). Deepwater Horizon: Bencana tumpahan minyak terbesar Amerika. *Antaranews*. https://www.antaranews.com/berita/587760/deepwater-horizon-bencana-tumpahan-minyak-terbesar-amerika

Arif, A. (2024, July 6). Citra satelit mengungkap, 700.000 hektar hutan di Indonesia telah ditebang untuk tambang. *Kompas.id*. https://www.kompas.id/baca/humaniora/2024/07/06/citra-satelit-mengungkap-700000-hektar-hutan-di-indonesia-telah-ditebang-untuk-tambang

Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review, 22*, S119–S127. https://doi.org/10.1016/j.bir.2022.01.001

Banerjee, S., & David, R. (2024). Does ESG really matter? Accessing the relevance of ESG in Indian investors' decision-making dynamics. *Qualitative Research in Financial Markets*. Advance online publication. https://doi.org/10.1108/QRFM-11-2023-0223

Bourgeois, L. J. III. (1981). On the measurement of organizational slack. *Academy of Management Review, 6*(1), 29–39. https://doi.org/10.5465/amr.1981.4287985

Bruna, M. G., Loprevite, S., Raucci, D., Ricca, B., & Rupo, D. (2022). Investigating the marginal impact of ESG results on corporate financial performance. *Finance Research Letters, 47*, 102828. https://doi.org/10.1016/j.frl.2022.102828

Buallay, A. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. *Management of Environmental Quality: An International Journal, 30*(1), 98–115. https://doi.org/10.1108/MEQ-12-2017-0149

Chandrasekaran, M. M. (2022). Does corporate social responsibility fuel firm performance? Evidence from the Asian automotive sector. *Sustainability, 14*(22), 15440. https://doi.org/10.3390/su142215440

Chen, S., Song, Y., & Gao, P. (2023). Environmental, social, and governance (ESG) performance and financial outcomes: Analyzing the impact of ESG on financial performance. *Journal of Environmental Management, 345*, 118829. https://doi.org/10.1016/j.jenvman.2023.118829

Chen, Z., & Xie, G. (2022). ESG disclosure and financial performance: Moderating role of ESG investors. *International Review of Financial Analysis, 83*, 102291. https://doi.org/10.1016/j.irfa.2022.102291

Chung, K. H., & Pruitt, S. W. (1994). A simple approximation of Tobin's Q. *Financial Management, 23*(3), 70–74. https://doi.org/10.2307/3665623

Cyert, R., & March, J. (2015). Behavioral theory of the firm. In *Organizational behavior 2* (pp. 60–77). Routledge.

Diab, A., & Adams, G. M. (2021). ESG assets may hit $53 trillion by 2025, a third of global AUM. *Bloomberg Intelligence*, 23.

Duque-Grisales, E., & Aguilera-Caracuel, J. (2021). Environmental, social and governance (ESG) scores and financial performance of multilatinas: Moderating effects of geographic international diversification and financial slack. *Journal of Business Ethics, 168*(2), 315–334. https://doi.org/10.1007/s10551-019-04177-w

Edmans, A. (2023). The end of ESG. *Financial Management, 52*(1), 3–17. https://doi.org/10.1111/fima.12420

Environmental, social and governance scores from Refinitiv. (2022). *Refinitiv*. https://www.lseg.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Freeman, R. E. (1984). Strategic management: A stakeholder approach. Boston: Pitman

Gao, S., Meng, F., Wang, W., & Chen, W. (2023). Does ESG always improve corporate performance? Evidence from firm life cycle perspective. *Frontiers in Environmental Science, 11*, 1105077. https://doi.org/10.3389/fenvs.2023.1105077

Garcia, A. S., Mendes-Da-Silva, W., & Orsato, R. J. (2017). Sensitive industries produce better ESG performance: Evidence from emerging markets. *Journal of Cleaner Production, 150*, 135–147. https://doi.org/10.1016/j.jclepro.2017.02.180

Ghozali, I. (2016). *Aplikasi analisis multivariete dengan program (IBM SPSS)* (Edisi ke-8). Badan Penerbit Universitas Diponegoro.

Gutiérrez-Ponce, H., & Wibowo, S. A. (2024). Do sustainability practices contribute to the financial performance of banks? An analysis of banks in Southeast Asia. *Corporate Social Responsibility and Environmental Management, 31*(2), 1418–1432. https://doi.org/10.1002/csr.2634

Hart, O., & Zingales, L. (2017). Companies should maximize shareholder welfare, not market value. *Journal of Law, Finance and Accounting, 2*(2), 247–275. https://doi.org/10.1561/108.00000022

Hassan, S. (2024). The impact of environmental, social, and governance on firm performance: Moderating role of financial slack and research & development intensity. *City University Research Journal, 14*(1), 24–38.

Henderson, D. (2001). *Misguided virtue: False notions of corporate social responsibility*. Institute of Economic Affairs. https://iea.org.uk/wp-content/uploads/2016/07/upldrelease5pdf.pdf

Heubeck, T., & Ahrens, A. (2024). Governing the responsible investment of slack resources in environmental, social, and governance (ESG) performance: How beneficial are CSR committees? *Journal of Business Ethics*, 1–21. https://doi.org/10.1007/s10551-024-05694-0

Jucá, M. N., Muren, P. D., Valentinčič, A., & Ichev, R. (2024). The impact of ESG controversies on the financial performance of firms: An analysis of industry and country clusters. *Borsa Istanbul Review, 24*(6), 1305–1315. https://doi.org/10.1016/j.bir.2024.04.006

Khoury, R., Nasrallah, N., & Alareeni, B. (2023). ESG and financial performance of banks in the MENAT region: Concavity–convexity patterns. *Journal of Sustainable Finance & Investment, 13*(1), 406–430. https://doi.org/10.1080/20430795.2022.2034321

Lamech, R., & Saeed, K. (2003). What international investors look for when investing in developing countries. *Energy and Mining Sector Board Discussion Paper, 6*. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/860541468739447413/what-international-investors-look-for-when-investing-in-developing-countries-results-from-a-survey-of-international-investors-in-the-power-sector

Lavin, J. F., & Montecinos-Pearce, A. A. (2021). ESG disclosure in an emerging market: An empirical analysis of the influence of board characteristics and ownership structure. *Sustainability, 13*(19), 10498. https://doi.org/10.3390/su131910498

Mahajan, R., Lim, W. M., Sareen, M., Kumar, S., & Panwar, R. (2023). Stakeholder theory. *Journal of Business Research, 166*, 114104. https://doi.org/10.1016/j.jbusres.2023.114104

Market Research Southeast Asia. (2022). The new ASEAN consumer. *Jurnal*.

Manurung, B., & Bratajaya, Y. (2022, March 14). Let's focus on the 'S' in ESG to improve social outcomes. *The Jakarta Post*. https://www.thejakartapost.com/opinion/2022/03/14/lets-focus-on-the-s-in-esg-to-improve-social-outcomes.html

Menicucci, E., & Paolucci, G. (2023). ESG dimensions and bank performance: An empirical investigation in Italy. *Corporate Governance: The International Journal of Business in Society, 23*(3), 563–586. https://doi.org/10.1108/CG-01-2022-0031

Mohammad, W. M. W., & Wasiuzzaman, S. (2021). Environmental, social, and governance (ESG) disclosure, competitive advantage, and performance of firms in Malaysia. *Cleaner Environmental Systems, 2*, 100015. https://doi.org/10.1016/j.cesys.2021.100015

Moses, O. D. (1992). Organizational slack and risk-taking behavior: Tests of product pricing strategy. *Journal of Organizational Change Management, 5*(3), 38–54. https://doi.org/10.1108/09534819210014486

MSCI. (2023). *MSCI ESG controversies and global norms methodology*. https://www.msci.com/documents/1296102/14524248/ESG-Research-Controversies-Methodology.pdf

Mu, H. L., Xu, J., & Chen, S. (2024). The impact of corporate social responsibility types on happiness management: A stakeholder theory perspective. *Management Decision, 62*(2), 591–613. https://doi.org/10.1108/MD-11-2022-1559

Naeem, N., Cankaya, S., & Bildik, R. (2022). Does ESG performance affect the financial performance of environmentally sensitive industries? A comparison between emerging and developed markets. *Borsa Istanbul Review, 22*, S128–S140. https://doi.org/10.1016/j.bir.2022.06.002

Nareswari, N., Tarczyńska-Łuniewska, M., & Al Hashfi, R. U. (2023). Analysis of environmental, social, and governance performance in Indonesia: Role of ESG on corporate performance. *Procedia Computer Science, 225*, 1748–1756. https://doi.org/10.1016/j.procs.2023.01.337

Penrose, E. T. (1959). *The theory of the growth of the firm*. Wiley.

Pinheiro, A. B., dos Santos, J. I. A. S., Cherobim, A. P. M. S., & Segatto, A. P. (2023). What drives environmental, social, and governance (ESG) performance? The role of institutional quality. *Management of Environmental Quality: An International Journal, 35*(2), 427–444. https://doi.org/10.1108/MEQ-01-2023-0021

Pursiainen, V., Sun, H., & Xiang, Y. (2023). Competitive pressure and ESG. *Swiss Finance Institute Research Paper*, (23-69). https://doi.org/10.2139/ssrn.4543124

Qureshi, M. A., Akbar, M., Akbar, A., & Poulova, P. (2021). Do ESG endeavors assist firms in achieving superior financial performance? A case of 100 best corporate citizens. *Sage Open, 11*(2), 21582440211021598. https://doi.org/10.1177/21582440211021598

Rahat, B., & Nguyen, P. (2024). The impact of ESG profile on firm's valuation in emerging markets. *International Review of Financial Analysis*, 103361. https://doi.org/10.1016/j.irfa.2024.103361

Ramírez-Orellana, A., Martínez-Victoria, M., García-Amate, A., & Rojo-Ramírez, A. A. (2023). Is the corporate financial strategy in the oil and gas sector affected by ESG dimensions? *Resources Policy, 81*, 103303. https://doi.org/10.1016/j.resourpol.2023.103303

Rao, A., Dagar, V., Sohag, K., Dagher, L., & Tanin, T. I. (2023). Good for the planet, good for the wallet: The ESG impact on financial performance in India. *Finance Research Letters, 56*, 104093. https://doi.org/10.1016/j.frl.2023.104093

Saini, M., Aggarwal, V., Dhingra, B., Kumar, P., & Yadav, M. (2023). ESG and financial variables: A systematic review. *International Journal of Law and Management, 65*(6), 663–682. https://doi.org/10.1108/IJLMA-02-2023-0037

Singh, A., Verma, S., & Shome, S. (2023). ESG-CFP relationship: Exploring the moderating role of financial slack. *International Journal of Emerging Markets*. https://doi.org/10.1108/IJOEM-10-2022-1614

Steen, P., Rhodes, A., Carslaw, E., & Cornaglia, M. (2023). Investing in their best interests: Considerations for trustees from the rise of ESG. *Trusts & Trustees, 29*(8), 698–708. https://doi.org/10.1093/tandt/ttad094

Tanhati, S. (2025, Januari 15). Bagaimana keserakahan manusia pada minyak kelapa sawit merusak hutan? *National Geographic Indonesia*. https://nationalgeographic.grid.id/read/134204727/bagaimana-keserakahan-manusia-pada-minyak-kelapa-sawit-merusak-hutan?page=all

Ting, I. W. K., Azizan, N. A., Bhaskaran, R. K., & Sukumaran, S. K. (2019). Corporate social performance and firm performance: Comparative study among developed and emerging market firms. *Sustainability, 12*(1), 26. https://doi.org/10.3390/su12010026

Tobin, J. (1969). A general equilibrium approach to monetary theory. Journal of Money, Credit and Banking, 1(1), 15–29

Uyar, A., Lodh, S., Nandy, M., Kuzey, C., & Karaman, A. S. (2023). Tradeoff between corporate investment and CSR: The moderating effect of financial slack, workforce slack, and board gender diversity. *International Review of Financial Analysis, 87*, 102649. https://doi.org/10.1016/j.irfa.2023.102649

Waluyo, D. (2024, November 21). Ribuan hektare lahan sawit rusak habitat gajah, konflik dengan manusia marak. *Katadata.co.id*. https://katadata.co.id/ekonomi-hijau/ekonomi-sirkular/673eded926875/ribuan-hektare-lahan-sawit-rusak-habitat-gajah-konflik-dengan-manusia-marak