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## Review

# Sustainability performance and board compensation in Japan and ASEAN-5 countries

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## Abstract

This study examines the association between sustainability performance in terms of the overall environmental, social, and governance (ESG) score and compensation for the board of directors at companies in Japan and five member countries of the Association for Southeast Asian Nations (ASEAN-5). Then, we examine each of the individual ESG pillar scores and their association with board compensation. Drawing on agency and stakeholder theories, and using a sample of sustainability-friendly companies for the period 2015 to 2019, we find, first, that in both Japan and the ASEAN-5, ESG scores are positively associated with board compensation, and, second, that in the ASEAN-5, the social pillar score is positively linked with board compensation. However, at Japanese companies, the governance pillar score is positively related to board compensation. Our study contributes to the academic literature on sustainability performance and board compensation by providing new empirical evidence on the relationship between overall and disaggregated ESG performance and board compensation.

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## 1. Introduction

Nowadays, companies link board responsibilities to social and environmental goals, business resilience, and prosperity and make boards accountable for their companies' sustainability performance (Berrone & Gomez-Mejia, 2009; Nigam et al., 2018). For example, the Malaysian Code on Corporate Governance issued in 2021 emphasizes that, for companies to be resilient, boards need to take a much more holistic view of the business and anticipate and address material environmental, social, and governance (ESG) risks and opportunities (Securities Commission, 2021). As ESG issues continue to gain traction among global investors, the integration of ESG

criteria—such as greenhouse gas emissions targets, employee health and safety, and workforce diversity in executive compensation—is now becoming increasingly prevalent (Nigam et al., 2018; Saudagaran & Diga, 2000). However, other than Tsang et al. (2021), few academic studies have been conducted on ESG-based compensation in emerging economies (Velte, 2019).

Prior research shows that companies that integrate sustainability strategies with executive compensation enjoy better ESG performance and strengthen their stakeholder relationships (Berrone & Gomez-Mejia, 2009; Flammer et al., 2019). Nevertheless, a director's compensation is defined as an agency problem between shareholders/investors and directors (Bebchuk & Fried, 2004). According to McGinty and Green (2018), all compensations paid to directors should be approved by shareholders. For instance, in Japan, whenever investors believe that directors abuse their position for their own benefit and request compensation that does not reflect their

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preferences, they can vote them down (Lin, 2021; McGinty & Green, 2018). Therefore, interpreting sustainability activities by boards is an important criterion that reflects shareholders' decisions about board compensation. By satisfying stakeholders with good sustainability performance, these investors view the board of directors more positively because the board is exclusively responsible for assessing top management activities. In response, because of the visibility of key stakeholders and their influence on monitoring board activities, companies evaluate the directors more positively in the form of rewards, incentives, and compensation. Hence, companies have increased sensitivity about offering incentives and bonus packages in the form of compensation to directors for the achievement of sustainable value creation (Frydman & Saks, 2010; Lee & Isa, 2015).

Accordingly, a common expectation across the global sustainability governance frameworks is the need for the board to be skilled and knowledgeable about ESG topics to support management in delivering a good ESG performance. Because ESG has become a burning issue and a board priority since the outbreak of the COVID-19 pandemic, a properly designed board compensation structure is regarded as an important incentive mechanism in shaping directors' behavior in monitoring, counseling, and advising management to deliver shareholder returns in a responsible manner that also benefits stakeholders (Elnahass et al., 2022). Board compensation policy can encourage the directors to fulfill their central role in overseeing and integrating ESG risks and opportunities for long-term value creation that benefits key stakeholders.

However, to the best of our knowledge, no existing study takes a comprehensive approach in investigating the effects of ESG performance on board compensation, especially among corporations in Asia. Thus, the central goal of this study is to document the association between ESG performance and its three individual pillars—that is, the E, S, and G aspects of board compensation—at listed companies in Japan and ASEAN-5 (Indonesia, Malaysia, the Philippines, Singapore, and Thailand, which are members of the Association for Southeast Asian Nations). Japan has expressed continuous support for ASEAN as an institution (Singh, 2017, pp. 95–106). The ASEAN-5 countries are selected because they adopted ESG investment and strategies more vigorously than the remaining member state countries, with Singapore and Thailand leading the pack with 70 percent and 59 percent of the sample firms classified as ESG companies (ASEAN-Japan Centre, 2018). Unlike the extensive studies on executive compensation, studies on the determinants of board or director compensation are rare but emerging. These studies show that the level of board compensation can be explained by director demographics, such as director role, responsibilities, and effort (Mallin et al., 2015), director busyness (Ferris et al., 2018), director qualification (Fedaseyeu et al., 2018), director network and social capital (Chen & Keefe, 2018), and acquisition experience of the director (Birhanu et al., 2021). In this study, we contribute to the ever-growing literature on board compensation by examining the linkages between ESG performance and board compensation in the ASEAN-5 countries and Japan.

We rely on agency theory as the main paradigm in explaining board compensation practices. From the agency perspective, separation of ownership and control at companies underlies agency conflicts (Fama & Jensen, 1983). One way for investors and shareholders to compel self-serving managers to act on their behalf and mitigate the diverging interests between the principal and agent and reduce agency costs is to increase the board's monitoring of the agents' efforts. As an extension of the agency theory, stakeholder theory suggests that the board should counsel management to meet the demands of a wide range of stakeholders (Freeman & Phillips, 2002). The structure of board compensation is considered an important governance mechanism in shaping directors' behavior (Andreas et al., 2012), recognizing the risks and responsibilities associated with board service, and overseeing ESG in response to the demands from myriad stakeholders (Birindelli et al., 2018). In this study, we seek to determine whether board compensation is structured so as to align the interests of directors and stakeholders (the alignment or good governance hypotheses; Ferrell et al., 2016), or as a means of expropriation by extracting rents in the form of high compensation (the managerial opportunism or agency problem hypotheses; Andreas et al., 2012; Ho et al., 2022). This is an intriguing question given that directors determine their compensation. As noted by Boivie et al. (2015, p. 1581): “However, despite the surface similarities, there are some significant differences between the director and executive compensation that make the two settings sufficiently distinct to make director compensation an interesting area to examine.”

Using a large sample of 1156 observations, comprising 665 in ASEAN-5 countries and 491 in Japan during the period 2015 to 2019, this study first examines the association between board members' compensation and sustainability performance (ESG score). We find a strong relationship between the board compensation and ESG performance in ASEAN-5 countries as well as Japan, after controlling for firm size, profitability, governance mechanisms, and other financial and nonfinancial indicators, supporting the stakeholder-agency theory. However, additional analysis shows that the ESG-compensation nexus does not hold for social and environmental pillars in Japan and environmental and governance pillars among firms in the ASEAN-5 countries.

This study contributes to the existing literature on ESG and compensation in several ways. First, it addresses the call by Francoeur et al. (2021) to focus on both the composite and decomposed ESG metrics as a tool to link sustainability performance and board compensation, which are rarely investigated in previous literature. Second, our study differs from prior studies that focus on CEO compensation and ESG performance (Adu et al., 2022; Francoeur et al., 2021). In this study, we examine ESG performance and board compensation, which adds to prior studies on the determinants of board compensation in terms of broadening the potential drivers as well as providing international evidence. Therefore, this is the first study to examine the association between sustainability performance and board compensation in Japan and the ASEAN-5 countries. Finally, our findings contribute to the

ongoing debate over why firms should consider incentives for top management in driving long-term sustainable value. The findings have important practical implications for regulators to issue guidelines related to compensation policies with sustainable performance goals.

The rest of the study proceeds as follows. Section 2 reviews the literature and gives our hypotheses. Section 3 discusses the study design and, then, presents the sample selection and descriptive statistics, followed by the main results in Section 4. Section 5 is devoted to a discussion, and Section 6 is the conclusion.

## 2. Literature review

### 2.1. Overview of ESG practices in ASEAN and Japan

Since its inception in 1967, ASEAN has aimed to support economic growth and social and cultural development in the region. Japan is one of the most important external partners for ASEAN, especially after the establishment of informal dialogue in 1973, which was subsequently formalized in 1977 (E-Vahdati et al., 2018; Singh, 2017, pp. 95–106). The Japanese business sector tries to achieve global prosperity and stability and appreciates mutual respect for diversity and solidarity as a community shown by the ten ASEAN member states (Keidanren, 2016). Japan's connection to Southeast Asia is essential for its rapid economic recovery and ultimately for becoming an economic leader in Asia. Today, Japan and ASEAN are inseparable partners and are bound by strong ties formed through business that help create jobs and develop human resources (Atarashi, 1984; Severino, 2013).

The ASEAN-Japan Centre conducted a regional survey of 143 firms, which are mostly on the Forbes Global 2000 and Nikkei Asia 300 lists in 2017 and 2018, in 10 ASEAN member states on the impact of ESG investment on a firm's economic performance. The findings show that ESG investment helps firms increase profitability (with an average net profit margin of 11.75% for ESG companies versus 7.20% for non-ESG companies) via cost reduction and revenue generation channels (ASEAN-Japan Centre, 2018). This is consistent with the assertion by Flammer et al. (2019) that ESG firms that treat their employees well enjoy higher employee engagement and productivity, which ultimately improve firm performance. Stakeholders are also more responsive to ESG firms for giving a favorable indicator of the seller's quality and non-opportunistic behavior, generating feel-good factors and higher sales and profits. All these ESG strategies are in line with risk reduction and income growth, which contributes to firms' competitiveness and long-term sustainable value creation (E-Vahdati et al., 2022).

Because investors and stakeholders are clamoring for more strategic and holistic information about long-term value creation and societal and environmental impacts of business activities, a shift toward additional sustainability reporting requirements is occurring in Japan and the ASEAN-5 countries. For example, the stock exchange in Malaysia presented a consultation paper on key proposals to require the disclosure of

mandatory sustainability issues and indicators aligned with the Task Force on Climate-Related Financial Disclosure (TCFD) recommendations (Bursa Malaysia, 2022; Mak, 2022).

A study by the CFA Institute and Principles for Responsible Investment indicates that ESG reporting in Japan is very high, with 94.4 percent of listed Japanese companies reporting on ESG factors in 2016. Further, the governance disclosure scores are higher than the environmental scores and social scores (CFA Institute & Principles for Responsible Investment (PRI), 2018). Meanwhile, for Singapore, 74.6 percent of firms report on ESG factors in 2016, and consistent with other markets in the Asia-Pacific, the governance score is higher than the social and environmental scores. According to a more recent survey of the largest 50 listed companies in each of the 13 countries in the Asia-Pacific, including Japan and the ASEAN-5, based on the sustainability reports available in mid-2021, Japanese firms are more inclined to adopt the TCFD, which focuses on the disclosure of the financial impact of climate risk on the firm. The adoption rate of TCFD in Japan is 64 percent versus 4 percent, 28 percent, 48 percent, 38 percent, and 24 percent in Indonesia, Malaysia, the Philippines, Singapore, and Thailand, respectively (PricewaterhouseCoopers & National University of Singapore, 2022). The survey also reveals that only one-third of Asia-Pacific firms disclose the linkages between sustainability targets and financial performance, only 36 percent of firms disclose how climate change is integrated into overall risk management, and only 16 percent of firms disclose the linkage of ESG performance to executive compensation, despite evidence based on CEO surveys showing that the customer trust index is higher for firms that tie nonfinancial indicators to executive compensation (PricewaterhouseCoopers, 2016). This finding on the low incidence of ESG integration echoes another study based on 135 top-ranked firms in terms of corporate governance score, which finds that only 21 firms (16%) in four of the ASEAN-5 countries, excluding Indonesia, explicitly disclosed that ESG factors are incorporated into executive compensation (Mak, 2022). Of the 21 firms that incorporate ESG factors in executive compensation, 20 firms incorporate the environmental pillar, 18 firms incorporate the social pillar, seven firms incorporate the governance pillar, and one firm does not disclose the ESG factors that are integrated with executive compensation.

### 2.2. The relationship between sustainability performance and board compensation

The board of directors has substantial responsibility to formulate a company's sustainability strategies and oversee sustainability performance (Chams & Garcia-Blandon, 2019; Unruh et al., 2016). Firms engaging in sustainability activities take into account the interests of all stakeholders (e.g., employees) in contrast to the traditional sole focus on shareholders. When a sustainability strategy is put in place to resolve conflicts among stakeholders, companies that devote more time to sustainability activities have fewer conflicts of interest between management and stakeholders, which eventually leads to a lower firm risk (Godfrey et al., 2009). Donaldson and Preston

(1995) argue firms that engage in stakeholder management by looking after the interests of all stakeholders outperform others that do not. Ample studies have shown that sustainability-oriented firms not only create tangible value for shareholders but can achieve broader societal goals via various channels, such as the creation of compelling employee value proposition, improvement in corporate reputation, better access to finance, favorable stock recommendation, and a lower likelihood of financial distress (Ferrell et al., 2016; Miralles-Quiros et al., 2018). The stakeholder perspective assumes when the boards display greater compassion toward diverse stakeholders and are compensated for meeting the sustainability goals, they are more likely to create a compelling value proposition and make positive societal impacts (Willis & Watsons, 2020).

The literature has two streams of studies on the ESG-compensation relationship. The first strand focuses on the impact of the structure of executive compensation on ESG or CSR performance (Cordeiro & Sarkis, 2008; Jang et al., 2022; Jian & Lee, 2015; Mahoney & Thorn, 2006; Velte, 2019), and the second examines ESG performance on CEO compensation (Cai et al., 2011; Francoeur et al., 2021). However, studies on ESG performance and board compensation are extremely rare other than Melis and Rombi (2021). Three recent reviews on CSR/ESG/sustainability studies carried out by Gillan et al. (2021), Ho, Huang, and Liu (2022), and Ludwig and Sassen (2022) indicate mixed findings on the sustainability performance–executive compensation relationship. Coombs and Gilley (2005) report that sustainability activities are not significantly linked to CEO total compensation, based on Fortune 1000 firms for the period 1995 to 2001. Berrone and Gomez-Mejia (2009) document that US firms do not reward CEOs of firms with an explicit environmental pay policy more than those without such a pay structure.

Cai et al. (2011) find negative relationships between CSR and CEO cash and total compensation at US companies on the S&P 1500 between 1996 and 2010. Borghesi et al. (2014) find no evidence of a link between CEO total compensation and the aggregate ESG/CSR score. Rekker et al. (2014) show that CSR is negatively related to CEO salaries and total compensation during the period of the global financial crisis, for a large sample of US firms from 1996 to 2010. Masulis and Reza (2015) report that CEO compensation is lower for firms that make large charitable contributions. Also, Jian and Lee (2015) report a negative ESG/CSR score-CEO pay nexus. Ferrell et al. (2016) show that CEOs with high excess pay not related to performance (or low pay for performance sensitivity) invest less in CSR, which supports the good governance view, instead of the agency cost perspective. Francoeur et al. (2021) show that environmentally friendly firms pay their CEOs less in total compensation than environmentally insensitive firms. Ho, Huang, and Liu (2022) argue that the inconsistent findings for the CSR–CEO compensation relationship hint at the presence of moderating factors and provide evidence that the nature of the relationship between a firm's CSR and CEO pay is conditional on CEO reputation.

To summarize, relying on a combination of agency and stakeholder theories, the board of directors is at the forefront for satisfying stakeholders (Birindelli et al., 2018). We predict

that because firms with good sustainability performance can fulfill the requirements of their stakeholders and the conflict of interest between the investors and managers will be minimized, shareholders are likely to reward the board of directors for the high sustainability performance and value-adding role (Frydman & Saks, 2010; Lee & Isa, 2020). This aligns with some previous studies that confirm the positive association between executive compensation and sustainability-related outcomes. Therefore, in alignment with key stakeholders' satisfaction and approval from board activities, we expect that the board compensation is likely to be positively affected by companies with high sustainability or ESG performance and its pillar (environmental, social, and governance). Thus, in this paper, we test the following hypothesis:

**Hypothesis 1.** Firms engaged in ESG practices pay higher compensation to their board members.

### 3. Research design

#### 3.1. Sample and data

Our initial sample comprises the ASEAN-5 and Japanese firms with Thomson Reuters Asset4/Refinitiv Eikon ESG scores from 2015 to 2019. Our sample period starts in 2015 due to the lack of ESG scores for prior years, as most firms in the ASEAN-5 countries published their sustainability reports beginning in 2014. Additionally, most ASEAN-5 countries have only recently introduced a sustainability index. For example, Malaysia introduced its FTSE4Good index in December 2014 (Alazzani et al., 2017). Further, we delete observations with missing data on board compensation and control variables. Thus our final sample consists of 1156 firm-year observations, comprising 665 for the ASEAN-5 subsample and 491 for the Japanese subsample. Table 1 summarizes the industry classifications of firms in our sample. Among the least represented sectors are energy, utilities, and health care. In the ASEAN-5 subsample, the top two sectors are finance and manufacturing, contributing 16.24 percent and 18.80 percent, respectively. Meanwhile, in the Japan subsample, 14.26

Table 1  
Sectoral classification.

Sector	ASEAN		Japan		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Communication services	71	10.68	28	5.70	99	8.56
Consumer discretionary	44	6.62	70	14.26	114	9.86
Consumer staples	80	12.03	54	11.00	134	11.59
Energy	53	7.97	4	0.81	57	4.93
Finance	108	16.24	38	7.74	146	12.63
Health care	30	4.51	34	6.92	64	5.54
Industrials (Manufacturing)	125	18.80	119	24.24	244	21.11
Information technology	16	2.41	55	11.20	71	6.14
Raw materials	29	4.36	63	12.83	92	7.96
Real estate	62	9.32	12	2.44	74	6.40
Utilities	47	7.07	14	2.85	61	5.28
Total	665	100.00	491	100.00	1156	100.00

percent and 24.24 percent of the firms are in the consumer discretionary and manufacturing sectors, respectively.

### 3.2. Main variables

Our dependent variable is board compensation (COMP), which includes salary, bonus, and retirement benefits (Pan & Zhou, 2018) in US dollars. Our independent variable is sustainability performance represented by the overall ESG score (ESG) and its three individual pillars, which are the environmental score (ENV), social score (SOC), and governance score (GOV). The scores for each item are from 0 percent to 100 percent, with a higher percentage indicating better ESG performance. The ENV score reflects a company's impact on living and nonliving natural systems, consisting of land, air, water, and ecosystems. The SOC scores measure a company's ability to inspire trust and loyalty among consumers, employees, and society through using the best management practices. GOV scores are based on company systems and processes designed to ensure that board members and executives work in the best interests of their myriad stakeholders (Alazzani et al., 2017; Kartadjudjuma & Rodgers, 2019).

### 3.3. Empirical model

To test our research hypothesis, we use multiple regression models (ordinary least squares regression and cross-sectional studies). The empirical model suggests a relationship between the ESG score and the level of board compensation. All the variables are defined in Table 2.

$$\text{LnCOMP}_{i,t} = \beta_0 + \beta_1 \text{ESG}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \beta_3 \text{LEV}_{i,t} + \beta_4 \text{CAPEX/TA}_{i,t} + \beta_5 \text{CFO/TA}_{i,t} + \beta_6 \text{ROA}_{i,t} + \beta_7 \text{TOBINQ}_{i,t} +$$

$$\beta_8 \text{GENDER}_{i,t} + \beta_9 \text{SKILL}_{i,t} + \beta_{10} \text{COMP\_IND}_{i,t} + \beta_{11} \text{BETA}_{i,t} + \beta_{12} \text{DIV\_YIELD}_{i,t} + \beta_{13} \text{NON\_EXEC}_{i,t} + \varepsilon_{i,t}$$

In the regression models, we first control for firm size (SIZE), which may affect board compensation in Japan and the ASEAN-5. We also control for profitability (ROA) as it is an important driver of board compensation (Mahoney & Thorn, 2006). The level of debt (LEV) and capital expenditure (CAPEX/TA) may motivate boards to demand higher compensation because of the higher risk of financial distress and greater monitoring (Budsaratragoon et al., 2020). We control for excess cash flow (CFO/TA) and dividend yield (DIV\_YIELD) because they may lead to financial constraints and affect investors making decisions (Qu et al., 2022). TOBINQ is included because it is an indicator that reflects the future performance of a company (Berrone & Gomez-Mejia, 2009). We also control for board gender diversity (GENDER), board-specific skills (SKILL), non-executive directors (NON\_EXEC), and compensation committee independence (COMP\_IND), in line with prior literature (Badru et al., 2019; Basu et al., 2007; Birhanu et al., 2021). The measurement of a firm's risk based on beta is included, as in previous board compensation models (Francoeur et al., 2021; Melis & Rombi, 2021).

## 4. Empirical results

### 4.1. Descriptive statistics and correlation coefficient

Table 3 provides the descriptive statistics for the ASEAN-5 subsample (in Panel A) and Japanese subsample (in Panel B). On average, total board compensation is 2.8 times higher in the ASEAN-5 than in Japan. The means of the ESG score, environmental score, governance score, and social score for ASEAN-

Table 2  
Variable definitions.

Variable	Variable label	Definition
Board member compensation	LnCOMP	Total compensation of the board members in US dollars (in natural logarithm)
ESG score	ESG	Overall company ESG score based on the self-reported information in the environmental, social, and corporate governance pillars
Environmental pillar score	ENV	The environmental pillar measures a company's impact on living and nonliving natural systems.
Social pillar score	SOC	The social pillar measures a company's capacity to generate trust and loyalty with its workforce, customers, and society, through its use of the best management practices.
Governance pillar score	GOV	The corporate governance pillar measures a company's systems and processes, which ensure that its board members and executives act in the best interests of its long-term shareholders.
Market capitalization	SIZE	The number of shares multiplied by the closing price (in natural logarithm)
Leverage	LEV	Total debt/Total assets
Capital expenditures/total assets	CAPEX/TA	Capital expenditures/Total assets
CFO/total assets	CFO/TA	Net cash flow from operating activities/Total assets
Return on assets	ROA	Net income before financing costs/Total assets
Tobin_Q	TOBINQ	(Market capitalization + Total debt)/Total assets
Board gender diversity	GENDER	Percentage of women on the board
Board-specific skills	SKILL	Percentage of board members who have either an industry- specific background or a strong finance background
Compensation committee independence	COMP_IND	Percentage of independent board members on the compensation committee
Beta	BETA	Covariance of the security's price movement around the market's price movement
Dividend yield	DIV_YIELD	The ratio of the annualized dividends to the price of a stock
Non-executive board members	NON_EXEC	Percentage of non-executive board members

Table 3  
Descriptive statistics for ASEAN-5 and Japanese companies.

Variables	Min	Max	Mean	SD	Skewness	Kurtosis
Panel A: ASEAN-5						
LnCOMP	5.09	19.26	13.30	1.39	-0.38	4.13
ESG	2.52	88.00	49.70	17.89	-0.28	-0.54
ENV	0.00	94.29	39.86	24.63	0.08	-1.11
SOC	2.27	97.39	53.51	21.37	-0.22	-0.64
GOV	1.39	98.70	52.11	21.38	-0.22	-0.87
SIZE	17.81	24.79	22.02	1.25	-0.43	0.39
ROA	-35.23	75.32	6.78	7.83	-0.38	0.13
TOBINQ	0.09	15.31	1.50	1.81	-0.07	0.40
GENDER	0.00	62.50	16.13	12.47	0.55	-0.13
SKILL	0.00	100.00	44.88	21.04	-0.15	-0.22
COMP_IND	0.00	100.00	71.89	28.58	-0.87	0.03
BETA	-0.41	3.13	1.02	0.50	0.81	1.43
DIV_YIELD	0.00	0.20	0.02	0.02	1.55	6.64
NON_EXEC	0.00	100.00	79.17	17.65	-1.12	1.30
LEV	0.00	0.80	0.27	0.18	0.39	-0.62
CAPEX/TA	0.00	0.81	0.03	0.08	0.31	-1.10
CFO/TA	-4.86	9.78	0.05	0.48	-0.05	-0.81
Panel B: Japan						
LnCOMP	9.79	16.39	12.99	0.93	0.20	1.78
ESG	10.63	92.89	59.38	16.96	-0.54	-0.18
ENV	0.00	97.05	60.23	25.32	-0.98	0.11
SOC	1.53	94.02	53.44	21.86	-0.40	-0.56
GOV	12.19	96.91	63.56	18.03	-0.37	-0.37
SIZE	20.76	25.56	23.00	1.00	0.29	-0.76
ROA	-19.85	37.07	5.03	5.43	-1.05	2.55
TOBINQ	0.02	16.32	1.24	1.46	-0.32	4.53
GENDER	0.00	57.14	7.41	8.30	1.69	4.87
SKILL	0.00	100.00	58.53	16.69	-0.75	1.34
COMP_IND	0.00	100.00	21.28	32.23	1.14	-0.14
BETA	0.00	2.76	1.04	0.38	0.46	1.47
DIV_YIELD	0.00	0.07	0.02	0.01	0.66	0.13
NON_EXEC	6.90	86.67	44.05	16.98	0.44	-0.39
LEV	0.00	0.66	0.21	0.16	0.57	-0.21
CAPEX/TA	0.00	0.14	0.04	0.03	-1.87	4.13
CFO/TA	-0.10	0.48	0.08	0.06	-2.15	8.98

Notes: The variable definitions are in Table 2.

5 firms are 49.7, 39.9, 52.1, and 53.5, respectively. Japanese firms tend to have a much higher ESG score (59.4), environmental score (60.2), and governance score (63.6). The average social score is about the same for Japanese firms (53.4) as ASEAN-5 firms. Also, Panel A (ASEAN-5) in Table 3 shows that the variables are all within the range ± 3 rule of thumb for skewness cut offs, as normal distribution, except for COMP (skewness = 16.91). Therefore, we use the natural logarithm of COMP to achieve acceptable skewness of -0.38, following prior studies (Elnahass et al., 2020; Pan & Zhou, 2018). In Panel B (Japan), showing that after the natural logarithm transformation of COMP into LnCOMP (skewness = 0.2), all the variables are within the range of a normal distribution. Hence, the subsequent analysis does not have an assumption of bias.

We also provide the Pearson correlation coefficients between the variables in Table 4. The preliminary relationship between COMP and the main variables (ESG, ENV, SOC, and GOV) are highly significant at both the ASEAN-5 and Japanese companies. As expected, the correlation coefficient between LnCOMP and ESG is significant and positive in both Panels A and B, indicating that sustainability-friendly firms with high

ESG scores provide higher board compensation. As for the ESG component, we can see that LnCOMP is greatly influenced by the SOC pillar in the ASEAN-5 subsample, with a correlation coefficient of 0.26, whereas for Japanese firms, the strongest correlation is for the GOV pillar (coefficient = 0.30). We also report the amount of collinearity in a multiple regression model, indicated by the variance inflation factor (VIF) (Gujarathi, 2022). For all the variables in our models, the VIF values are less than 3, indicating the absence of a multicollinearity problem (Kennedy, 1985). Each of the correlations is below 0.8, except in Panel B between ESG and SOC (coefficient = 0.91) and between ESG and ENV (coefficient = 0.82). However, this is not the main concern because the regression analysis tests the association between ESG, ENV, SOC, and GOV individually; hence, all values are appropriate for further analysis.

#### 4.2. Regression results

Table 5 presents the multivariate analysis for the ASEAN-5 and Japan subsamples in Panels A and B, respectively. Models (1) to (4) report the regression results for the determinants of board compensation using ESG, ENV, SOC, and GOV, as the experimental variables, respectively. R<sup>2</sup> is between 20 percent and 25 percent across the four models in both panels, suggesting that the independent variables properly explain our dependent variable. To address the heteroskedasticity issue, we take the natural logarithm of the raw variables, board compensation and firm size (market capitalization). Additionally, we control for the experimental variables (sustainability performance) by performing individual analyses based on ESG scores in Model (1), ENV scores in Model (2), SOC scores in Model (3), and GOV scores in Model (4), respectively.

The coefficients of ESG are positive and statistically significant ( $\beta = 0.07, p < 0.01$ ) with a *t*-value of 2.06 in Model (1) for the ASEAN-5, suggesting that the overall ESG score of firms in ASEAN-5 countries has a positive relationship with board compensation, which supports H1. Further, the coefficient of SOC is positive and statistically significant in Model (3) for the ASEAN-5 ( $\beta = 0.09, p < 0.01$ ) with a *t*-value of 2.67, showing that firms in ASEAN-5 countries place more emphasis on the SOC pillar, which has a positive link with board compensation, than on ENV and GOV. Additionally, the coefficient of GOV is positive and statistically significant in Model (4) for Japan with a *t*-value of 2.00. In sum, the results indicate that the overall ESG score and the SOC score directly influence board compensation at firms in the ASEAN-5 countries. However, in Japan, the driver of board compensation appears to be the GOV pillar.

Regarding the control variables for Models (1) to (4), SIZE, TOBINQ, SKILL, BETA, NON\_EXEC, and LEV are also drivers of board compensation at firms in the ASEAN-5 countries. However, for the Japanese subsample, SIZE, NON\_EXEC, COMP\_IND, and LEV are significant. These findings support the argument that bigger firms are associated with more intensive monitoring costs and thus higher board pay. The higher proportion of non-executive directors tends to reduce board compensation in both the ASEAN-5 and Japan.

Table 4  
Pearson correlation coefficient for ASEAN-5 and Japanese companies Panel A: ASEAN-5.

	VIF	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
(1)	1.00	LnCOMP	1.00																	
(2)	1.21	ESG	.240**	1.00																
(3)	1.15	ENV	.120**	.798**	1.00															
(4)	1.15	SOC	.255**	.883**	.693**	1.00														
(5)	1.32	GOV	.163**	.652**	.263**	.341**	1.00													
(6)	1.26	SIZE	.354**	.339**	.270**	.320**	.183**	1.00												
(7)	2.43	ROA	−.100*	0.05	0.03	0.06	0.03	.118**	1.00											
(8)	2.38	TOBINQ	−.187*	0.00	−0.03	0.03	−0.03	.085*	.721**	1.00										
(9)	1.18	GENDER	−.109*	0.05	−0.07	−0.03	.171**	−.091*	.105**	.161**	1.00									
(10)	1.42	SKILL	−.227*	−.142**	−.106**	−.191**	−.087*	−0.05	0.03	.105**	.170**	1.00								
(11)	1.36	COMP_IND	−0.01	.167**	0.07	0.01	.309**	−0.07	−.142**	−.091*	.169**	.269**	1.00							
(12)	1.18	BETA	0.05	0.06	0.00	.084*	0.05	−.159**	−.120**	−.115**	0.03	−.179**	−0.02	1.00						
(13)	1.14	DIV_YIELD	.114**	.167**	.158**	.164**	0.07	0.04	.113**	−0.07	.084*	−0.01	0.03	−.117**	1.00					
(14)	1.40	NON_EXEC	.264**	.179**	0.03	.126**	.286**	.155**	−0.04	−.134**	−0.07	−.358**	0.04	.114**	0.06	1.00				
(15)	1.26	LEV	−.140*	−0.04	.081*	−0.07	−0.04	−.185**	−0.05	−0.05	−0.04	−.078*	−.154**	.202**	−0.05	−.212**	1.00			
(16)	1.27	CAPEX/TA	−.091*	−0.03	−0.06	0.00	0.00	−.119**	.350**	.266**	0.07	0.00	−.080*	0.03	0.03	−0.03	−0.03	1.00		
(17)	1.08	CFO/TA	0.01	0.02	0.00	0.03	0.00	−0.06	0.05	0.06	0.03	0.02	0.00	0.02	0.01	0.00	0.00	.252**	1.00	

  

	VIF	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
(1)	1.00	LnCOMP	1.00																	
(2)	1.50	ESG	.265**	1.00																
(3)	1.48	ENV	.155**	.816**	1.00															
(4)	1.34	SOC	.193**	.905**	.669**	1.00														
(5)	1.46	GOV	.300**	.650**	.296**	.423**	1.00													
(6)	1.47	SIZE	.190**	.423**	.320**	.370**	.363**	1.00												
(7)	2.58	ROA	−.160*	−.158**	−.214**	−.187**	0.09	0.09	1.00											
(8)	2.56	TOBINQ	−.098*	−.198**	−.292**	−.193**	0.00	.151**	.665**	1.00										
(9)	1.38	GENDER	.194**	.264**	.106*	.257**	.306**	.173**	−0.02	0.04	1.00									
(10)	1.61	SKILL	−.229*	−.192**	−0.01	−.169**	−.306**	−.175**	0.00	−.103*	−.396**	1.00								
(11)	1.41	COMP_IND	.265**	.235**	0.02	.149**	.426**	.258**	0.06	.121**	.232**	−.297**	1.00							
(12)	1.17	BETA	0.06	0.02	0.03	−0.03	0.00	−.117**	−0.03	−.150**	−.135**	0.00	0.01	1.00						
(13)	1.27	DIV_YIELD	.114*	.167**	.185**	.142**	0.04	0.05	−0.07	−.311**	0.02	−0.01	0.01	.139**	1.00					
(14)	1.87	NON_EXEC	.295**	.183**	−0.03	.117**	.384**	.133**	0.07	.173**	.386**	−.570**	.373**	0.07	−0.02	1.00				
(15)	1.35	LEV	.158**	.162**	.205**	.169**	0.05	−.090*	−.355**	−.290**	0.07	0.06	−0.02	0.09	.211**	−.106*	1.00			
(16)	1.26	CAPEX/TA	−.111*	0.01	.141**	−0.01	−0.04	−.112*	0.08	0.06	−0.04	.122**	−.099*	−.112*	−.130**	−.151**	0.05	1.00		
(17)	2.46	CFO/TA	−.142*	−.096*	−.144**	−.104*	−0.02	.132**	.689**	.627**	0.05	−0.02	−0.02	−.178**	−.111*	0.06	−.363**	.215**	1.00	

Note: \* significant at the 0.01 level.



Table 5  
Results of the regression for the ASEAN-5 and Japan.

Variable	Model 1		Model 2		Model 3		Model 4	
	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value
Panel A: ASEAN-5								
ESG	0.07**	2.06						
ENV			-0.00	-0.59				
SOC					0.09**	2.67		
GOV							0.05	1.61
SIZE	0.30**	7.74	0.34**	8.72	0.30**	7.79	0.32**	8.40
ROA	-0.01	-0.37	-0.01	-0.27	-0.01	-0.31	-0.16	-0.42
TOBINQ	-0.15**	-2.81	-0.15**	-2.86	-0.16**	-2.90	-0.15**	-2.73
GENDER	-0.04	-1.42	-0.03	-1.26	-0.03	-1.26	-0.04	-1.52
SKILL	-0.14**	-3.36	-0.15**	-3.64	-0.13**	-3.21	-0.15**	-3.49
COMP_IND	0.01	0.10	0.03	0.55	0.023	0.42	0.01	-0.17
BETA	0.06*	01.44	0.07**	1.71	0.06	1.26	0.07*	1.63
DIV_YIELD	0.07**	2.09	0.08**	2.46	0.07*	1.96	0.08**	2.40
NON_EXEC	0.09**	2.52	0.09**	2.70	0.10**	2.70	0.08**	2.24
LEV	-0.08**	-1.85	-0.08**	-1.63	-0.08**	-1.63	-0.09**	-1.89
CAPEX/TA	-0.01	-0.36	-0.01	-0.45	-0.01	-0.40	-0.01	-0.46
CFO/TA	0.03	1.03	0.04	1.14	0.03	1.01	0.04	1.12
R <sup>2</sup>	0.25		0.24		0.25		0.24	
Adjusted R <sup>2</sup>	0.23		0.23		0.24		0.23	
F-value	16.42		16.02		16.71		16.18	
Durbin-Watson	0.42		0.41		0.44		0.41	
N	665		665		665		665	
Panel B: Japan								
ESG	0.09*	1.32						
ENV			0.05	0.51				
SOC					0.03	0.08		
GOV							0.11**	2.00
SIZE	0.10**	1.93	0.11**	2.24	0.12**	2.38	0.10**	1.96
ROA	-0.10	-1.58	-0.10*	-1.57	-0.10	-1.56	-0.11*	-1.61
TOBINQ	-0.01	-0.13	-0.02	-0.25	-0.03	-0.32	-0.02	-0.18
GENDER	0.02	0.39	0.03	0.51	0.02	0.50	0.02	0.34
SKILL	-0.03	-0.58	-0.03	-0.61	-0.03	-0.58	-0.03	-0.54
COMP_IND	0.13**	2.88	0.14**	3.07	0.14**	3.04	0.11**	2.39
BETA	0.02	0.59	0.02	0.61	0.03	0.63	0.03	00.63
DIV_YIELD	0.04	0.98	0.04	0.99	0.05	1.02	0.05	1.10
NON_EXEC	0.20**	3.84	0.21**	4.00	0.21**	4.01	0.18**	3.50
LEV	0.12**	2.47	0.12**	2.53	0.12**	2.56	0.12**	2.47
CAPEX/TA	-0.03	-0.99	-0.03	-1.02	-0.02	-0.96	-0.03	-1.02
CFO/TA	-0.01	-0.21	-0.00	-0.15	-0.01	-0.15	-0.01	-0.17
R <sup>2</sup>	0.20		0.20		0.20		0.20	
Adjusted R <sup>2</sup>	0.18		0.18		0.17		0.18	
F-value	9.26		9.06		8.97		9.41	
Durbin-Watson	0.34		0.34		0.33		0.34	
N	491		491		491		491	

Note: \*, \*\* and \*\*\* significant at  $p < 0.10$ ,  $p < 0.05$ , and  $p < 0.01$ , respectively.

However, the effect of LEV is in the opposite direction, as it has a negative (positive) association with board compensation in the ASEAN-5 (Japan).

This study also controls for autocorrelation using Durbin-Watson statistics. The rule of thumb states that values from 0.0 to 4.0 indicate the absence of autocorrelation in the models (Tillman, 1975). Table 5 (Panel A) shows that in Model (1), the Durbin-Watson statistic is 0.42, and in Models (2) to (4), it is 0.41, 0.44, and 0.41, respectively. Panel B shows a Durbin-Watson statistic of 0.34 in Model (1), 0.34 in Model (2), 0.33 in Model (3), and 0.34 in Model (4), respectively. Thus the results suggest that no violation of autocorrelation occurs, and the models are free of an assumption of bias.

## 5. Discussion

This study extends past studies on the linkage between ESG or sustainability performance and compensation for board directors. Consistent with the notion of the agency and stakeholder theories, sustainability-friendly firms should give their directors incentives to encourage high sustainability performance (Berrone & Gomez-Mejia, 2009; Cordeiro & Sarkis, 2008; Kartadjudjuma & Rodgers, 2019). Thus board engagement in sustainability activities can reduce agency problems and, therefore, satisfy stakeholders' expectations (Birindelli et al., 2018).

Our results suggest that sustainability performance is positively associated with the board of directors' compensation in

both the ASEAN-5 and Japanese subsamples. Mirroring prior research findings, directors should be rewarded for enhancing ESG performance (e.g., Kartadjudjuma & Rodgers, 2019). In addition, this study shows that SOC scores of sustainability-friendly firms in the ASEAN-5 have a positive association with board compensation. Moreover, we find that the GOV score has positive links with board compensation in Japan.

According to Ramadhani (2019), global issues such as an alarming number of corruption scandals and rising poverty rates have put a spotlight on sustainability in the ASEAN member countries. At the regional level, firms in ASEAN countries have traditionally shielded themselves from disclosing their SOC competence to their stakeholders. Their governments have imposed regulations aimed at helping businesses to identify gaps and areas of opportunity for improving their sustainability efforts. This is the result of a previous study claiming that companies in ASEAN countries have insufficient protection for minority shareholders and are therefore relatively less stakeholder-oriented (e.g., Burki & Tahir, 2022; Chauhan & Kumar, 2018; Gracia & Siregar, 2021). Consistent with Saudagaran and Diga (2000), companies doing business in these areas strengthen their legitimacy by focusing primarily on social pillars, managing local dependencies, and building a community of trust. Pioneered by Filipino companies, corporate philanthropy in ASEAN countries has advanced toward more philanthropic foundations founded by large companies as an avenue for continuous contribution to society (Loh et al., 2018). The findings in Japan can be attributed to the Ministry of the Environment Japan (MOEJ) playing an important role in promoting sustainable corporate governance and the inclusion of ESG criteria in decision-making (MOEJ, 2017, 2018).

## 6. Conclusion

This paper examines whether sustainable performance has an impact on board compensation in Japan and the ASEAN-5 countries. Our study extends prior research in this field (e.g., Adu et al., 2022; Kartadjudjuma & Rodgers, 2019) by providing empirical evidence on the relationship between sustainability performance and board compensation. Our findings suggest avenues for further research on how a firm's sustainability performance contributes to compensation for the top management (e.g., CEO, CFO) and their role at sustainability-friendly firms.

In addition to its academic relevance, the paper also has practical implications for companies, regulators, practitioners, and investors. First, to ensure that sustainability is completely integrated into the business strategy, companies need to add sustainability strategy targets to the boards' compensation contracts as motivation. Second, companies and practitioners should consider that each ESG dimension influences sustainability performance and board compensation schemes. These dimensions need to be well defined in achieving sustainability objectives; otherwise, sustainability performance can be an elusive goal. Further, from the perspective of financial statement analysis, companies should integrate sustainability into economic analyses; therefore, we suggest that they seek external

independent assurance to assess the quality of the ESG metrics and reporting. Third, despite the growing trend at companies to link their sustainability practices with their executive compensation to keep standards of accountability high (Lewis, 2016), very few studies to date have focused on sustainability performance and board compensation. Thus, the findings in this study have practical implications for investors and key stakeholders, who appear to be increasingly interested in companies that link sustainability performance to directors' compensation.

However, this study has some shortcomings. First, the compensation data is for the entire board instead of showing the details on compensation for individual top managers (e.g., CEO) in Japan and ASEAN countries. Second, the observations are limited to firms with ESG scores in the Refinitiv Eikon database. Despite these limitations, scholars can use our framework to compare how the individual ESG pillars affect directors' compensation in other geographic regions.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could appear to influence the work reported in this paper.

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## Declaration of competing interest

The Authors declare that there are no conflicts of interest.

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