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SUSTAINABILITY-BASED ISLAMIC CORPORATE GOVERNANCE AND ISLAMIC BANKS' MULTI-PERFORMANCE: EVIDENCE FROM INDONESIA

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ABSTRACT

This study develops a Sustainability-based Islamic Corporate Governance (SICG) index that integrates the roles of the Shariah board, regular board, and sustainable board and examines how it impacts multi-dimensional performance of Islamic banks. It employs a sample of 15 Islamic commercial banks in Indonesia from 2010 to 2023. The findings reveal that governance elements have a positive impact on particularly financial performance, while its influence on social performance is limited. For environmental and sustainability performance, a positive impact is primarily observed in the roles of the regular and sustainable boards. Further analysis through the Paris Agreement interaction confirms that most of these findings are consistent and support the role of SICG in enhancing various performances of Islamic banks. These results highlight the need for Islamic banks in Indonesia to transition toward SICG and suggest that policymakers facilitate this transformation by developing relevant regulations and guidelines to align governance structures with broader sustainability objectives.

Keywords: Islamic corporate governance, Sharia governance, ESG performance, Islamic bank, Sustainability.
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I. INTRODUCTION

The global push for sustainability, especially after the Paris Agreement, has placed significant attention on banks in supporting sustainability initiatives (Adu et al., 2024; Riegler, 2023). As key financial intermediaries, banks have the ability to either drive or delay sustainable practices at national, corporate, and individual levels, ultimately influencing structural changes in society (Riegler, 2023). In this context, researchers have emphasized the importance of sustainable corporate governance in enabling banks to fulfill their sustainability commitments (Jan, Mata, et al., 2021; Naeem et al., 2022). This discussion has gained even more attention following the COVID-19 pandemic, which exposed serious weaknesses in past corporate governance practices (Jan, Mata, et al., 2021; Naeem et al., 2022).

However, sustainability progress within the banking sector remains slow, particularly in Islamic banking. A study by Jan et al. (2023) demonstrates that sustainability disclosures in global Sharia banking are only around 31%, which is notably low and unsatisfactory. Aliyu et al. (2017) also document several cases where Islamic banks failed to meet social and sustainability objectives. Moreover, Islamic banking has a more complex governance structure than conventional banking due to the presence of the Shariah Supervisory Board (SSB), which is responsible for ensuring compliance with Sharia principles (Boudawara et al., 2023; Ur Rehman et al., 2023). This additional layer of governance may create stricter requirements that could challenge the implementation of sustainability initiatives. Furthermore, the SSB's current role does not extend to overseeing sustainability concerns (Jan, Marimuthu, & Hassan, 2019; Jan, Lai, et al., 2021), and existing Sharia screening largely overlooks social and environmental issues (BinMahfouz & Kabir Hassan, 2013), leaving sustainability efforts largely unaddressed. Islamic banks also face unique risks, particularly Shariah risk, which arises from profit-loss sharing arrangements (Al-Nasser Mohammed & Muhammed, 2017; Mohd Noor et al., 2018). These risks might make sustainability practices more costly to implement. Given these challenges, Islamic banks may require an adjusted sustainability corporate governance model rather than merely adopting conventional frameworks.

Indonesia is a compelling case for studying sustainable governance in Islamic banking due to its unique position as the world's largest Muslim-majority country (World Population Review, 2023) and a rapidly growing Islamic financial market. The country was ranked third in the Islamic finance component of the Global Islamic Economy Indicator in 2023 (DinarStandard, 2023), reflecting its expanding role in the global Sharia finance industry. Moreover, strengthening sustainability efforts in Sharia banking in Indonesia is crucial, as according to Katadata Insight Center (2023), the banking sector has the lowest sustainability scores compared to other sectors. The implementation of sustainable corporate governance in Islamic banking can thus serve as a competitive strategy while supporting the transition toward green Sharia banking (Sehen Issa et al., 2022; Uddin & Ahmmed, 2018).

Given this background, this study proposes a Sustainability-Based Islamic Corporate Governance (SICG) framework that integrates Shariah characteristics with sustainability governance, which remains largely underexplored. Specifically, this study aims to fill the gap in measuring sustainability indices for Islamic banks, which often rely on global indicators that lack Shariah-specific nuances, such as the UN Sustainable Development Goals (SDGs) used by Jan et al. (2023) and Jan,

Mata, et al. (2021). In this study, the SICG index is constructed based on three main elements: Shariah board governance, Regular board governance, and sustainable board governance. Since Indonesia adopts a dual-board system, regular board governance will be further divided into Board of Directors (BOD) and Board of Commissioners (BOC). This approach differs from previous studies that measure ICG using only two dimensions—Shariah board governance and regular board governance (Safiullah, 2021; Safiullah et al., 2022; Safiullah & Shamsuddin, 2018).

This study contributes by integrating governance elements into a cumulative framework to assess their collective impact on Islamic banking performance, rather than treating sustainability as a separate predictor using proxies such as sustainable practices (Jan et al., 2023; Jan, Marimuthu, & Isa, 2019) or sustainability reporting (Haron et al., 2022; So et al., 2021). Additionally, this study contributes by introducing a novel performance measurement that incorporates multiple dimensions. Unlike many previous studies that have only considered performance from a single aspect, primarily the financial aspect (e.g., Kateb et al., 2025; Khan & Zahid, 2020; Abdul Rahim et al., 2024), this study integrates financial, social, and environmental aspects into a sustainability performance component, providing a more comprehensive evaluation within the triple-bottom-line framework. Furthermore, this study contributes by examining whether sustainability efforts in Islamic banking have gained momentum following the Paris Agreement, providing insights into the evolution of sustainability in the banking sector over time.

II. LITERATURE REVIEW

2.1. Sustainability-based Islamic Corporate Governance (SICG)

Sustainability is broadly defined through the Brundtland Report (1987) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In the business context, sustainability is premised on triple bottom lines, prioritizing a company's objectives across three aspects: economic (profit), social (people), and environmental (planet), to achieve sustainable development (Jan et al., 2022; Jan, Lai, et al., 2021).

From an Islamic perspective, sustainability aligns with *Maqasid Shariah*, which prioritizes the well-being of all stakeholders, including people, nature, and all living beings (Al Haq & Abd Wahab, 2019; Sarkawi et al., 2016; Satyakti, 2023). Islam promotes sustainability by positioning humans as stewards responsible for protecting all of God's creation (Bsoul et al., 2022). The Quran (54:49) states that the universe is created with balance, and its resources will remain sufficient if managed wisely (Sarkawi et al., 2016). Sarkawi et al. (2016) outline three key aspects of sustainability in Islam. The economic aspect ensures financial well-being while meeting both material and spiritual needs. The social aspect shapes ethical interactions based on *Muamalat* law. The environmental aspect emphasizes responsible environmental management with ethical considerations. Islam places a stronger focus on human responsibility as stewards, which is guided by the Quran and Hadith.

Researchers have introduced "sustainable corporate governance" to integrate sustainability into corporate governance (Knapp, 2021; Naeem et al., 2022; Shui

et al., 2022). This concept promotes responsible business practices by ensuring sustainable development, environmental protection, and social and economic well-being (Onesti & Palumbo, 2023). In Islamic-based firms, sustainability is driving the evolution of traditional ICG toward a model aligned with the SDGs (Jan et al., 2023; Lestari et al., 2024). This approach emphasizes a strong commitment to economic, social, and environmental benefits to achieve sustainable development (Abdullah et al., 2024; Jan et al., 2022; Naeem et al., 2022).

In this study, this approach is referred to as Sustainability-Based ICG (SICG). SICG builds on the foundations of traditional ICG while integrating sustainability principles to enhance corporate resilience and long-term value creation. It not only ensures compliance with the Shariah but also aligns Islamic corporate governance with global sustainability standards, making it more adaptable to contemporary challenges. To achieve these objectives, this study proposes SICG with three key dimensions. Shariah board governance ensures that bank operations comply with Islamic principles (Jan, Mata, et al., 2021; Lestari et al., 2024). Regular board governance drives corporate strategy and decision-making (Jan et al., 2022; Lestari et al., 2024). Sustainable board governance embeds corporate sustainability initiatives into the governance mechanism (Lestari et al., 2025). By integrating these elements, SICG offers a potential framework that strengthens accountability, promotes ethical business practices, and aligns with global sustainability standards.

2.2. SICG and Financial Performance

Islamic banks operate under strict revenue constraints and Shariah principles (Puspitasari et al., 2024), which may lead to complex agency problems. To address this, Shariah board governance complements regular board functions by ensuring Shariah compliance (Safiullah et al., 2022; Safiullah & Shamsuddin, 2018). However, the growing prominence of sustainable financial instruments has pushed Islamic banks to rethink their strategies, not only in terms of profitability but also in alignment with long-term sustainability. This shift might generate new agency conflicts, as sustainability-focused stakeholders may pressure banks to adopt high sustainability standards, even if they lead to short-term profitability trade-offs. At the same time, Islamic banks must comply with global sustainability standards, which may not always align with Shariah requirements traditionally overseen by the Shariah board. To address this governance gap, establishing a sustainability board could be a strategic solution (Lestari et al., 2025; Velte, 2024). Collaboration between the sustainability board, Shariah board, and regular board can create a governance framework that enhances financial performance while aligning with ethical and sustainability goals.

Several studies have supported the influence of sustainability governance on financial performance. Aliani et al. (2022) find that governance practices by executives that promote sustainability positively influence the financial performance of Shariah banks in Saudi Arabia. Orazalin et al. (2024) demonstrate that the sustainability committee positively impacts market value. Moreover, research has shown that Shariah boards contribute to improved financial performance in the banking sector (Basri & Fitriasari, 2019; Jan et al., 2022; Safiullah et al., 2022). Various board governance attributes—such as BOD size, BOD independence, and

BOD meeting frequency—have also been found to positively influence financial performance in Islamic banking (Faruqi et al., 2019; Habtoor, 2022; Harun et al., 2020).

These findings suggest that SICG, which integrates the governance roles of Shariah boards, regular boards, and sustainability boards, can enhance the financial performance of Islamic banks. By integrating these governance structures, Islamic banks can ensure that their operations not only comply with Shariah principles but also prioritize long-term financial success. Consequently, the proposed hypothesis is:

H1. SICG has a positive effect on financial performance

2.3. SICG and Social Performance

From an Islamic perspective, social performance is part of the Islamic Moral Economy, which requires organizations to follow Islamic teachings while actively benefiting society (Asutay, 2012; Meskovic et al., 2024). It goes beyond traditional CSR to include Islamic social engagement, such as Zakat (Boudawara et al., 2023; Nurkhin et al., 2018), necessitating governance based on Islamic values. Such governance reinforces the role of Islamic banks as religious representatives who uphold stakeholder interests (Yusoff et al., 2018). As the benefit of addressing social costs supports sustainable actions and long-term societal well-being, integrating sustainability into corporate governance mechanisms can be a viable solution. Velte (2023) argues that sustainable boards enhance social outcomes by addressing CSR concerns and reducing conflicts of interest among stakeholders. Similarly, Muntaha & Haryono (2021) find that the governance of sustainable committees positively impacts social performance, while Orazalin (2020) shows that sustainability committees improve CSR effectiveness.

In Islamic banks, the Shariah board also plays a crucial role in sustainable corporate governance. Boudawara et al. (2023) demonstrate that various Shariah board attributes positively impact social performance. Wijayanti & Setiawan (2022) also find that key attributes of SSBs—such as size, education, and reputation—positively affect social reporting in Shariah banking. Additionally, researchers have highlighted the contribution of regular boards to social performance. Board attributes such as size, independence, and meeting frequency have been found to positively influence the social performance of Islamic banks (Harun et al., 2020; Jahid et al., 2020; Nomran & Haron, 2019).

These findings give direction that SICG offers a promising strategy for enhancing the social performance of Islamic banks. By incorporating sustainability into their governance frameworks, Islamic banks can fulfill their religious obligations, meet stakeholder demands, and contribute to societal well-being. Thus, the proposed hypothesis is:

H2. SICG has a positive effect on social performance

2.4. SICG and Environmental Performance

Environmental performance is important in Islamic firms as it reflects stewardship of the Earth and responsible resource use (Bsoul et al., 2022; Hasan, 2022).

Resource Dependence Theory highlights that organizations should manage their relationships with external entities that control critical resources (Hillman et al., 2009; Mentari et al., 2019). Thus, integrating sustainability into corporate governance can help Islamic banks manage these resources effectively. Studies confirm that governance through sustainable boards and committees positively influences firms' environmental performance (Orazalin, 2020; Orazalin & Mahmood, 2021; Velte, 2024). Conversely, the absence of a dedicated sustainability committee is linked to weaker environmental performance (Villalba-Ríos et al., 2023).

Specifically in Shariah banking, governance by the Shariah board and the regular board also contributes to environmental performance. Various board governance attributes—such as size, independence, and meeting frequency—positively impact the environmental outcomes of Islamic banks (Al-Jaifi, 2020; Boudawara et al., 2023). However, Boudawara et al. (2023) find that the Shariah board negatively affects environmental performance, as its focus tends to be more on Shariah compliance than environmental initiatives.

These findings suggest that SICG could help Islamic banks manage resource dependence and operate sustainably while staying aligned with Shariah principles. Thus, the proposed hypothesis is:

H3. SICG has a positive effect on environmental performance

2.5. SICG and Sustainable Performance

Sustainable performance involves balancing economic, social, and environmental objectives within an organization (Jan et al., 2023; Jan, Mata, et al., 2021; Jan, Lai, et al., 2021). Integrating sustainability criteria into Islamic banks' strategies helps them respond to external pressures from regulators and civil society (Kashi et al., 2024). This aligns with stakeholder theory, which emphasizes a company's ethical responsibility to all stakeholders, including the environment, due to the potential negative impact of its operations (Jan et al., 2023). In this context, sustainable corporate governance could facilitate corporate sustainability responsibilities toward its stakeholders, particularly by enabling effective monitoring and reducing managerial opportunism (Gerwing et al., 2022).

One component of sustainable corporate governance is the sustainable board, which has been linked to stronger corporate sustainability performance (Abdullah et al., 2024; Minciullo et al., 2022; Orazalin, 2020). In Islamic banks, Kashi et al. (2024) find that establishing a sustainability committee enhances sustainability performance. Imran et al. (2023) further show that sustainable corporate governance positively mediates both financial and CSR performance, indicating a balance between profitability and social responsibility in line with the triple-bottom-line framework. Another critical governance element is the Shariah boards, which demonstrate higher sustainability commitments, particularly in institutions with a greater number of SSB members (Muhmad et al., 2021). Meanwhile, the regular board is also positioned as a key component of good governance, which contributes to enhancing sustainability in Islamic banking (Wijayanti & Setiawan, 2023, 2024).

In light of these findings, SICG is assumed to have the potential to enhance the sustainability performance of Islamic banks. By integrating sustainability into ICG frameworks, Islamic banks can better address environmental challenges, meet societal expectations, and uphold Islamic principles, thereby improving their overall sustainability. Therefore, the proposed hypothesis is:
H4. SICG has a positive effect on sustainability performance

III. METHODOLOGY

3.1. Data and Sample

This study uses panel data from the Islamic commercial banks in Indonesia, covering the period from 2010 to 2023, with a total of 172 bank-year observations. Given that a significant portion of the data is sourced from bank reports, we focus on Islamic Commercial Banks due to the availability of their published reports. Islamic business units are excluded to avoid governance bias from their conventional parent banks, while Shariah Rural Banks are also excluded due to the lack of standardized reports, which could lead to missing valuable governance information.

a. Variables and Measurement

In this study, SICG is the key independent variable, representing an ICG framework that integrates sustainability concepts. SICG is operationally defined through three key dimensions: Shariah board governance, regular board governance, and sustainable governance. Given Indonesia's dual board system, regular board governance is further categorized into BOD and BOC. The measurement of SICG follows a two-step process. First, the score for each dimension is calculated based on multiple indicators, as presented in Table 1. This assessment employs Principal Component Analysis (PCA), a statistical method that reduces data complexity by summarizing multiple variables into principal components (Jiang et al., 2018). Second, the total SICG score is obtained by summing the scores across all dimensions, where a higher score reflects stronger governance practices both at the dimension level and at the aggregate level.

Table 1.
SICG Measurement

Dimension	Indicator and Measurement
Shariah Board Governance (SBGOV)	SBSIZE: Number of SSB members SBFEM: % female SSB members SBPHD: % SSB members with a PhD SBREP: % SSB members affiliated with the Indonesian Ulema Council (MUI) SBLOCK: % SSB members holding only one position SBFIN: % SSB members with formal background in finance, accounting, or banking SBMEET: Frequency of SSB meetings per year

Table 1.
SICG Measurement (Continued)

Dimension		Indicator and Measurement
Regular Board Governance	**BOD Governance (BODGOV)**	BODSIZE: Number of BOD members BODMEET: Frequency of BOD meetings per year BODFEM: % female directors BODPHD: % directors with a PhD BODFIN: % directors with formal background in finance, accounting, or banking
	BOC Governance (BOCGOV)	BOCSIZE: Number of BOC members BOCIND: % independent commissioners BOCFEM: % female commissioners ACSIZE: Number of Audit Committee members RMCSIZE: Number of Risk Management Committee members RNCSIZE: Number of Remuneration and Nomination Committee members
Sustainable Board Governance (SUSGOV)		SUSDIV: Presence of a sustainability finance division/team (with code 2 = establishment dedicated committee, 1 = existing unit given additional task in sustainability, 0 = none). SUSVISION: Disclosure of sustainability vision/ mission (with code 1 = exists; code 0 = does not exist) SUSREPORT: Type of sustainability report (with code 2 = standalone report, 1 = included in the annual report, 0 = not disclosed).

The dependent variable comprises four performance metrics. First, financial performance is measured from two perspectives: management (ROA) and shareholders (ROE). Second, social performance in Islamic banks is assessed through the zakat ratio (Felani et al., 2020; Sari & Aisyah, 2022), with the benevolent fund ratio as an alternative measure. Third, environmental performance is assessed through environmental disclosures, including CSR environment (Abdullah et al., 2024; Boudawara et al., 2023) and resource-use information (Velte, 2024). Lastly, sustainability performance is measured using the triple-bottom-line framework, incorporating financial, social, and environmental aspects through PCA, as also conducted by some previous studies (Jiang et al., 2018; Gharizadeh Beiragh et al., 2020). Additionally, sustainable financing is employed as an alternative measure of sustainability performance, as defined by OJK to include MSME financing and environmentally conscious activities. Control variables are also included, with details provided in Table 2.

Table 2.
Variables and Measurements

Variables	Proxies	Measurement
Dependent Variable		
Financial Performance	ROA	Net income/ total assets
	ROE	Net income/ total equity
Social Performance	ZPR	Zakat distribution/ total assets
	BEN	Benevolent fund/ net asset
Environmental Performance	ENVC	Environmental CSR Disclosure (with code 1 = disclosed, 0 = not disclosed)
	ENVR	Resource utilization disclosure (with code 1 = disclosed, 0 = not disclosed)
Sustainability Performance	SUSP	PCA of triple-bottom-line performance (ROA; ROE; ZPR; BEN; ENVC; ENVR)
	SUSF	Sustainable financing [(Green financing + SME financing) / Total financing]
Independent Variable		
Shariah Board	SBGOV	PCA of SBGOV (see Table 1)
Regular board	BODGOV	PCA of BODGOV (see Table 1)
	BOCGOV	PCA of BOCGOV (see Table 1)
Sustainable board	SUSGOV	PCA of SUSGOV (see Table 1)
Sustainability-based ICG	SICG	Total of PCA (SBGOV + BODGOV + BOCGOV + SUSGOV)
Control Variable		
Firm characteristic	FIRMSIZE	Natural log of total assets
	LEV	Leverage ratio (total debt / total assets)
	CAR	Capital Adequacy Ratio
	FDR	Financing to Deposit Ratio
Shareholder characteristic	OWN	% majority shareholder ownership

The paper specifies the following two sets of panel regressions. The first set of regressions is run for each dimension of Sustainability-based ICG using the following models:

$$ROA_{i,t} \; or \; ROE_{i,t} = \alpha + \beta_1 SB_{i,t} + \beta_2 BOD_{i,t} + \beta_2 BOC_{i,t} + \beta_3 SG_{i,t} + \beta_4 \, Cont_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$ZPR_{i,t} \; or \; BEN_{i,t} = \alpha + \beta_1 SB_{i,t} + \beta_2 BOD_{i,t} + \beta_2 BOC_{i,t} + \beta_3 SG_{i,t} + \beta_4 \, Cont_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$ENVC_{i,t} \; or \; ENVR_{i,t} = \alpha + \beta_1 SB_{i,t} + \beta_2 BOD_{i,t} + \beta_2 BOC_{i,t} + \beta_3 SG_{i,t} + \beta_4 \, Cont_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$SUSP_{i,t} \; or \; SUSF_{i,t} = \alpha + \beta_1 SB_{i,t} + \beta_2 BOD_{i,t} + \beta_2 BOC_{i,t} + \beta_3 SG_{i,t} + \beta_4 \, Cont_{i,t} + \varepsilon_{i,t} \quad (4)$$

Meanwhile, the second set of regressions is conducted using the overall index of SICG:

$$ROA_{i,t} \text{ or } ROE_{i,t} = \alpha + \beta_1 SICG_{i,t} + \beta_2 Cont_{i,t} + \varepsilon_{i,t} \quad (5)$$

$$ZPR_{i,t} \text{ or } BEN_{i,t} = \alpha + \beta_1 SICG_{i,t} + \beta_2 Cont_{i,t} + \varepsilon_{i,t} \quad (6)$$

$$ENVC_{i,t} \text{ or } ENVR_{i,t} = \alpha + \beta_1 SICG_{i,t} + \beta_2 Cont_{i,t} + \varepsilon_{i,t} \quad (7)$$

$$SUSP_{i,t} \text{ or } SUSF_{i,t} = \alpha + \beta_1 SICG_{i,t} + \beta_2 Cont_{i,t} + \varepsilon_{i,t} \quad (8)$$

where the variables are as stated in Table 2 and Cont is a vector of controlled variables.

IV. RESULTS AND DISCUSSION

4.1. Descriptive Result

Table 3 presents the descriptive statistics. On average, Indonesian Islamic banks have two SSB members, 4% of whom are female. Over 60% hold PhDs, 24% have financial expertise, and nearly 60% are affiliated with the MUI. The SSB also meets approximately 16 times per year. Meanwhile, regular board governance shows an average of four BOD and BOC members, with female representation below 20% in both boards. Board independence is relatively strong, with 64% of commissioners being independent. However, sustainability governance remains weak, with less than 0.5 of the average value dedicated to sustainability units and integration into bank policies, despite high sustainability reporting compliance nearly reaching maximum values.

Table 3.
Descriptive Statistic

Variable (n = 172)	Mean	Std. dev.	Min	Max
SBSIZE	2.31	0.51	2	4
SBFEM	4.26	13.53	0	50
SBPHD	63.71	31.81	0	100
SBLOCK	19.72	30.23	0	100
SBFIN	23.84	25.59	0	100
SBREP	59.79	36.58	0	100
SBMEET	16.22	10.03	0	68
BODSIZE	4.31	1.24	3	10
BODFEM	18.79	20.23	0	75
BODPHD	3.43	10.32	0	66.67
BODFIN	52.37	30.37	0	100
BODMEET	32.17	17.08	0	108
BOCSIZE	3.74	1.16	2	9

Table 3.
Descriptive Statistic (Continued)

Variable (n = 172)	Mean	Std. dev.	Min	Max
BOCIND	63.74	17.06	0	100
BOCFEM	13.40	18.65	0	100
BOCMEET	12.94	8.04	3	58
ACSIZE	3.81	1.12	2	8
RMCSIZE	4.05	1.27	2	10
RNCSIZE	4.16	1.31	2	10
SUSREPORT	0.95	0.93	0	2
SUSDIV	0.46	0.63	0	2
SUSVISION	0.42	0.49	0	1

Table 4 presents the mean values of multi-performance across 15 Indonesian Islamic banks, covering financial, social, environmental, and sustainability aspects. BTPNS records the highest financial performance with an average ROA of 8.28 and ROE of 20.09. Social performance was led by BSI (zakat ratio: 0.07) and ACEHS (benevolent ratio: 0.04). For environmental performance, which is measured by CSR disclosure on environmental and resource use efficiency, ACEHS, BSI, BNIS, and BSM demonstrate high disclosure levels. In terms of sustainability, BTPNS is ranked highest in triple-bottom-line performance (2.062) and sustainability financing (99.884). This indicates that BTPNS has not only strived to achieve economic performance but has also incorporated social and environmental considerations into its operations.

Table 4.
Islamic Banks Multi-Performance

No	Banks	Financial		Social		Environmental		Sustainable	
		ROA	ROE	ZPR	BEN	ENVC	ENVR	SUSP	SUSF
1	ACEHS	2.102	15.82	0.011	0.038	1	1	0.338	9.374
2	ALADINS	-1.341	-4.613	0.001	0.011	0.429	0.214	-0.621	12.055
3	BCAS	0.910	3.164	0.001	0.007	0.571	0.214	0.006	21.450
4	BJBS	-0.394	-4.317	0.003	0.004	0.714	0.429	-0.358	23.206
5	BNIS	1.209	8.810	0.060	0.004	1	0.636	0.089	5.562
6	BRIS	0.537	3.975	0.029	0.011	0.818	0.636	-0.098	28.833
7	BSI	1.796	13.181	0.071	0.035	1	1	0.253	25.195
8	BSM	1.105	10.923	0.048	0.029	1	0.636	0.060	25.789
9	BTPNS	8.284	20.094	0	0.003	0.700	0.500	2.062	99.884
10	BUKOPINS	-0.544	-4.741	0	0.015	0.571	0.286	-0.399	55.590
11	MEGAS	1.752	11.376	0.051	0.006	0.571	0.429	0.241	41.561
12	MUAMALAT	0.395	4.219	0.026	0.003	0.857	0.571	-0.138	22.388
13	NTBS	1.780	9.584	0.007	0.010	1	0	0.249	10.852
14	PANINDUBAIS	-0.599	-24.755	0.013	0.004	0.643	0.429	-0.415	24.541
15	VICTORIAS	0.229	-0.213	0.011	0.011	0.429	0.429	-0.184	15.459

4.2. Baseline Regression

We conduct Fixed Effects (FE) regression using robust cluster standard errors to address potential issues of autocorrelation and heteroskedasticity. The correlation statistics shown in the Appendix (Tables L1-L4) further indicate that no independent variables are correlated above 0.8, which suggests that multicollinearity is not a concern in the analysis (Wooldridge, 2016).

4.2.1. Baseline Regression for Financial Performance

Table 5 shows that SBGOV and BODGOV positively impact ROA, which supports prior studies (e.g., Almutairi & Quttainah, 2017; Khan & Zahid, 2020; Nomran & Haron, 2019). This finding also highlights the roles of the Shariah board and regular board as two-layer governance. However, BOCGOV shows an insignificant effect on ROA. This may be due to the limited managerial authority of the BOC compared to the BOD (Suparlan et al., 2024), such as in managing the bank's assets, which may constrain their influence on ROA. Nevertheless, SUSGOV and SICG positively influence ROA**,** confirming the contribution of sustainable governance to financial performance.

Table 5.
Regression Result for ROA

	(1)	(2)	(3)	(4)	(5)	(6)
	ROA	**ROA**	**ROA**	**ROA**	**ROA**	**ROA**
SBGOV	0.750**				0.714**	
	(0.024)				(0.020)	
BODGOV		0.600*			0.804**	
		(0.080)			(0.020)	
BOCGOV			0.249		0.130	
			(0.205)		(0.370)	
SUSGOV				0.358	0.724*	
				(0.464)	(0.095)	
SICG						0.419**
						(0.031)
FIRMSIZE	2.042***	1.880***	1.552***	1.619***	2.683***	2.206***
	(0.000)	(0.002)	(0.003)	(0.001)	(0.000)	(0.001)
FIRMAGE	0.660	0.977	0.491	0.884	2.447**	1.669**
	(0.277)	(0.111)	(0.407)	(0.390)	(0.015)	(0.034)
LEV	0.0369	0.0358	0.0378	0.0360	0.0405	0.0418
	(0.458)	(0.474)	(0.456)	(0.472)	(0.414)	(0.411)
CAR	0.0479*	0.0548*	0.0509*	0.0460	0.0499*	0.0515*
	(0.072)	(0.076)	(0.086)	(0.126)	(0.069)	(0.066)
FDR	-0.00707	-0.0120**	-0.0106*	-0.0107*	-0.0113*	-0.0113**
	(0.262)	(0.044)	(0.083)	(0.084)	(0.053)	(0.045)
OWN	0.0505***	0.0367**	0.0326*	0.0393**	0.0577***	0.0444**
	(0.007)	(0.032)	(0.074)	(0.025)	(0.004)	(0.015)

Table 5.
Regression Result for ROA (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	ROA	**ROA**	**ROA**	**ROA**	**ROA**	**ROA**
Cons	-20.91***	-17.86***	-15.22**	-15.52***	-24.45***	-20.32***
	(0.001)	(0.007)	(0.012)	(0.007)	(0.001)	(0.003)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.0872	0.0822	0.0735	0.0709	0.0965	0.102

Note: P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

Table 6 shows that SBGOV and BODGOV positively impact ROE, indicating their role in enhancing the financial performance of Islamic banks (Baklouti, 2022; Kateb et al., 2025; Khan et al., 2024; Sueb et al., 2022). While BOCGOV and SUSGOV have an insignificant effect, SICG, as an aggregate governance measure, positively influences ROE. Therefore, **Hypothesis 1 is supported**, as SICG enhances both ROA and ROE.

Table 6.
Regression Result for ROE

	(1)	(2)	(3)	(4)	(5)	(6)
	ROE	**ROE**	**ROE**	**ROE**	**ROE**	**ROE**
SBGOV	5.191*				4.960**	
	(0.059)				(0.048)	
BODGOV		3.368			4.020**	
		(0.111)			(0.019)	
BOCGOV			2.014		1.271	
			(0.221)		(0.238)	
SUSGOV				1.090	2.955	
				(0.767)	(0.311)	
SICG						2.706*
						(0.059)
FIRMSIZE	9.217***	7.635***	5.853**	5.938***	12.28***	10.04***
	(0.002)	(0.010)	(0.015)	(0.010)	(0.001)	(0.002)
FIRMAGE	3.210	4.647	2.148	2.882	11.46*	9.603**
	(0.396)	(0.182)	(0.581)	(0.703)	(0.064)	(0.031)
LEV	0.263	0.255	0.272	0.254	0.286	0.294
	(0.210)	(0.231)	(0.217)	(0.243)	(0.182)	(0.187)
CAR	0.155	0.196	0.178	0.155	0.176	0.179
	(0.126)	(0.132)	(0.163)	(0.257)	(0.108)	(0.110)
FDR	-0.022	-0.053**	-0.047**	-0.044*	-0.043*	-0.050**
	(0.317)	(0.022)	(0.046)	(0.074)	(0.070)	(0.023)
OWN	0.139**	0.0426	0.012	0.0473	0.160**	0.093
	(0.026)	(0.556)	(0.888)	(0.599)	(0.036)	(0.156)

Table 6.
Regression Result for ROE (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	ROE	**ROE**	**ROE**	**ROE**	**ROE**	**ROE**
Cons	-85.83***	-61.42**	-46.33**	-47.72**	-102.5***	-79.44***
	(0.003)	(0.023)	(0.047)	(0.041)	(0.001)	(0.004)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.165	0.140	0.136	0.118	0.190	0.189

Note: P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

4.2.2. Baseline Regression for Social Performance

Tables 7 and 8 show that only SUSGOV positively impacts social performance (both ZPR and BEN), while SBGOV, BODGOV, and BOCGOV have no significant impact. Although this finding may seem contradictory for the Shariah board, previous studies also highlight their limited role in overseeing social activities, such as zakat collection (Boudawara et al., 2023; Zakiy et al., 2025). As for BOD and BOC, this result may be due to their primary focus on operational and financial outcomes rather than social initiatives. The BOD's strategic role may not extend to social activities (Umar et al., 2024), while the BOC primarily oversees management (Suparlan et al., 2024). Even the BOC is rarely involved in Islamic social reporting (Wahyudi et al., 2023). This insignificant effect is also found in SICG, suggesting that integrated sustainable governance may not effectively influence zakat management and benevolent fund activities. Thus, Hypothesis 2 is not supported.

Table 7.
Regression Result for the Zakat Ratio

	(1)	(2)	(3)	(4)	(5)	(6)
	ZPR	**ZPR**	**ZPR**	**ZPR**	**ZPR**	**ZPR**
SBGOV	-0.100				-0.186	
	(0.722)				(0.486)	
BODGOV		0.033			0.199	
		(0.871)			(0.188)	
BOCGOV			-0.139		-0.053	
			(0.355)		(0.755)	
SUSGOV				1.209***	1.281***	
				(0.007)	(0.008)	
SICG						0.064
						(0.544)
FIRMSIZE	-0.217	-0.150	-0.162	0.157	0.035	-0.085
	(0.670)	(0.751)	(0.739)	(0.738)	(0.939)	(0.853)
FIRMAGE	0.691	0.735	0.675	2.361***	2.426***	0.875
	(0.179)	(0.145)	(0.173)	(0.000)	(0.001)	(0.114)
LEV	0.0522**	0.052**	0.051*	0.055**	0.052*	0.053**
	(0.038)	(0.043)	(0.051)	(0.038)	(0.056)	(0.038)

Table 7.
Regression Result for the Zakat Ratio (Continued)

	(1)	(2)	(3)	(4)	(5)	(6)
	ZPR	ZPR	ZPR	ZPR	ZPR	ZPR
CAR	0.032**	0.032**	0.031**	0.021	0.021	0.032**
	(0.031)	(0.036)	(0.043)	(0.149)	(0.136)	(0.033)
FDR	-0.008	-0.007	-0.007	-0.009**	-0.009*	-0.007
	(0.164)	(0.231)	(0.170)	(0.036)	(0.064)	(0.200)
OWN	0.032**	0.034**	0.035**	0.047***	0.046***	0.035**
	(0.032)	(0.020)	(0.025)	(0.003)	(0.005)	(0.012)
Cons	-4.429	-5.198	-5.229	-5.904	-4.697	-5.710
	(0.341)	(0.219)	(0.232)	(0.179)	(0.294)	(0.169)
Obs.	172	172	172	172	172	172
Adj.R2	0.139	0.138	0.141	0.203	0.194	0.140

Note: ZPR in Log values. P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

Table 8.
Regression Result for the Benevolent Fund Ratio

	(1)	(2)	(3)	(4)	(5)	(6)
	BEN	BEN	BEN	BEN	BEN	BEN
SBGOV	-0.315				-0.400	
	(0.622)				(0.502)	
BODGOV		-0.247			-0.164	
		(0.336)			(0.497)	
BOCGOV			-0.087		0.039	
			(0.648)		(0.840)	
SUSGOV				0.838**	0.844**	
				(0.031)	(0.037)	
SICG						0.089
						(0.612)
FIRMSIZE	0.469	0.694	0.677	0.897	0.634	0.829
	(0.556)	(0.459)	(0.476)	(0.312)	(0.382)	(0.378)
FIRMAGE	1.230	1.275	1.307	2.472*	2.314**	1.608
	(0.292)	(0.329)	(0.326)	(0.055)	(0.040)	(0.156)
LEV	-0.013	-0.009	-0.014	-0.011	-0.009	-0.011
	(0.605)	(0.691)	(0.601)	(0.641)	(0.690)	(0.669)
CAR	0.0272	0.026	0.026	0.019	0.019	0.027
	(0.112)	(0.125)	(0.119)	(0.245)	(0.238)	(0.121)
FDR	-0.010	-0.011	-0.009	-0.012	-0.013	-0.009
	(0.206)	(0.206)	(0.236)	(0.138)	(0.114)	(0.220)
OWN	0.008	0.013	0.016	0.024	0.014	0.017
	(0.580)	(0.362)	(0.282)	(0.204)	(0.397)	(0.295)
Cons	-6.279	-8.481	-8.664	-9.135	-6.038	-9.693
	(0.375)	(0.271)	(0.272)	(0.247)	(0.373)	(0.238)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.126	0.127	0.122	0.145	0.138	0.123

Note: BEN in Log values. P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

4.2.3. Baseline Regression for Environmental Performance

Table 9 shows that BODGOV and BOCGOV positively impact environmental CSR disclosure, aligning with previous studies on Islamic banks (Harun et al., 2020; Jahid et al., 2020; Nugraheni et al., 2022). However, SBGOV and SUSGOV show insignificant effects, indicating their limited involvement in environmental CSR. While the Shariah board may focus more on ensuring Shariah compliance (Lestari et al., 2024; Tumewang et al., 2025), SUSGOV, although crucial for long-term sustainability, it may not have the mandate or resources to oversee environmental initiatives. This aligns with Fitriasari (2023), who finds that sustainable board governance, represented by Chief Sustainability Officers and Environmental Committees, has no significant influence on environmental disclosure. On the other hand, SICG positively influences environmental CSR disclosure. Pradnyani et al. (2023) highlight that the participation of all internal governance actors in eco-friendly practices can serve as an effective method for achieving environmental benefits. Thus, **Hypothesis 3 is supported**.

Table 9.
Regression Result for Environmental CSR Disclosure

	(1)	(2)	(3)	(4)	(5)	(6)
	ENVC	**ENVC**	**ENVC**	**ENVC**	**ENVC**	**ENVC**
SBGOV	-0.037				-0.006	
	(0.523)				(0.929)	
BODGOV		0.096***			0.139***	
		(0.007)			(0.005)	
BOCGOV			0.124		0.157*	
			(0.208)		(0.097)	
SUSGOV				-0.045	0.088	
				(0.304)	(0.332)	
SICG						0.077*
						(0.059)
FIRMSIZE	0.047	0.084*	0.088	0.046	0.156**	0.147**
	(0.370)	(0.066)	(0.150)	(0.334)	(0.021)	(0.024)
FIRMAGE	0.034	0.093	0.034	-0.003	0.194	0.198**
	(0.762)	(0.399)	(0.720)	(0.978)	(0.199)	(0.045)
LEV	-0.009*	-0.009*	-0.009*	-0.009*	-0.009	-0.008
	(0.088)	(0.096)	(0.090)	(0.091)	(0.104)	(0.110)
CAR	0.005**	0.006***	0.006**	0.005***	0.007**	0.007***
	(0.030)	(0.005)	(0.016)	(0.009)	(0.013)	(0.006)
FDR	0.001*	0.0009	0.001*	0.001	0.001	0.001
	(0.092)	(0.278)	(0.077)	(0.103)	(0.313)	(0.378)
OWN	-0.004	-0.004	-0.003	-0.004*	-0.003	-0.002
	(0.115)	(0.103)	(0.182)	(0.096)	(0.389)	(0.466)
Cons	0.421	0.467	0.340	0.327	0.567	0.449
	(0.231)	(0.190)	(0.331)	(0.319)	(0.140)	(0.211)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.624	0.634	0.637	0.624	0.649	0.634

Note: P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

Table 10 shows that SUSGOV positively impacts environmental performance in terms of resource utilization (ENVR). This finding aligns with Velte (2024) and Orazalin & Mahmood (2021), who demonstrate that firms with sustainability boards achieve better environmental performance. Resource utilization disclosure, such as electricity, water, and fuel savings, is a requirement in banking sustainability reports under the Global Reporting Initiative (GRI). Hence, this may be considered a commitment for the sustainability board. Unfortunately, SBGOV and BOCGOV show a negative effect on ENVR, while BODGOV shows an insignificant impact. This could be due to their concern over the cost implications of resource utilization, which may conflict with other operational expenses. Setting environmental standards often requires upfront investment, with profitability realized only after these costs are recovered (Elsheikh et al., 2024; González-Benito and González-Benito, 2005). Furthermore, SICG, as an aggregate governance, negatively affects resource utilization. This suggests a potential trade-off between short-term efficiency and long-term sustainability. Therefore, **Hypothesis 3 is not supported for resource utilization disclosure.**

Table 10.
Regression Result for Resource Utilization Disclosure

	(1)	(2)	(3)	(4)	(5)	(6)
	ENVR	**ENVR**	**ENVR**	**ENVR**	**ENVR**	**ENVR**
SBGOV	-0.142***				-0.094*	
	(0.001)				(0.074)	
BODGOV		-0.102			-0.046	
		(0.196)			(0.547)	
BOCGOV			-0.159**		-0.132*	
			(0.020)		(0.087)	
SUSGOV				0.214***	0.147*	
				(0.003)	(0.052)	
SICG						-0.072**
						(0.022)
FIRMSIZE	0.048	0.009	0.114	0.122	0.103	-0.005
	(0.704)	(0.956)	(0.366)	(0.400)	(0.461)	(0.970)
FIRMAGE	-0.243**	-0.267*	-0.142	0.119	-0.041	-0.390**
	(0.016)	(0.063)	(0.129)	(0.413)	(0.757)	(0.011)
LEV	0.004	0.004	0.003	0.005	0.003	0.003
	(0.517)	(0.477)	(0.589)	(0.381)	(0.516)	(0.594)
CAR	0.002	0.002	0.003	0.001	0.001	0.002
	(0.396)	(0.547)	(0.238)	(0.783)	(0.669)	(0.423)
FDR	0.001	0.002	0.0002	0.0004	0.0003	0.001
	(0.461)	(0.411)	(0.889)	(0.667)	(0.771)	(0.477)
OWN	-0.002	-0.001	-0.001	0.001	0.0002	-0.003
	(0.620)	(0.757)	(0.837)	(0.670)	(0.956)	(0.515)
Cons	-0.589	-0.417	-1.195	-0.978	-0.856	-0.286
	(0.624)	(0.772)	(0.325)	(0.455)	(0.482)	(0.834)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.653	0.641	0.651	0.659	0.682	0.647

Note: P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

2.4.2. Baseline Regression for Sustainability Performance

Table 11 shows that BODGOV, BOCGOV, and SUSGOV have a significant positive effect on triple-bottom-line performance. This aligns with previous studies that find that regular boards, as well as sustainability committees, contribute to sustainability in Islamic institutions (So et al., 2021; Wijayanti & Setiawan, 2023, 2024). Furthermore, this study provides new insights into the positive impact of SICG on triple-bottom-line performance, highlighting its effectiveness as an alternative governance mechanism.

Table 11.
Regression Result for Triple-bottom-line Performance

	(1)	(2)	(3)	(4)	(5)	(6)
	SUSP	**SUSP**	**SUSP**	**SUSP**	**SUSP**	**SUSP**
SBGOV	0.126				0.170	
	(0.198)				(0.103)	
BODGOV		0.211***			0.274**	
		(0.007)			(0.020)	
BOCGOV			0.273		0.226*	
			(0.208)		(0.087)	
SUSGOV				0.148	0.362**	
				(0.342)	(0.018)	
SICG						0.093*
						(0.087)
FIRMSIZE	0.163**	0.184*	0.195	0.186**	0.390***	0.211**
	(0.036)	(0.066)	(0.150)	(0.029)	(0.003)	(0.025)
FIRMAGE	-0.285	0.205	0.075	-0.108	0.221	-0.104
	(0.297)	(0.399)	(0.720)	(0.747)	(0.273)	(0.663)
LEV	0.014	-0.019*	-0.019*	0.0131	0.014	0.015
	(0.258)	(0.096)	(0.090)	(0.287)	(0.226)	(0.230)
CAR	0.010	0.013***	0.013**	0.009	0.011*	0.011*
	(0.124)	(0.005)	(0.016)	(0.162)	(0.093)	(0.094)
FDR	-0.0006	0.002	0.003*	-0.002	-0.001	-0.001
	(0.727)	(0.278)	(0.077)	(0.333)	(0.403)	(0.354)
OWN	0.007	-0.009	-0.007	0.006*	0.011***	0.006
	(0.164)	(0.103)	(0.182)	(0.098)	(0.005)	(0.156)
Cons	-1.143*	-0.531	-0.812	-0.729	-0.554	-0.771
	(0.080)	(0.488)	(0.292)	(0.188)	(0.194)	(0.161)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.0909	0.634	0.637	0.0882	0.119	0.108

Note: P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

Table 12 further shows that BODGOV positively impacts sustainable financing, while SBGOV and SUSGOV have no significant effect, and BOCGOV has a negative impact. Previous studies also find similar insignificant or negative effects of these governance elements on sustainable finance or green banking practices (Cakti &

Aryani, 2023; Sharmeen & Yeaman, 2020; Umar, 2024), which hinder their role in helping Islamic banks achieve the SDGs. Particularly in Indonesia, sustainable finance is still developing and remains voluntary, which means that these governance bodies may not yet have clear guidelines for managing sustainable finance portfolios. However, the collaboration of these governance bodies within the SICG framework has positively influenced sustainable financing, especially with strong support from the BOD overseeing daily operations in Islamic banks. Thus, **Hypothesis H4 is supported.**

Table 12.
Regression Result for Sustainable Financing

	(1)	(2)	(3)	(4)	(5)	(6)
	SUSF	**SUSF**	**SUSF**	**SUSF**	**SUSF**	**SUSF**
SBGOV	2.735				0.679	
	(0.245)				(0.808)	
BODGOV		5.490**			6.178**	
		(0.035)			(0.029)	
BOCGOV			-2.534		-6.018**	
			(0.136)		(0.034)	
SUSGOV				-4.895	-3.196	
				(0.188)	(0.377)	
SICG						2.343*
						(0.079)
FIRMSIZE	3.135	2.542	3.126	1.506	2.719	5.074
	(0.417)	(0.503)	(0.479)	(0.735)	(0.452)	(0.141)
FIRMAGE	-6.780	-6.768	-8.638	-14.810	-11.620	-2.741
	(0.188)	(0.178)	(0.109)	(0.113)	(0.189)	(0.615)
LEV	-0.040	-0.120	-0.073	-0.063	-0.184	-0.046
	(0.904)	(0.699)	(0.831)	(0.854)	(0.574)	(0.886)
CAR	0.007	0.023	0.004	0.042	0.070	-0.001
	(0.973)	(0.888)	(0.985)	(0.839)	(0.686)	(0.998)
FDR	0.036	0.072	0.032	0.049	0.059	0.055
	(0.568)	(0.301)	(0.598)	(0.396)	(0.350)	(0.419)
OWN	-0.262	-0.237	-0.275	-0.330	-0.258	-0.215
	(0.379)	(0.381)	(0.366)	(0.334)	(0.382)	(0.445)
Cons	14.010	15.690	15.830	21.980	8.313	-0.431
	(0.770)	(0.735)	(0.768)	(0.684)	(0.852)	(0.992)
Year (FE)	YES	YES	YES	YES	YES	YES
Obs.	172	172	172	172	172	172
Adj.R2	0.046	0.107	0.040	0.056	0.131	0.082

Note: P-values are in parentheses; p<0.1*, p<0.05**, and p<0.01***

4.3. Paris Agreement Interaction

We further investigate whether the Paris Agreement (PA) marked a turning point for bank sustainability. This test also serves as a robustness check, as the PA is purely exogenous. To do so, we distinguish between the period before and after

the PA's ratification in 2016 by means of a dummy variable, which is interacted with sustainability measures. The model includes the same control variables (FIRMSIZE, FIRMAGE, LEV, CAR, FDR, and OWN) as in the baseline regression.

Regarding Financial performance (Table 13), SBGOV, BOCGOV, and SUSGOV show insignificant impact on ROA and ROE when interacting with the PA, indicating that these governance initiatives do not influence financial performance before and after the PA's ratification. In contrast, BODGOV, when interacting with the PA, positively impacts ROA (PA =1; coef. = 0.834) and ROE (PA =1; coef. = 3.622). This suggests that after the ratification, the BOD has strengthened its role in integrating the PA's commitments into the bank's financial outcomes. As key decision-makers, the BOD may have become more proactive in aligning the bank's practices with global sustainability standards (Jan, Mata, et al., 2021). Interestingly, the interaction term between SICG and PA also shows a positive effect on ROA (PA =1, coef.= 0.366) and ROE (PA =1, coef.= 3.124) at the 10% level. This suggests that Islamic banks are responding to the PA's signal by transitioning their traditional ICG into a sustainability framework to enhance their financial performance.

Table 14 presents the findings on social performance, revealing that when PA = 1, a positive impact on the zakat ratio is observed for SBGOV (coef. = 0.485) and SUSGOV (coef. = 1.265), while the effect on benevolent funds remains insignificant. This suggests that after ratification, SSB places greater emphasis on zakat, likely due to its regulatory and ethical significance in Islamic finance. Additionally, this shift may reflect increased collaboration with the sustainable board to enhance zakat management. In contrast, the benevolent fund may receive less attention, as its allocation remains largely discretionary. Meanwhile, BODGOV and BOCGOV exhibit no significant influence on either zakat or benevolent fund ratios when interacting with PA, suggesting their limited engagement in the bank's philanthropic activities post-PA. This may be attributed to their primary focus on business strategy decision-making rather than philanthropic governance. However, SICG demonstrates a significant positive effect on the zakat ratio when interacting with PA (coef. = 0.182), although its impact on the benevolent fund remains insignificant. This finding suggests that PA strengthens sustainability integration into corporate governance structures, particularly in ensuring compliance with zakat obligations.

In terms of environmental performance, Table 15 presents unexpected results that SBGOV is negatively associated with environmental CSR disclosure when interacting with PA (PA = 1; coef. = -0.179), while BODGOV, BOCGOV, SUSGOV, and SICG exhibit no significant effects. One possible explanation is the increasing environmental costs that banks must bear to fulfill sustainability commitments after PA. This may lead governance bodies to adopt a more cautious approach in allocating resources to environmental initiatives. As a result, banks might temporarily scale back environmental efforts due to the immediate financial burden, thereby delaying further investments in sustainability. Regarding resource utilization, a positive impact when PA = 1 is observed only in SUSGOV (coef. = 0.153), whereas BOCGOV shows a negative effect, and the remaining governance elements are insignificant. This suggests that SUSGOV takes a more proactive role in promoting resource efficiency within Islamic banks post-ratification, surpassing other governance bodies. However, SICG remains insignificant in

terms of resource utilization when interacting with PA, indicating a lack of active collaboration across governance elements to enhance environmental performance in this area. These findings align with the baseline regression results, suggesting that governance mechanisms within Islamic banks may still face challenges in effectively integrating environmental considerations, possibly due to limited institutional capacity and the complexity of aligning governance strategies with environmental goals.

Regarding sustainable performance, Table 16 reports that SBGOV, BOCGOV, and SUSGOV have an insignificant effect on both triple-bottom-line performance and sustainable financing initiatives when interacting with PA, indicating no significant difference before and after ratification. This may be due to their roles being more indirect in driving sustainability outcomes. SBGOV primarily focuses on Shariah compliance, BOCGOV plays a more supervisory role with limited direct influence on operational strategies, and SUSGOV, despite its sustainability focus, may still face challenges in translating policies into measurable triple-bottom-line outcomes. Meanwhile, BODGOV shows a positive significant impact when interacting with PA (PA=1) on both triple-bottom-line performance (coef. = 0.234) and sustainable financing (coef. = 6.519). This suggests that the BOD has not only begun effectively balancing financial, social, and environmental outcomes following the triple-bottom-line framework but has also leveraged its decision-making authority over sustainable financial policies to respond more effectively to external regulatory shifts post-ratification. Interestingly, SICG relates significant to the interaction between the PA and sustainability only when triple-bottom-line performance is used (PA = 1, coef. = 0.042), despite its components—SBGOV, BOCGOV, and SUSGOV—being individually insignificant. This suggests a greater input of BODGOV in enhancing SICG's effectiveness, as also aligned with the baseline regression. Additionally, the PA ratification may have reinforced the need for a more structured governance approach, prompting SICG to function more effectively in aligning the bank's sustainability agenda.

Table 13.
Regression with PA Interaction for Financial Performance

	ROA						ROE					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
SBGOV	0.742**				0.755**		5.514*				5.892*	
	(0.025)				(0.018)		(0.081)				(0.050)	
SBGOV*PA	-0.236				-0.140		-0.919				-2.090	
	(0.621)				(0.769)		(0.744)				(0.368)	
BODGOV		0.234			0.413			-0.226			-0.468	
		(0.480)			(0.323)			(0.926)			(0.798)	
BODGOV*PA		0.600*			0.559			3.848*			3.852*	
		(0.077)			(0.133)			(0.077)			(0.058)	
BOCGOV			0.081		0.028				0.820		0.750	
			(0.690)		(0.920)				(0.486)		(0.675)	
BOCGOV*PA			0.282		0.172				1.942		1.251	
			(0.273)		(0.700)				(0.199)		(0.665)	
SUSGOV				0.199	0.659					-0.660	2.032	
				(0.710)	(0.229)					(0.844)	(0.328)	
SUSGOV*PA				0.214	-0.192					2.597	0.166	
				(0.664)	(0.711)					(0.357)	(0.942)	
SICG						0.064						1.336
						(0.745)						(0.369)
SICG*PA						0.303**						1.788*
						(0.035)						(0.070)
PA	-4.807**	-5.393**	-4.165**	-5.665**	-8.829**	-5.444**	-25.18**	-21.98**	-17.77**	-21.80*	-40.27***	-19.12**
	(0.028)	(0.015)	(0.026)	(0.022)	(0.014)	(0.039)	(0.023)	(0.012)	(0.023)	(0.098)	(0.004)	(0.040)
Cons	-20.11***	-15.82**	-13.95**	-15.63***	-21.20***	-13.860**	-84.24**	-38.10	-31.90	-43.46*	-81.02**	6.498
	(0.003)	(0.017)	(0.022)	(0.006)	(0.008)	(0.024)	(0.022)	(0.149)	(0.135)	(0.057)	(0.012)	(0.365)
Year (FE)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Coef. when	0.506	0.834**	0.363	0.413		0.366*	4.595	3.622*	2.763	1.937		3.124**
PA = 1	(0.353)	(0.036)	(0.138)	(0.438)		(0.089)	(0.125)	(0.076)	(0.185)	0.616		(0.043)
Obs.	172	172	172	172	172	172	172	172	172	172	172	172
Adj.R2	0.083	0.099	0.069	0.065	0.094	0.086	0.153	0.134	0.130	0.112	0.169	0.143

Table 14.
Regression with PA Interaction for Social Performance

	ZPR						BEN					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
SBGOV	-0.420				-0.562**		-0.125				-0.138	
	(0.102)				(0.023)		(0.827)				(0.689)	
SBGOV*PA	0.905***				0.708***		0.185				0.856**	
	(0.000)				(0.007)		(0.768)				(0.038)	
BODGOV		-0.285			-0.100			0.334			0.734	
		(0.303)			(0.657)			(0.570)			(0.395)	
BODGOV*PA		0.521**			0.651**			0.117			0.0776	
		(0.034)			(0.015)			(0.840)			(0.909)	
BOCGOV			-0.233		0.217				0.199		0.461	
			(0.386)		(0.414)				(0.813)		(0.624)	
BOCGOV*PA			0.160		-0.402				-0.762		-1.155	
			(0.639)		(0.269)				(0.484)		(0.320)	
SUSGOV				1.437***	1.713***					0.809	1.135	
				(0.000)	(0.003)					(0.156)	(0.147)	
SUSGOV*PA				-0.172	-0.526					0.0388	0.290	
				(0.574)	(0.400)					(0.945)	(0.431)	
SICG						-0.100						0.330
						(0.470)						(0.199)
SICG*PA						0.283**						0.014
						(0.040)						(0.956)
PA	-3.205***	-3.160**	-2.811**	-8.118***	-9.045***	-3.463***	-6.348*	-6.993*	-4.947*	-9.813***	-12.85**	-8.612**
	(0.004)	(0.014)	(0.016)	(0.000)	(0.000)	(0.005)	(0.053)	(0.052)	(0.063)	(0.009)	(0.018)	(0.013)
Cons	-6.516***	-6.258***	-6.498***	-4.300***	-3.978**	-6.285***	-8.985	-9.959	-6.534	-9.155	-11.57	-11.30
	(0.000)	(0.001)	(0.000)	(0.001)	(0.022)	(0.000)	(0.237)	(0.251)	(0.323)	(0.245)	(0.150)	(0.167)
Year (FE)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Coef. when	0.485*	0.236	-0.073	1.265***		0.182*	0.060	0.451	-0.563	0.847		0.344
PA = 1	(0.092)	(0.248)	(0.718)	(0.007)		(0.086)	(0.869)	(0.242)	(0.493)	(0.403)		(0.253)
Obs.	172	172	172	172	172	172	172	172	172	172	172	172
Adj.R2	0.185	0.151	0.137	0.202	0.236	0.164	0.116	0.125	0.132	0.139	0.170	0.136

Table 15.
Regression with PA Interaction for Environmental Performance

	ENVC						ENVR					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
SBGOV	-0.099*				-0.0896		-0.139***				-0.109**	
	(0.086)				(0.105)		(0.002)				(0.024)	
SBGOV*PA	-0.080				-0.0248		0.0194				0.015	
	(0.276)				(0.668)		(0.829)				(0.857)	
BODGOV		0.112***			0.0727**			-0.0994			-0.053	
		(0.001)			(0.042)			(0.193)			(0.463)	
BODGOV*PA		-0.102*			-0.0794*			-0.0421			0.063	
		(0.081)			(0.061)			(0.598)			(0.435)	
BOCGOV			0.120**		0.0970**				-0.084**		-0.069**	
			(0.016)		(0.042)				(0.018)		(0.013)	
BOCGOV*PA			-0.122**		-0.0814				-0.150***		-0.129	
			(0.048)		(0.126)				(0.001)		(0.160)	
SUSGOV				0.104	0.0816					0.392***	0.280***	
				(0.178)	(0.376)					(0.000)	(0.001)	
SUSGOV*PA				-0.203***	-0.0945*					-0.239**	-0.216**	
				(0.004)	(0.082)					(0.018)	(0.049)	
SICG						0.053**						-0.056*
						(0.020)						(0.052)
SICG*PA						-0.070**						-0.049
						(0.020)						(0.251)
PA	0.653***	0.305	0.218	0.508*	0.238	0.136	1.185***	1.414***	1.450***	0.0444	0.812*	1.868***
	(0.004)	(0.128)	(0.283)	(0.080)	(0.567)	(0.490)	(0.000)	(0.003)	(0.000)	(0.913)	(0.076)	(0.001)
Cons	-0.209	-1.435	-1.735	-1.069	-0.880	-2.059**	-0.558	-0.325	-0.553	-0.856	-0.253	-0.137
	(0.852)	(0.155)	(0.107)	(0.313)	(0.346)	(0.040)	(0.649)	(0.820)	(0.639)	(0.543)	(0.836)	(0.923)
Year (FE)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Coef. when	-0.179*	0.010	-0.002	-0.099		-0.017	-0.119	-0.141	-0.234**	0.153*		-0.106
PA = 1	(0.087)	(0.861)	(0.934)	(0.170)		(0.471)	(0.277)	(0.243)	(0.001)	(0.070)		(0.025)
Obs.	172	172	172	172	172	172	172	172	172	172	172	172
Adj.R2	0.647	0.663	0.650	0.648	0.678	0.670	0.651	0.641	0.659	0.676	0.697	0.656

Table 16.
Regression with PA Interaction for Sustainability Performance

	SUSP						SUSF					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
SBGOV	0.211*				0.206*		7.856				5.982	
	(0.091)				(0.091)		(0.188)				(0.268)	
SBGOV*PA	0.0437				0.0362		-6.465				-6.103	
	(0.793)				(0.843)		(0.180)				(0.111)	
BODGOV		0.027			0.121			5.361*			5.775**	
		(0.763)			(0.325)			(0.052)			(0.028)	
BODGOV*PA		0.207**			0.157**			1.159			0.134	
		(0.025)			(0.027)			(0.748)			(0.965)	
BOCGOV			-0.104		-0.0319				-2.645		-5.062**	
			(0.366)		(0.781)				(0.151)		(0.014)	
BOCGOV*PA			0.120*		0.0655				1.890		1.025	
			(0.093)		(0.387)				(0.177)		(0.420)	
SUSGOV				0.0166	0.163					-8.274**	-7.477*	
				(0.905)	(0.144)					(0.041)	(0.094)	
SUSGOV*PA				0.117	-0.0313					4.537	8.088***	
				(0.338)	(0.824)					(0.171)	(0.007)	
SICG						-0.0137						2.275*
						(0.767)						(0.091)
SICG*PA						0.0558*						1.118
						(0.099)						(0.589)
PA	-1.346***	-1.408**	-1.123**	-1.503**	-2.412***	-1.375*	-5.162	5.996	10.25	33.56	8.205	-14.42
	(0.003)	(0.016)	(0.022)	(0.030)	(0.000)	(0.092)	(0.731)	(0.645)	(0.456)	(0.189)	(0.709)	(0.477)
Cons	-6.167***	-4.619**	-4.331**	-4.793**	-6.359***	-4.866**	-51.62	16.71	24.60	19.65	-45.46	-5.925
	(0.001)	(0.026)	(0.021)	(0.014)	(0.001)	(0.022)	(0.438)	(0.725)	(0.638)	(0.720)	(0.486)	(0.899)
Year (FE)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Coef. when	0.255	0.234**	0.016	0.133		0.042*	1.391	6.519*	-0.755	-3.736		3.393
PA = 1	(0.402)	(0.031)	(0.903)	(0.346)		(0.059)	(0.711)	(0.079)	(0.645)	(0.375)		(0.183)
Obs.	172	172	172	172	172	172	172	172	172	172	172	172
Adj.R2	0.121	0.120	0.109	0.0981	0.129	0.0995	0.102	0.103	0.0425	0.0592	0.176	0.0839

4.4. Discussion

Our study reveals that integrating the ICG framework with a sustainability approach aligns with Islamic ethical principles and enhances Islamic banks' overall performance. Governance by the Shariah board, BOD, BOC, and the sustainable board—whether individually or as a composite SICG—has a positive impact, particularly on financial performance.

We also observe that while the sustainable board improves zakat and benevolent fund distribution, other governance mechanisms have limited social impacts. Zakat-related regulations impose specific criteria and restrictions on both the Shariah board and the regular board, limiting their ability to fully leverage their potential in managing zakat initiatives or extending their benefits beyond social purposes to include environmental goals.

Regarding environmental and sustainability performance, regular boards and sustainable boards have effectively advanced environmental CSR initiatives and implemented the triple-bottom-line framework. However, the Shariah board's role remains minimal, likely due to the absence of clear guidelines defining its responsibilities in environmental governance. To address this, Islamic banks should establish a more refined framework, including the potential use of zakat funds for environmental initiatives.

Additionally, Indonesia's sustainable finance regulation, which remains voluntary, may also hinder proactive governance efforts. In this context, Islamic banks must harmonize potential conflicts between Shariah risk and ESG risk, which requires active collaboration among the regular board, the Shariah board, and the sustainable board to ensure an integrated and balanced approach to governance and sustainability.

A key finding of this study is the significance of collaborative governance within SICG, which serves as a platform for shura-based decision-making, reflecting governance practices from the time of Prophet Muhammad (Lestari et al., 2024). Strong sustainability governance has been shown to enhance various performance aspects of Islamic banking, including improved ROA and ROE, support for environmental CSR initiatives, achieving triple-bottom-line objectives, and an expanded sustainable financing portfolio. These findings suggest that Islamic banks should transition from traditional ICG to a SICG framework to operate ethically and sustainably, which supports *Maqashid Shariah*—the overarching objectives of Islamic law (Jan, Mata, et al., 2021; Lestari et al., 2024).

Additionally, the Paris Agreement presents an opportunity for Islamic banks to reconfigure their governance mechanisms to gain a competitive advantage across various performance dimensions. This is particularly evident in social performance, which had previously been suboptimal but showed improvements following the agreement's implementation (see Table 14). However, its practical application in Islamic banks may face several challenges, primarily due to the significant investments required for green technology and infrastructure. If these investments are not properly aligned with budget allocations and strategic plans, there may be insufficient resources dedicated to sustainability initiatives. Hence, Islamic banks may consider optimizing their social funds and developing innovative financing models, such as waqf-based social financing. To achieve this, the implementation of a well-integrated SICG must be accelerated, as it

enables Islamic banks to strengthen stakeholder trust by ensuring transparency, accountability, and the effective allocation of funds toward sustainable initiatives.

V. CONCLUSION AND RECOMMENDATION

This study highlights the urgent need to transform ICG into a sustainability-based framework in Islamic banking. This transformation is essential not only to enhance financial, social, and environmental performance but also to ensure these aspects are balanced and in line with Shariah's objectives.

A comprehensive SICG framework provides several advantages. First, it broadens the stakeholder definition beyond corporations and individuals to include the environment, resources, and energy, thus allowing Islamic banks to address a wider range of sustainability concerns. Second, SICG provides a potential solution to agency conflicts between the Shariah board and the regular board, which often arise from differing priorities—whether to focus on ethical matters aligned with Islamic values or pursue profitability, which is the common business objective. By involving a sustainable board, SICG bridges ethical and financial considerations, helping to balance these competing interests. Third, SICG strengthens Islamic banks' legitimacy by aligning them with broader social contracts, reinforcing their role in sustainability and public trust.

For practical implications, this study highlights the need for strong support from regulators, governments, and industry stakeholders in transitioning to SICG. Central banks should establish clear guidelines for sustainable governance in Islamic banks, including mandating the appointment of a sustainability board and explicitly defining their roles and responsibilities. While Indonesia's financial authority has issued regulations on sustainable financing, Islamic banks face unique Shariah compliance requirements. Therefore, specific guidelines are needed to clarify the Shariah board's role in overseeing sustainable financing, such as defining optimal sustainable financing portfolios and exploring the potential integration of zakat into sustainability initiatives. Islamic banks must also adapt their risk management strategies by incorporating sustainability metrics. This includes reassessing asset values linked to environmental risks, such as fossil-fuel-dependent infrastructure. Collaboration among Islamic banks, regulators, and financial institutions is essential to ensure sustainability efforts align with both Shariah principles and global sustainability standards.

Despite its contributions, this study has several limitations. It focuses on Indonesian Islamic banks, which may restrict the generalizability of the findings to other regions. Additionally, it examines only Islamic commercial banks, leaving aside the opportunities for comparative research with conventional banks and other Islamic financial institutions. The reliance on publicly available data may also limit insights into internal governance practices, particularly the decision-making dynamics within Shariah and sustainable boards. Furthermore, this study does not account for potential variations in regulatory environments, which could influence the effectiveness of SICG implementation. Future research should explore SICG adoption across different regions, assess its long-term impact, examine cross-country regulatory differences, and develop standardized metrics for measuring sustainability performance in Islamic banking.

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APPENDIX

Table L1.
Correlation Matrix for Financial Performance

No	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1	ROA	1.000												
2	ROE	0.8416*	1.000											
3	SBGOV	-0.0233	0.0973	1.000										
4	BODGOV	0.1461	0.2213*	0.1883*	1.000									
5	BOCGOV	0.0384	0.1393	0.5207*	0.4216*	1.000								
6	SUSGOV	0.0584	0.0685	-0.0517	0.1456	0.1735*	1.000							
7	SICG	0.0861	0.1986*	0.6040*	0.6939*	0.7666*	0.5078*	1.000						
8	FIRMSIZE	0.1141	0.1974*	0.0947	0.0668	0.1121	0.0000	0.0811	1.000					
9	FIRMAGE	-0.2777*	-0.3111*	0.1251	0.0332	0.1524*	0.0000	0.097	0.0000	1.000				
10	LEV	0.0802	0.1141	-0.0044	0.2043*	0.0964	0.0529	0.1255	0.0868	-0.0763	1.000			
11	CAR	0.0354	-0.0742	-0.3476*	-0.3371*	-0.2952*	0.0176	-0.3630*	-0.5203*	0.0899	-0.0642	1.000		
12	FDR	-0.0924	-0.1302	-0.1333	-0.2136*	-0.2261*	-0.2864*	-0.3291*	0.0092	-0.0323	0.1194	0.1966*	1.000	
13	OWN	-0.0520	-0.1049	-0.1630*	0.0673	-0.3754*	-0.2198*	-0.2533*	-0.1667*	-0.0981	0.1384	0.0572	0.0484	1.000

Table L2.
Correlation Matrix for Social Performance

No	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1	ZPR	1.000												
2	BEN	0.1916*	1.000											
3	SBGOV	-0.2063*	0.0857	1.000										
4	BODGOV	-0.1106	-0.1702*	0.1883*	1.000									
5	BOCGOV	-0.0378	-0.0031	0.5207*	0.4216*	1.000								
6	SUSGOV	-0.0256	-0.1612*	-0.0517	0.1456	0.1735*	1.000							
7	SICG	-0.1712*	-0.1022	0.6040*	0.6939*	0.7666*	0.5078*	1.000						
8	FIRMSIZE	-0.0318	-0.2501*	0.0947	0.0668	0.1121	0.0000	0.0811	1.000					
9	FIRMAGE	-0.0332	0.0686	0.1251	0.0332	0.1524*	0.0000	0.0970	0.0000	1.000				
10	LEV	0.2414*	-0.0206	-0.0044	0.2043*	0.0964	0.0529	0.1255	0.0868	-0.0763	1.000			
11	CAR	0.2037*	0.2001*	-0.3476*	-0.3371*	-0.2952*	0.0176	-0.3630*	-0.5203*	0.0899	-0.0642	1.000		
12	FDR	0.2005*	0.0044	-0.1333	-0.2136*	-0.2261*	-0.2864*	-0.3291*	0.0092	-0.0323	0.1194	0.1966*	1.000	
13	OWN	-0.0880	-0.0024	-0.1630*	0.0673	-0.3754*	-0.2198*	-0.2533*	-0.1667*	-0.0981	0.1384	0.0572	0.0484	1.000

Table L3.
Correlation Matrix for Environmental Performance

No	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1	ENVC	1.000												
2	ENVR	0.5900*	1.000											
3	SBGOV	0.0069	-0.0131	1.000										
4	BODGOV	0.2231*	0.0596	0.1883*	1.000									
5	BOCGOV	0.2946*	0.1129	0.5207*	0.4216*	1.000								
6	SUSGOV	0.6589*	0.7389*	-0.0517	0.1456	0.1735*	1.000							
7	SICG	0.4506*	0.3489*	0.6040*	0.6939*	0.7666*	0.5078*	1.000						
8	FIRMSIZE	0.2743*	0.1873*	0.0947	0.0668	0.1121	0.0000	0.0811	1.000					
9	FIRMAGE	0.0917	0.0963	0.1251	0.0332	0.1524*	0.0000	0.0970	0.0000	1.000				
10	LEV	-0.0628	0.0960	-0.0044	0.2043*	0.0964	0.0529	0.1255	0.0868	-0.0763	1.000			
11	CAR	-0.1131	-0.0634	-0.3476*	-0.3371*	-0.2952*	0.0176	-0.3630*	-0.5203*	0.0899	-0.0642	1.000		
12	FDR	-0.2293*	-0.2577*	-0.1333	-0.2136*	-0.2261*	-0.2864*	-0.3291*	0.0092	-0.0323	0.1194	0.1966*	1.000	
13	OWN	-0.2314*	-0.1100	-0.1630*	0.0673	-0.3754*	-0.2198*	-0.2533*	-0.1667*	-0.0981	0.1384	0.0572	0.0484	1.000

Table L4.
Correlation Matrix for Sustainability Performance

No	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1	SUSP	1.000												
2	SUSF	-0.1303	1.000											
3	SBGOV	0.0069	-0.0175	1.000										
4	BODGOV	0.2231*	0.1256	0.1883*	1.000									
5	BOCGOV	0.2946*	-0.0028	0.5207*	0.4216*	1.000								
6	SUSGOV	0.6589*	-0.0169	-0.0517	0.1456	0.1735*	1.000							
7	SICG	0.4506*	0.0213	0.6040*	0.6939*	0.7666*	0.5078*	1.000						
8	FIRMSIZE	0.2743*	0.0863	0.0947	0.0668	0.1121	0.0000	0.0811	1.000					
9	FIRMAGE	0.0917	-0.0760	0.1251	0.0332	0.1524*	0.0000	0.0970	0.0000	1.000				
10	LEV	-0.0628	0.1497*	-0.0044	0.2043*	0.0964	0.0529	0.1255	0.0868	-0.0763	1.000			
11	CAR	-0.1131	-0.0677	-0.3476*	-0.3371*	-0.2952*	0.0176	-0.3630*	-0.5203*	0.0899	-0.0642	1.000		
12	FDR	-0.2293*	0.0960	-0.1333	-0.2136*	-0.2261*	-0.2864*	-0.3291*	0.0092	-0.0323	0.1194	0.1966*	1.000	
13	OWN	-0.2314*	-0.1033	-0.1630*	0.0673	-0.3754*	-0.2198*	-0.2533*	-0.1667*	-0.0981	0.1384	0.0572	0.0484	1.000