







# “Impact of sustainability reporting initiatives on the financial performance of Philippine listed companies”

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# IMPACT OF SUSTAINABILITY REPORTING INITIATIVES ON THE FINANCIAL PERFORMANCE OF PHILIPPINE LISTED COMPANIES

## Abstract

Concerns for the environment and sustainability require entities to contribute to societal development toward sustainable advancement. There is also an increasing demand for high-quality and reliable reports on sustainability-related matters. The study aims to highlight the impact of sustainability reporting initiatives on financial performance through the GRI reporting framework and four determinants of financial performance – return on assets (ROA), return on equity (ROE), and basic and diluted earnings per share (EPS). Conducting random effects generalized least square (GLS) regression, this paper examines 127 firm-year observations from 47 Philippine listed entities covering 2019–2021. The results show a significant negative relationship between the total sustainability reporting initiative index score and financial performance, represented by return on equity (coefficient =  $-0.4690$ ,  $z$ -value =  $-1.68$ ). Moreover, there is a positive significant relationship between economic reporting and financial performance, particularly return on assets, basic earnings per share, and diluted earnings per share (coefficients =  $0.1590$ ,  $12.6200$ ,  $12.6500$ ;  $z$ -values =  $3.11$ ,  $1.72$ ,  $1.73$ ). A negative significant relationship exists between social reporting and financial performance, particularly return on equity and basic and diluted earnings per share (coefficients =  $-0.5530$ ,  $-14.1600$ ,  $-14.1400$ ;  $z$ -values =  $-2.04$ ,  $-2.65$ ,  $-2.65$ ). This study pioneers an investigation into the nascent implementation of Securities and Exchange Commission (SEC) sustainability reporting and the implications of sustainability initiatives on corporate performance in the Philippines. The results shed light on the dynamics of sustainability initiatives and financial outcomes to encourage firms to harmonize economic success with environmental preservation and societal advancement toward value creation.

## Keywords

sustainability, sustainability reporting, financial performance, the Philippines, GRI framework, economic reporting, environmental reporting, social reporting

## JEL Classification

G30, M14, M41, Q56

## INTRODUCTION

The concept of sustainability, originating from the seminal report “Our Common Future” by the World Commission on Environment and Development (1987), underscores the imperative of meeting the present needs while preserving the capacity for future generations to meet their own. Elkington (1998)’s introduction of the triple bottom line paradigm delineates the evaluation of corporate performance across economic, environmental, and social dimensions. In the accountancy profession, the establishment of the International Sustainability Standards Board (ISSB) by the IFRS Foundation in 2021 addresses the escalating demand for transparent sustainability reporting from global investors (IFRS Foundation, n.d.b). Together with these sustainability disclosures, the financial statements of a firm serve as a conduit for communicating an entity’s performance and accountability for resources (IFRS Foundation, n.d.a) to cater to societal needs, preserve environmental integrity, and foster value creation (Mohammed, 2013). In the Philippine setting, the mandate by the Securities and Exchange

Commission (SEC) for sustainability reporting for listed companies starting in 2019 reflects the pervasive trend of embedding sustainability into operational and financial reporting practices.

Entities engage in sustainability reporting to showcase their contribution to sustainable development (Laskar, 2019), enhance social acceptance (Deegan, 2019), and cultivate social awareness (Hörisch et al., 2014). The phenomenon surrounding sustainability initiatives and a firm's financial performance can be understood through legitimacy and stakeholder theories. Legitimacy theory underscores the imperative for firms to adhere to societal norms to maintain their status as legitimate entities (Deegan, 2019). Meanwhile, under the stakeholder theory, an entity is comprised of a diverse network of relationships between various stakeholders, and managers are expected to create value for these stakeholders, aligned in the pursuit of value creation (Freeman, 1984; Freeman et al., 2010).

In essence, sustainability efforts are perceived as a strategic instrumentalization of corporate operational performance, intertwining financial success with economic, environmental, and social responsibility. The alignment of sustainability practices and reporting enhances corporate accountability and performance, benefitting shareholders and stakeholders. While numerous studies have already analyzed the impact of sustainability initiatives on the financial performance of firms, this study pioneers the investigation of the nascent implementation of the mandated SEC sustainability report within the national landscape of the Philippines, a developing country. Specifically, this study scrutinizes its immediate implications through the lens of short-term profitability concerning listed firms in the Philippines.

## 1. LITERATURE REVIEW AND HYPOTHESES

Legitimacy theory highlights the significance of entities aligning with societal norms in order to maintain a favorable perception from society. This involves sustainability initiatives and the disclosure of detailed sustainability information to stakeholders to uphold a positive image of the company's conduct. The survival and profitability of entities rely on legitimacy, which drives efforts to convince society of a good impression. Societal expectations constitute a social contract, and failure to meet them leads to a legitimacy gap that prompts entities to endeavor to conform (Bebbington et al., 2008; Lanis & Richardson, 2013; Deegan, 2019). Corporate non-financial disclosures found in integrated annual reports function as a communication tool that enables an entity to display its sustainability efforts (O'Donovan, 2002). Adhering to societal expectations and exhibiting robust sustainability performance are crucial for entities to navigate the legitimacy landscape and garner the trust and support of stakeholders.

The primary theoretical foundation of this study, the stakeholder theory, posits that companies exist within the realm of interconnected networks revolving around various stakeholders – individu-

als, collective groups, and firms who can impact or are affected by the actions of the firm. This underscores that managers should strive to create value not only for the company itself but also for the stakeholders, allowing a way to align interests with value creation (Freeman, 1984; Freeman et al., 2010). This theory contends that for sustained survival and continuous prosperity, an organization must secure the support of its diverse stakeholders, transcending mere profit motives. Thus, the management must ensure stakeholders' expectations are addressed accordingly and their interests are balanced (Herold, 2018; Hörisch et al., 2020). As stakeholder theory emphasizes the interconnectedness between the entity and its stakeholders, fostering constructive relationships is deemed essential – sustainability initiatives and company reports and disclosures serve as communication tools to relay information to various stakeholders to share organizational perceptions (Gray et al., 1995; Yoon & Byun, 2023).

The crucial impact of sustainability practices on financial performance highlights the importance of taking a strategic perspective toward sustainability for organizations to anticipate financial gains and profitability. Sustainable behavior can generate value for organizations, leading to improved relationships with stakeholders through reduced conflict

costs, enhanced reputation, and increased employee productivity. Consequently, the significance of integrating sustainability and socially responsible behavior into business strategy planning becomes evident in achieving enhanced organizational performance. It is imperative to incorporate investments in sustainability initiatives into an organization's long-term strategy to sustain ongoing benefits for organizational performance (Cantele & Zardini, 2018; Hussain et al., 2018; Jung et al., 2018; Brogi & Lagasio, 2019; Hou, 2019; Buallay, 2020).

A study on 348 small and medium-sized Italian manufacturing entities by Cantele and Zardini (2018) shows that sustainability practices affect an entity's competitive advantage and are a positive contributor to financial performance. Additionally, a study by Jung et al. (2018) on information and communication technology firms in Korea shows that a firm's sustainability performance has a positive relationship with its financial performance. This implies that an entity that engages in corporate sustainability activities improves its relationship with stakeholders, which lowers the cost of conflicts and an expected improvement in corporate reputation and employee productivity – all these help an entity achieve a competitive advantage, further enhancing a firm's financial performance. Moreover, a study conducted by Xie et al. (2019a) on financial data of 6,631 companies from 74 countries in 11 different sectors discovered that sustainability activities represented by environmental, social, and governance factors show a nonnegative relationship with corporate financial performance. In a similar fashion, Hussain et al. (2018) found that sustainability performance has a significant positive relationship with corporate operational performance, specifically with the environmental and social dimensions.

Concerning the Philippine perspective, Ebdane (2016) sought to determine the impact of sustainability reporting under GRI indexes on company performance, covering financial reports for the year 2013 on 13 companies. The results show that overall sustainability disclosure has an effect on the operational performance of an entity, as seen in the return on assets (ROA). This suggests that disclosing and reporting overall sustainability considering all its indicators would have an effect on firm performance.

Sustainability efforts within an entity are often seen as a combined mechanism aimed at addressing sustainability demands while affecting firm performance. However, Cornell and Shapiro (2021) argue that it is crucial to assess the separate dimensions of sustainability and their specific impact on firm performance. While the primary objective of any entity is typically to drive economic progress through profit-making and enhancing financial benefits, this objective may conflict with the environmental and social facets of sustainability. Such conflicting priorities could potentially divert managers' attention from serving shareholder interests and maintaining value.

Given that entities operate within resource constraints, they must make trade-offs when allocating resources among competing demands. Increasing value for one set of stakeholders may come at the expense of another. Furthermore, Yu and Zhao (2015) introduced two contrasting viewpoints. The value-creation perspective suggests that embracing sustainability practices can mitigate entity-specific risks, thus leading to improved performance. Conversely, the value-destruction perspective suggests that organizations prioritizing sustainability initiatives may shift focus from profitability, placing stakeholder satisfaction over shareholder interests. These perspectives highlight the need to analyze the individual components of sustainability initiatives and their impacts on corporate performance.

Firms are inherently driven and motivated to economic performance (A. Gupta & N. Gupta, 2020), which encompasses economic sustainability initiatives that focus on the pursuit of economic progress, such as profit-making and enhancing the financial benefits a firm can expect. This involves bolstering the entity's internal capabilities to improve performance (Jan et al., 2022). There is certainty that lies in the direct influence of market evolution on economic performance, which underscores the necessity of integrating corporate sustainability initiatives to enhance competitiveness (Oncioiu et al., 2020). According to Cegarra-Navarro et al. (2016), the economic aspect of sustainable development emphasizes both the influence entities exert on the economic well-being of stakeholders and the broader economic systems in which the firm operates. Their study highlights

that the economic dimension of sustainability results in short-term financial advantages. It was revealed that pursuing the economic aspect of sustainability – together with the production of goods and services the society desires – is essential for achieving higher levels of financial performance.

Environmental sustainability initiatives undertaken by firms have been shown to have a positive effect on financial performance across various studies. Lee et al. (2016) highlight that entities that effectively manage and assess environmental responsibilities alongside economic considerations tend to achieve superior financial performance through systematic environmental management and functional integration of resources committed to the strategic planning process of the firm. The study reveals a positive relationship between environmental performance and return on assets and return on equity. Meanwhile, Miroshnychenko et al. (2017) highlight the significance of an entity's internal green practices, such as pollution prevention and green supply chain management, in driving financial performance through increased efficiency. This study suggests that reducing pollutant emissions enhances internal processes, thereby boosting company profitability. Additionally, external green practices, such as green product development, also contribute to the financial performance of firms. Xie et al. (2019b) highlight that green innovation strategies within firms, particularly green process and product innovation, are means to improve financial performance through gaining stakeholder trust and support, aligning with the interests of external parties beyond mere economic goals. Partalidou et al. (2020) further reinforce these findings, indicating that firms incorporating environmental initiatives into core strategies, such as resource and emission reduction and product innovation, tend to achieve competitive advantage and enhanced financial performance, especially when establishing strong relationships with stakeholders on environmental concerns.

Firms that prioritize social sustainability initiatives demonstrate a commitment to harmonizing diverse stakeholder interests, including those of shareholders, employees, consumers, and the community (Barauskaite & Streimikiene, 2021). This alignment of interests not only fosters goodwill but also contributes to enhanced financial

performance. Okafor et al. (2021) illustrate this phenomenon in the technology sector, where increased spending on social sustainability initiatives results in a positive effect on revenue growth and profitability. Such expenditures are considered essential for guaranteed long-term financial performance, thus positioning the organization toward sustainable growth. Cho et al. (2019) highlight the importance of strategic selection of social sustainability activities, underscoring that while these initiatives generally have a positive impact on financial performance through mitigating stakeholder conflicts and enhancing reputation, not all activities can exhibit significant effects. Thus, entities are encouraged to focus on initiatives that yield measurable results. Similarly, Feng et al. (2022) stress the role of effective implementation of social sustainability practices in enhancing business processes, production quality, and stakeholder support, ultimately contributing to sustainable operational performance. Ali et al. (2020) argue that the significance of social sustainability in shaping stakeholder perceptions and reducing overall costs positively influences financial performance through increased sales, customer satisfaction, and corporate reputation. The study suggests that the integration of social sustainability initiatives into operations not only enhances stakeholder relationships but also contributes to improved financial performance.

The purpose of this study is to highlight the impact of sustainability reporting initiatives (*SRI*) of an entity on its financial performance (*FP*).

The integration of sustainability practices into operational strategies has been shown to have a positive impact on financial performance through various mechanisms, such as stakeholder relationships and operational efficiency. Furthermore, research conducted on different sectors demonstrates the positive association between sustainability initiatives and financial performance, underscoring the importance of aligning economic, environmental, and social considerations in business strategies. While there might be trade-offs and conflicting priorities between the different facets of sustainability, studies suggest that entities can achieve competitive advantage and sustained financial performance by incorporating sustainability initiatives into



their operations, fostering stakeholder engagement. In investigating the impact of a company's sustainability initiatives on its financial performance, this paper hypothesizes that the sustainability initiatives of an entity, represented by the overall sustainability index score, have a positive effect on financial performance. This paper also hypothesizes that the individual dimensions of sustainability initiatives of an entity – economic, environmental, and social – have a positive effect on financial performance.

The study hypotheses are as follows:

- H1: There is a significant positive relationship between an entity's overall integrated sustainability initiatives and financial performance.*
- H2a: There is a significant positive relationship between an entity's economic sustainability initiatives and financial performance.*
- H2b: There is a significant positive relationship between an entity's environmental sustainability initiatives and financial performance.*
- H2c: There is a significant positive relationship between an entity's social sustainability initiatives and financial performance.*

## 2. METHODOLOGY

The basic model to analyze the impact of sustainability reporting initiatives on financial performance for company  $i$  at year  $t$  is as follows:

$$FP_{it} = \beta_0 + \beta_1 SRI(ECO, ENV, SOC)_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 AGE_{it} + \beta_5 OWNST_{it} + Ind_{dum} + Year_{dum} + \varepsilon_{it}, \quad (1)$$

The entity's sustainability reporting initiatives is represented by the sustainability reports published by companies relating to the triple bottom line dimensions of sustainability, namely, economic, environmental, and social, as well as the overall sustainability report treated as a whole (Burhan & Rahmanti, 2012; Ebdane, 2016; Alshehhi et al., 2018; Cantele & Zardini, 2018; Hussain et al., 2018; Laskar, 2019).

Meanwhile, the dependent variable, financial performance, is represented by the entity's measurement of financial performance and profitability using accounting-based metrics, namely, return on assets (ROA), return on equity (ROE), and earnings per share, both basic (BEPS) and diluted (DEPS). Control variables include the entity's size in relation to its total assets, the entity's debt-to-equity ratio to represent leverage, the age of the entity, which refers to the duration of time, in years, since the firm's incorporation, and the percentage of block ownership to represent ownership structure. Additionally, this study considers industry-specific differences and temporal changes through the inclusion of industry and year dummies. Xiao et al. (2018) recommended the use of an industry dummy variable in a study involving multi-industry investigations. Appendix A presents detailed information about the variables.

This study utilized data from 47 listed companies in the Philippines, starting with the calendar year these listed companies were mandated by the Philippine Securities and Exchange Commission to submit sustainability reports as part of their annual submissions, which was 2019, up to all available documents for the year 2021, with a total of 127 firm-year observations (Table 1). Banks and other financial institutions were excluded due to their distinct industry characteristics. The data were hand-collected from the sustainability reports of companies available on their respective websites, submitted sustainability reports to the Philippine Securities and Exchange Commission (SEC) available in the Philippine Stock Exchange (PSE) database, financial statements of companies published on their respective websites, and available financial statements of companies uploaded in the Philippine Stock Exchange database. Should it also be available, integrated annual and sustainability reports published by listed companies in the Philippines were also used for this study.

The aim of the GRI sustainability reporting standards is to provide transparency through sustainability reporting on the actions of a firm toward sustainable development. These standards help a company publicly report and disclose its activities that have a significant impact on the economy, the environment, and society, including the impact of an organization's activities on human rights and

**Table 1.** Sample selection

| <b>Panel A. Distribution by Industry and Year</b>   |             |             |             |              |
|---|-------------|-------------|-------------|--------------|
| <b>Categorization by the Philippine Stock Exchange</b>                                    | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>Total</b> |
| Casinos and Gaming  | 4           | 4           | 4           | 12           |
| Chemicals   | 2           | 2           | 2           | 6            |
| Construction, Infrastructure and Allied Services  | 2           | 3           | 2           | 7            |
| Electricity, Energy, Power and Water  | 5           | 6           | 6           | 17           |
| Food, Beverage, and Tobacco   | 3           | 2           | 4           | 9            |
| Holding Firms   | 7           | 6           | 7           | 20           |
| Information Technology  | 1           | 2           | 2           | 5            |
| Media   | 3           | 3           | 3           | 9            |
| Mining  | 1           | 1           | 1           | 3            |
| Oil   | 1           | 1           | 1           | 3            |
| Property  | 6           | 7           | 7           | 20           |
| Retail  | 1           | 2           | 2           | 5            |
| Telecommunications  | 2           | 2           | 2           | 6            |
| Transportation Services   | 1           | 2           | 2           | 5            |
| <b>Total</b>  | <b>39</b>   | <b>43</b>   | <b>45</b>   | <b>127</b>   |
| <b>Panel B. Sample Selection Process</b>  |             |             |             |              |
| Number of Philippine listed firms with available sustainability reports from 2019 to 2021 |             |             |             | 150          |
| Less: Firm-years with an unavailable ownership structure                                  |             |             |             | (6)          |
| Less: Firm-years of banks and other financial institutions                                |             |             |             | (17)         |
| Final sample, firm-years  |             |             |             | 127          |

how organizations handle these impacts collectively, contributing to organizational accountability (GRI, 2022). While there is an argument that the triple bottom line dimensions of sustainability should be considered aggregately to achieve sound strategic decisions (Alshehhi et al., 2018), investigating sustainability dimensions separately enables a researcher to determine which dimension shows a greater association with an entity's financial performance (Hussain et al., 2016; Brogi & Lagasio, 2019; Cornell & Shapiro, 2021). In line with these arguments, the specific GRI indexes utilized as independent variables are as follows:

- Overall sustainability report of the entity (economic, environmental, social);
- Economic dimension – GRI 200;
- Environmental dimension – GRI 300;
- Social dimension – GRI 400.

The mentioned dimensions are broken down into sub-dimensions, of which these sub-dimensions are further enumerated into disclosure requirement indexes. The reporting framework of the GRI content indexes encourages entities to report all possible aspects of their operations in relation to the required indexes to be reported. The economic dimension includes 17 disclosure indexes grouped into seven sub-dimensions – economic

performance, market presence, indirect economic impacts, procurement practices, anti-corruption, anti-competitive behavior, and tax. Meanwhile, the environmental dimension includes 31 disclosure indexes grouped into seven sub-dimensions – materials, energy, water and effluents, biodiversity, emissions, waste, and supplier environmental assessment. Finally, the social dimension includes 36 disclosure indexes grouped into 17 sub-dimensions – employment, labor and management relations, occupational health and safety, training and education, diversity and equal opportunity, non-discrimination, freedom of association and collective bargaining, child labor, forced or compulsory labor, security practices, rights of indigenous peoples, local communities, supplier social assessment, public policy, customer health and safety, marketing and labeling, and customer privacy (GRI, 2022). Appendix B provides a detailed list of the GRI disclosure indexes.

A manual content analysis technique has been applied to analyze the entity's sustainability reports in line with the reporting standards indexes as set out in GRI. The binary coding system of content analysis has been utilized to measure the entity's reporting index score, in line with Burhan and Rahmanti (2012), Ebdane (2016), Hussain et al. (2016), Hussain et al. (2018), and Laskar (2019).

“1” is assigned when an entity discloses an item in the sustainability report, while “0” is assigned if an entity does not disclose an item in the sustainability report.

To calculate the index score for each dimension, the following formulas were used:

$$\text{Economic dimension index score}(ECO) = \frac{n_{eco}}{k_{eco}}, \quad (2)$$

$$\text{Environmental dimension index score}(ENV) = \frac{n_{env}}{k_{env}}, \quad (3)$$

$$\text{Social dimension index score}(SOC) = \frac{n_{soc}}{k_{soc}}, \quad (4)$$

where  $n$  refers to the number of sub-indexes properly disclosed and reported by the entity in each of the dimensions. On the other hand,  $k$  refers to the total number of sub-indexes that should be disclosed and reported by the entity in each of the dimensions. Meanwhile, the overall sustainability reporting initiative index score, treated in totality, would then be:

$$\text{Sustainability Reporting Initiative index score}(SRI) = \frac{n_{sri}}{k_{sri}}. \quad (5)$$

In order to test the hypotheses, the study conducted random effects generalized least squares (GLS) regression analysis. The fixed effects model was not considered as no coefficients were yielded for all industry dummies, as they are not changed over time.

### 3. RESULTS

Table 2 presents the summary statistics for the dependent, independent, and control variables. Employing winsorization on both the upper and lower 1% tails of the continuous and financial variables in this study was instrumental in mitigating the potential distortionary impact of outliers. Turning to the various proxies of financial performance, the mean values of *ROA*, *ROE*, *BEPS*, and *DEPS* are delineated as 0.0213, 0.3433, 10.7102, and 10.6874, respectively. These figures indicate

that, on average, firms manifest a 2.13% return on assets and a 34.33% return on equity. Furthermore, each ordinary shareholder is attributed to approximately Php 11 (USD 0.20) earnings per share held by outstanding shareholders.

Meanwhile, for the independent variables, the mean value of the total sustainability reporting index score stands at 0.3843, indicative of an average disclosure of approximately 32 sustainability indexes by firms within their sustainability reports out of a total of 84 possible indices. Moreover, the mean values of the individual dimensions, *ECO*, *ENV*, and *SOC* show 0.3224, 0.3726, and 0.4237, respectively. This suggests that, on average, firms in the sample exhibit disclosure of about five economic indices out of 17, 12 environmental indices out of 31, and 15 social indices out of 36 within their sustainability reports. Additionally, the observed range of disclosed indices within the sample, spanning from 0.05 to 0.94, shows considerable diversity in the extent to which Philippine firms engage in sustainability disclosure practices. This variance underscores the multifaceted approaches adopted by entities in presenting their sustainability reports. Nonetheless, it is imperative to acknowledge that the Philippines is still in its nascent stages toward comprehensive sustainability reporting practices.

Figure 1 depicts the average annual sustainability index scores of Philippine listed firms. In the first three years of the implementation of the mandated sustainability report, there exists an upward trend in the total sustainability index score of these entities, as well as in the individual dimensions concerning economic, environmental, and social sustainability initiatives. This highlights the increasing efforts of Philippine firms in their sustainability initiatives, which indicates the commitment of these entities to sustainable operations as demonstrated by their rising adherence with mandated sustainability reporting requirements.

Table 3 delineates the Pearson correlation coefficients that examine the interrelationships among the variables used in the study. Notably, it reveals a significant negative correlation between environmental disclosure indices and a firm's financial performance, as denoted by earnings per share. This finding suggests a potential inverse



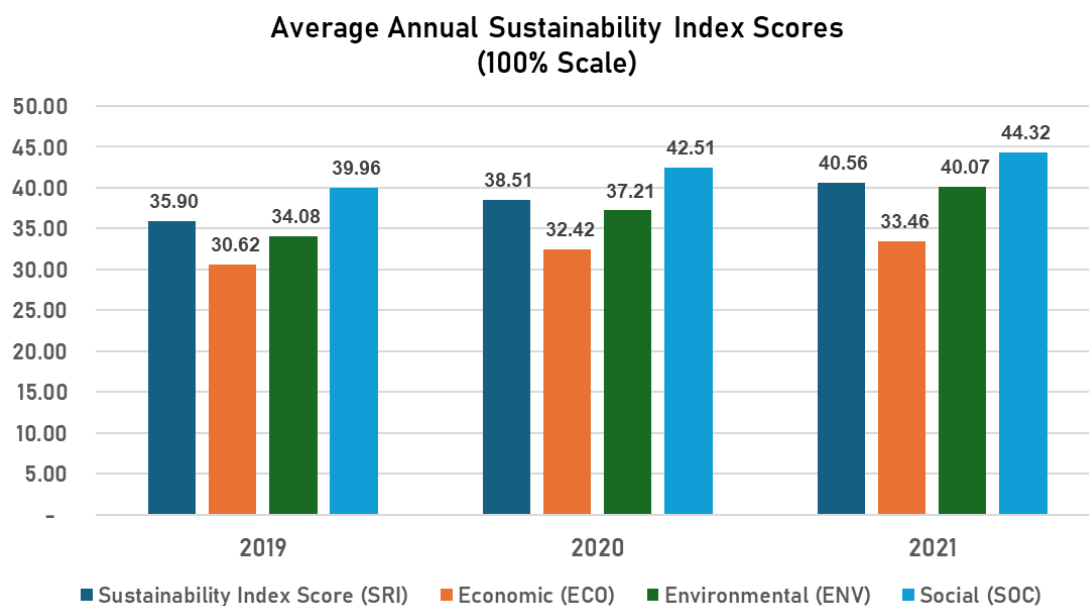
**Table 2.** Descriptive statistics

| Variable | N   | Mean    | SD      | Min      | 25%     | Median  | 75%     | Max      |
|----------|-----|---------|---------|----------|---------|---------|---------|----------|
| ROA      | 127 | 0.0213  | 0.1259  | -1.0159  | 0.0146  | 0.0361  | 0.0597  | 0.3144   |
| ROE      | 127 | 0.3433  | 3.1852  | -1.2013  | 0.0226  | 0.0750  | 0.1411  | 35.8727  |
| BEPS     | 127 | 10.7102 | 31.0244 | -16.3560 | 0.0610  | 0.6300  | 3.4800  | 173.1800 |
| DEPS     | 127 | 10.6874 | 30.9325 | -16.3560 | 0.0610  | 0.6300  | 3.4800  | 172.2500 |
| SRI      | 127 | 0.3843  | 0.1572  | 0.0595   | 0.2857  | 0.3929  | 0.4762  | 0.9048   |
| ECO      | 127 | 0.3224  | 0.1620  | 0.0588   | 0.1765  | 0.3529  | 0.3529  | 0.9412   |
| ENV      | 127 | 0.3726  | 0.2023  | 0.0000   | 0.2258  | 0.3871  | 0.5161  | 0.9355   |
| SOC      | 127 | 0.4237  | 0.1738  | 0.0556   | 0.3056  | 0.4444  | 0.5278  | 0.9444   |
| SIZE     | 127 | 24.9610 | 1.8314  | 20.5668  | 23.7881 | 25.0490 | 26.4859 | 27.9716  |
| LEV      | 127 | 2.1237  | 10.0396 | -4.3462  | 0.5458  | 1.0103  | 1.7090  | 113.7275 |
| AGE      | 127 | 45.2992 | 28.0225 | 4.0000   | 22.0000 | 38.0000 | 63.0000 | 103.0000 |
| OWNST    | 127 | 0.5134  | 0.1400  | 0.2347   | 0.4229  | 0.5024  | 0.6292  | 0.8457   |

Note: All continuous variables are winsorized at 1% and 99% levels. Variable definitions are presented in Appendix A.

association between environmental sustainability endeavors and the profitability level of firms. However, it is important to underscore that these correlation coefficients, while informative, are not fully conclusive. This initial scrutiny does not ascertain causative linkages and fails to fully encapsulate the intricate dynamics and interplay between the sustainability reporting initiatives of Philippine firms and their financial performance. Consequently, the study further presents the regression findings, incorporating the entirety of the analytical model. This helps usher in a deeper understanding of the intricate interrelations between an entity's sustainability reporting initiatives and its financial performance.

To assess *H1*, *H2a*, *H2b*, and *H2c*, the regression analyses are instrumental in elucidating the impact of the total sustainability index score, *SRI*, as well as each distinct sustainability dimension, *ECO*, *ENV*, and *SOC* on the various proxies of financial performance – *ROA*, *ROE*, *BEPS*, and *DEPS*. Tables 4 and 5 provide regression analyses focusing on the association between the sustainability dimensions and *ROA* and *ROE*. A noteworthy outcome is a coefficient linked to the *SRI* variable, standing at  $-0.4690$ , attaining statistical significance at the 10% level and demonstrating a negative direction concerning *ROE*. This observed negative coefficient suggests that entities exhibiting heightened involvement in their sustainabil-

**Figure 1.** Average annual Sustainability Index scores of Philippine listed firms

**Table 3.** Pearson correlation

| Variables  | (1)                | (2)                | (3)                | (4)                | (5)                | (6)                | (7)                | (8)                | (9)                | (10)               | (11)               | (12)   |
|------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------|
| (1) ROA    | 1.0000             | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —      |
| (2) ROE    | 0.2531<br>(0.004)  | 1.0000             | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —      |
| (3) BEPS   | 0.1120<br>(0.210)  | −0.0013<br>(0.988) | 1.0000             | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —      |
| (4) DEPS   | 0.1121<br>(0.210)  | −0.0013<br>(0.989) | 1.0000<br>(0.000)  | 1.0000             | —                  | —                  | —                  | —                  | —                  | —                  | —                  | —      |
| (5) SRI    | 0.0346<br>(0.699)  | 0.0323<br>(0.718)  | −0.0445<br>(0.620) | −0.0442<br>(0.622) | 1.0000             | —                  | —                  | —                  | —                  | —                  | —                  | —      |
| (6) ECO    | 0.1148<br>(0.199)  | 0.0223<br>(0.803)  | 0.0893<br>(0.318)  | 0.0899<br>(0.315)  | 0.7941<br>(0.000)  | 1.0000             | —                  | —                  | —                  | —                  | —                  | —      |
| (7) ENV    | −0.0149<br>(0.868) | 0.0168<br>(0.851)  | −0.1472<br>(0.099) | −0.1469<br>(0.099) | 0.8516<br>(0.000)  | 0.4822<br>(0.000)  | 1.0000             | —                  | —                  | —                  | —                  | —      |
| (8) SOC    | 0.0375<br>(0.676)  | 0.0415<br>(0.643)  | 0.0144<br>(0.872)  | 0.0145<br>(0.871)  | 0.9075<br>(0.000)  | 0.7526<br>(0.000)  | 0.5828<br>(0.000)  | 1.0000             | —                  | —                  | —                  | —      |
| (9) SIZE   | 0.2434<br>(0.006)  | 0.0703<br>(0.432)  | 0.3748<br>(0.000)  | 0.3752<br>(0.000)  | 0.1063<br>(0.234)  | 0.0567<br>(0.527)  | 0.1647<br>(0.064)  | 0.0343<br>(0.702)  | 1.0000             | —                  | —                  | —      |
| (10) LEV   | 0.2208<br>(0.013)  | 0.9910<br>(0.000)  | 0.0283<br>(0.752)  | 0.0284<br>(0.752)  | 0.0524<br>(0.559)  | 0.0423<br>(0.637)  | 0.0311<br>(0.728)  | 0.0607<br>(0.498)  | 0.0923<br>(0.302)  | 1.0000             | —                  | —      |
| (11) AGE   | 0.0077<br>(0.931)  | −0.1039<br>(0.245) | 0.3001<br>(0.001)  | 0.3001<br>(0.001)  | −0.1791<br>(0.044) | −0.1344<br>(0.132) | −0.1255<br>(0.160) | −0.1930<br>(0.030) | −0.0338<br>(0.706) | −0.0909<br>(0.309) | 1.0000             | —      |
| (12) OWNST | 0.0985<br>(0.271)  | 0.1692<br>(0.057)  | −0.1582<br>(0.076) | −0.1584<br>(0.075) | 0.2079<br>(0.019)  | 0.1179<br>(0.187)  | 0.1322<br>(0.138)  | 0.2544<br>(0.004)  | −0.0914<br>(0.307) | 0.1370<br>(0.125)  | −0.2018<br>(0.023) | 1.0000 |

Note: All continuous variables are winsorized at 1% and 99% levels. The numbers below the coefficients indicate the *p*-value. Variable definitions are presented in Appendix A.

ity endeavors tend to prioritize social and environmental objectives over maximizing the firm's short-term profitability. Therefore, this result does not correspond with *H1*. This study confirms that there is a significant negative relationship between an entity's overall integrated sustainability initiatives and financial performance for Philippine listed entities.

In addition, the findings reveal that *ECO* exhibits a statistically significant positive relationship with *ROA* at the 5% level. This highlights the notion that companies prioritizing economic sustainability endeavors tend to realize enhanced returns on assets. Conversely, *SOC* demonstrates a statistically significant negative correlation with *ROE* at the 5% level. This intriguing phenomenon suggests that entities placing emphasis on social sustainability initiatives may encounter downward pressure on immediate profitability metrics.

Tables 6, 7, and 8 depict the results of the regression analyses examining the relationship between the firm's sustainability initiatives, its earnings per

share, and the full model regressions on all proxies of financial performance. Together with basic earnings per share, diluted earnings per share was included in the analysis to accommodate the potential impact of dilutive securities on the firm's earnings per share. Consistent with the findings from the regression on *ROA* and *ROE*, the regressions conducted on both *BEPS* and *DEPS* reveal a statistically significant positive relationship between a firm's economic sustainability initiatives and earnings per share at the 10% level in the full model regression. This indicates that *ECO* has indeed a significant positive relationship with financial performance, highlighting the potential for increased returns associated with firms emphasizing economic sustainability endeavors. Moreover, regressions indicate a statistically significant negative relationship between *SOC* and earnings per share at the 1% level, displaying the opposite directions on the effect on profitability contingent upon the emphasis placed by a firm on particular sustainability initiatives, suggesting a trade-off between investments in social sustainability and profitability focus within firms.

**Table 4.** Panel regression results on ROA

| Variable                  | Dependent Variable: Return on Assets (ROA) |                     |                     |                     |
|---------------------------|--|---------------------|---------------------|---------------------|
|                           | (1)  | (2)                 | (3)                 | (4)                 |
| Intercept                 | −0.3840<br>(−0.95)                         | −0.3880<br>(−0.98)  | −0.4290<br>(−1.11)  | −0.3770<br>(−0.93)  |
| SRI                       | −0.0344<br>(−0.69)                         | —                   | —                   | —                   |
| ECO                       | —  | 0.0573**<br>(2.03)  | —                   | —                   |
| ENV                       | —  | —                   | −0.0709<br>(−1.24)  | —                   |
| SOC                       | —  | —                   | —                   | −0.0234<br>(−0.65)  |
| SIZE                      | 0.0163<br>(1.14)                           | 0.0149<br>(1.07)    | 0.0185<br>(1.33)    | 0.0159<br>(1.09)    |
| LEV                       | 0.0038***<br>(5.97)                        | 0.0038***<br>(6.18) | 0.0038***<br>(6.24) | 0.0038***<br>(5.92) |
| AGE                       | −0.0007<br>(−1.48)                         | −0.0006<br>(−1.39)  | −0.0008<br>(−1.54)  | −0.0007<br>(−1.50)  |
| OWNST                     | −0.1510*<br>(−1.73)                        | −0.1520*<br>(−1.74) | −0.1590*<br>(−1.86) | −0.1480*<br>(−1.68) |
| # Obs.                    | 127  | 127                 | 127                 | 127                 |
| Adjusted R <sup>2</sup>   | 0.3996                                     | 0.4037              | 0.4078              | 0.3986              |
| Industry and year dummies | Included                                   | Included            | Included            | Included            |

Note: Numbers in parentheses represent z-values. \*\*\*, \*\*, and \* represent significance at the 1, 5, and 10% levels, respectively. All continuous variables are winsorized at 1% and 99% levels. Variable definitions are presented in Appendix A.

**Table 5.** Panel regression results on ROE

| Variable                  | Dependent Variable: Return on Equity (ROE) |                       |                       |                       |
|---------------------------|--|-----------------------|-----------------------|-----------------------|
|                           | (1)  | (2)                   | (3)                   | (4)                   |
| Intercept                 | −0.8140<br>(−0.34)                         | −0.7200<br>(−0.30)    | −0.7970<br>(−0.34)    | −0.7080<br>(−0.30)    |
| SRI                       | −0.4690*<br>(−1.68)                        | —                     | —                     | —                     |
| ECO                       | —  | −0.3060<br>(−1.38)    | —                     | —                     |
| ENV                       | —  | —                     | −0.1210<br>(−0.64)    | —                     |
| SOC                       | —  | —                     | —                     | −0.5250**<br>(−2.03)  |
| SIZE                      | 0.0520<br>(0.67)                           | 0.0444<br>(0.56)      | 0.0447<br>(0.58)      | 0.0506<br>(0.65)      |
| LEV                       | 0.2980***<br>(106.01)                      | 0.2980***<br>(106.80) | 0.2980***<br>(104.60) | 0.2980***<br>(108.20) |
| AGE                       | 0.0021<br>(0.58)                           | 0.0022<br>(0.63)      | 0.0024<br>(0.67)      | 0.0019<br>(0.56)      |
| OWNST                     | 0.5880<br>(1.57)                           | 0.6160*<br>(1.65)     | 0.6000<br>(1.53)      | 0.6100*<br>(1.68)     |
| # Obs.                    | 127  | 127                   | 127                   | 127                   |
| Adjusted R <sup>2</sup>   | 0.9855                                     | 0.9852                | 0.9851                | 0.9856                |
| Industry and year dummies | Included                                   | Included              | Included              | Included              |

Note: Numbers in parentheses represent z-values. \*\*\*, \*\*, and \* represent significance at the 1, 5, and 10% levels, respectively. All continuous variables are winsorized at 1% and 99% levels. Variable definitions are presented in Appendix A.

**Table 6.** Panel regression results on BEPS

| Variable                  | Dependent Variable: Basic Earnings Per Share (BEPS) |                     |                     |                     |
|---------------------------|---|---------------------|---------------------|---------------------|
|                           | (1)   | (2)                 | (3)                 | (4)                 |
| Intercept                 | −32.0000<br>(−1.04)                                 | −32.1200<br>(−1.04) | −34.0000<br>(−1.17) | −29.8100<br>(−0.96) |
| SRI                       | −6.2870<br>(−1.10)                                  | —                   | —                   | —                   |
| ECO                       | —   | 4.5340<br>(0.79)    | —                   | —                   |
| ENV                       | —   | —                   | −3.9650<br>(−0.90)  | —                   |
| SOC                       | —   | —                   | —                   | −8.8640<br>(−1.53)  |
| SIZE                      | 1.1390<br>(1.07)                                    | 0.9620<br>(0.87)    | 1.1690<br>(1.21)    | 1.1250<br>(1.03)    |
| LEV                       | 0.1000**<br>(2.20)                                  | 0.0946**<br>(1.98)  | 0.0996**<br>(2.22)  | 0.1000**<br>(2.17)  |
| AGE                       | 0.0588<br>(0.88)                                    | 0.0703<br>(1.10)    | 0.0621<br>(0.93)    | 0.0549<br>(0.84)    |
| OWNST                     | 4.2580<br>(0.65)                                    | 4.5690<br>(0.70)    | 3.8910<br>(0.62)    | 4.7490<br>(0.74)    |
| # Obs.                    | 127   | 127                 | 127                 | 127                 |
| Adjusted R <sup>2</sup>   | 0.8622  | 0.8565              | 0.8619              | 0.8619              |
| Industry and year dummies | Included  | Included            | Included            | Included            |

Note: Numbers in parentheses represent z-values. \*\*\*, \*\*, and \* represent significance at the 1, 5, and 10% levels, respectively. All continuous variables are winsorized at 1% and 99% levels. Variable definitions are presented in Appendix A.

**Table 7.** Panel regression results on DEPS

| Variable                  | Dependent Variable: Diluted Earnings Per Share (DEPS) |                     |                     |                     |
|---------------------------|---|---------------------|---------------------|---------------------|
|                           | (1)   | (2)                 | (3)                 | (4)                 |
| Intercept                 | −31.9200<br>(−1.04)                                   | −32.0700<br>(−1.04) | −33.8900<br>(−1.17) | −29.7500<br>(−0.96) |
| SRI                       | −6.2020<br>(−1.09)                                    | —                   | —                   | —                   |
| ECO                       | —   | 4.5870<br>(0.80)    | —                   | —                   |
| ENV                       | —   | —                   | −3.9120<br>(−0.89)  | —                   |
| SOC                       | —   | —                   | —                   | −8.8010<br>(−1.53)  |
| SIZE                      | 1.1350<br>(1.07)                                      | 0.9600<br>(0.87)    | 1.1650<br>(1.21)    | 1.1220<br>(1.03)    |
| LEV                       | 0.1000**<br>(2.20)                                    | 0.0946**<br>(1.98)  | 0.0995**<br>(2.22)  | 0.1000**<br>(2.17)  |
| AGE                       | 0.0588<br>(0.88)                                      | 0.0703<br>(1.10)    | 0.0621<br>(0.93)    | 0.0549<br>(0.84)    |
| OWNST                     | 4.2280<br>(0.64)                                      | 4.5340<br>(0.70)    | 3.8660<br>(0.61)    | 4.7170<br>(0.73)    |
| # Obs.                    | 127   | 127                 | 127                 | 127                 |
| Adjusted R <sup>2</sup>   | 0.8625  | 0.8568              | 0.8621              | 0.8621              |
| Industry and year dummies | Included  | Included            | Included            | Included            |

Note: Numbers in parentheses represent z-values. \*\*\*, \*\*, and \* represent significance at the 1, 5, and 10% levels, respectively. All continuous variables are winsorized at 1% and 99% levels. Variable definitions are presented in Appendix A.

**Table 8.** Full model regression on all proxies of financial performance

| Variable                  | Dependent Variable: Financial Performance (FP) |                       |                        |                        |
|---------------------------|--|-----------------------|------------------------|------------------------|
|                           | ROA  | ROE                   | BEPS                   | DEPS                   |
| <i>Intercept</i>          | -0.4910<br>(-1.33)                             | -0.5610<br>(-0.23)    | -34.1700<br>(-1.24)    | -34.0900<br>(-1.23)    |
| ECO                       | 0.1590***<br>(3.11)                            | -0.1460<br>(-0.60)    | 12.6200*<br>(1.72)     | 12.6500*<br>(1.73)     |
| ENV                       | -0.1100<br>(-1.53)                             | 0.1720<br>(0.73)      | -2.4180<br>(-0.42)     | -2.3810<br>(-0.41)     |
| SOC                       | -0.0676<br>(-1.09)                             | -0.5530**<br>(-2.04)  | -14.1600***<br>(-2.65) | -14.1400***<br>(-2.65) |
| SIZE                      | 0.0201<br>(1.50)                               | 0.0448<br>(0.56)      | 1.2560<br>(1.32)       | 1.2520<br>(1.32)       |
| LEV                       | 0.0038***<br>(6.91)                            | 0.2980***<br>(108.77) | 0.0916**<br>(1.97)     | 0.0916**<br>(1.97)     |
| AGE                       | -0.0007<br>(-1.51)                             | 0.0018<br>(0.55)      | 0.0615<br>(0.98)       | 0.0615<br>(0.98)       |
| OWNST                     | -0.1510*<br>(-1.92)                            | 0.6410*<br>(1.70)     | 4.3750<br>(0.77)       | 4.3510<br>(0.77)       |
| # Obs.                    | 127  | 127                   | 127                    | 127                    |
| Adjusted R <sup>2</sup>   | 0.4286   | 0.9856                | 0.8601                 | 0.8603                 |
| Industry and year dummies | Included                                       | Included              | Included               | Included               |

Note: Numbers in parentheses represent z-values. \*\*\*, \*\*, and \* represent significance at the 1, 5, and 10% levels, respectively. All continuous variables are winsorized at 1% and 99% levels. Variable definitions are presented in Appendix A.

Notably, no significant relationship was found between environmental sustainability initiatives and financial performance across all regression models. This implies that the environmental efforts undertaken by firms may not have immediate or direct impacts on financial performance within the studied samples, potentially overshadowed by other contextual factors, such as industry dynamics or market conditions. Lastly, it is noteworthy to underscore that the control variable *LEV* consistently demonstrates a significant positive association with financial performance in all regression analyses, indicating the influence between the relationship of debt and equity on the profitability of Philippine listed firms.

Therefore, the results indicate a significant positive relationship between an entity's economic sustainability initiatives and financial performance, corresponding to *H2a*. Meanwhile, there is no significant relationship between an entity's environmental sustainability initiatives and financial performance, which opposes *H2b*. Lastly, results confirm a significant negative relationship between a firm's social sustainability initiatives and financial performance, which does not correspond with *H2c*.

## 4. DISCUSSION

The findings of this study reveal a contrasting relationship between the totality of the integrated dimensions of sustainability initiatives and financial performance, shedding light on the complex dynamics at play within firms. First, contrary to the results of Cantele and Zardini (2018), Jung et al. (2018), Hussain et al. (2018), and Xie et al. (2019a), heightened involvement in sustainability endeavors is associated with a negative direction in financial performance, represented by *ROE*. There is an increasing expectation for initiatives for environmental and social responsibility among Philippine entities, which urges these firms to report their sustainability endeavors and their resultant impacts through communication channels. It is also imperative to recognize that the obligation of Philippine firms to prioritize public interest is not simply a discretionary action but a legal mandate. The allocation of resources toward sustainability initiatives may exert pressure on the profitability efforts of firms in the short run. Given the combined influence of the aforementioned factors, highlighting sustainability goals can affect short-term profitability. Thus, the negative association between sustainability initiatives and financial



performance might be attributed to the increased costs of actively pursuing sustainability endeavors while experiencing transitional disruptions as Philippine firms adapt operations that anchor sustainability as part of day-to-day operations.

As aligned with Cegarra-Navarro et al. (2016), there exists a statistically significant positive relationship between economic sustainability initiatives and financial performance, as represented by *ROA*. This suggests that entities focusing on economic sustainability initiatives tend to concentrate on the pursuit of economic advancement, which includes profit maximization. Highlighting these initiatives in an entity fosters efficient resource allocation, strategic alignment, and revenue enhancement. Thus, firms can optimize financial performance by integrating economic sustainability initiatives into their operational frameworks. Moreover, as part of economic sustainability initiatives, this relationship is supported by the transparent distribution of economic value among stakeholders and the support for local suppliers to enhance economic exclusivity. Additionally, with *BEPS* and *DEPS* as proxies of financial performance, a significant positive relationship exists between them and economic sustainability initiatives. These further highlight the potential for increased earnings for shareholders associated with firms emphasizing economic sustainability initiatives. This conforms with the value-creation perspective of sustainability, which suggests that embracing sustainability practices can mitigate entity-specific risks, leading to improved performance.

Conversely, the analysis demonstrates a significant negative correlation between social sustainability initiatives and financial performance, specifically *ROE*, *BEPS*, and *DEPS*. These findings oppose Okafor et al. (2021), Cho et al. (2019), and Ali et al. (2020). As mentioned, entities emphasizing social sustainability initiatives may encounter downward pressure on immediate profitability. These social sustainability initiatives, while crucial for long-term stakeholder relationships and reputation, may divert resources away from short-term profitability goals. Thus, it is a call for entities to adopt a holistic approach to decision-making that balances both sustainability considerations and normal operations. This conforms to the value-

destruction perspective of sustainability, which suggests that organizations prioritizing sustainability initiatives may shift focus from profitability, placing stakeholder satisfaction over shareholder interests.

Detailing the relationship between sustainability dimensions and the different proxies of financial performance provides practical implications for investors and shareholders. First, as this study found a positive relationship between economic sustainability initiatives and *ROA*, *BEPS*, and *DEPS*, this can imply that Philippine firms that demonstrate robust economic sustainability practices can generate higher returns on assets that result in increased profitability and potential dividends, paving the way for attracting investors seeking favorable returns. In addition, the study highlights the negative impact of social sustainability initiatives with *ROE*, *BEPS*, and *DEPS* that carry implications for shareholders. If Philippine entities prioritize broader social responsibility efforts, it may influence profitability in the short run but attract socially conscious investors in the long run. These insights can aid investors and shareholders in decision-making.

Lastly, the study shows no significant association between environmental sustainability initiatives and financial performance across all regression models. This implies that the environmental efforts undertaken by firms may not have an immediate or direct impact on financial performance within the studied samples. The Environmental Performance Index (EPI), conducted by the Yale University Center for Environmental Law and Policy, assesses nations worldwide on their sustainability efforts in terms of climate change performance, environmental health, and ecosystem vitality (EPI, 2022). According to the latest evaluation, the Philippines ranked low in terms of environmental sustainability, placing 158th out of 180 countries assessed. Poor waste management, deforestation, and air pollution are the significant factors contributing to environmental issues of the country. This suggests that the financial benefits of environmental sustainability efforts may be more nuanced in Philippine firms and may require a longer timeframe or broader contextual analysis to fully elucidate their impact on financial performance.

## CONCLUSION

In the pursuit of understanding the intricate relationship surrounding sustainability initiatives and financial performance, this study has uncovered numerous insights that helped one understand the complexities and dynamics of Philippine listed firms. Contrary to prevailing outcomes, this study reveals a contrasting relationship between the totality of the sustainability initiatives and the financial performance of firms. Meanwhile, there exists a positive relationship between economic sustainability and financial performance, alongside a negative association between social sustainability initiatives and financial performance. This study found no significant association with environmental sustainability, which calls for further research in exploring the long-term financial benefits of environmental sustainability efforts and their broader contextual implications.

By uncovering the different aspects of sustainability initiatives and the financial performance of Philippine firms, this study equips industry practitioners with valuable insights into the synergies inherent in balancing sustainability objectives and financial goals. Additionally, by underscoring the complex interplay between sustainability and corporate performance, regulators and standard-setting bodies can design more effective frameworks in assessing an entity's sustainability efforts and to better address stakeholder needs. Furthermore, this study raises awareness among investors, consumers, and the general community about the significance of sustainability initiatives of firms, fostering transparency and accountability in business practices for a more sustainable future.

While this study pioneers an investigation into the nascent stages of sustainability reporting in the Philippines, several limitations warrant consideration. First, the utilization of the new sustainability guidelines inherently confines the depth of analysis. Additionally, the three-year period covered in this study that focused on the short-term profitability of firms may not sufficiently capture the longer-term effects of sustainability initiatives. Furthermore, relying on a limited sample size due to data availability may limit the applicability of the findings to a wider range of Philippine listed entities. Moving forward, it is recommended that future research endeavors in the Philippines extend beyond the confines of short-term profitability, expand the duration of the study, and broaden the sample size, embracing a more expansive scope to unravel the intricate dynamics of sustainability in the Philippine context.

In conclusion, this study provides informative insights into the interplay between sustainability and corporate performance, laying the groundwork for future research and the evolution of comprehensive sustainability disclosure standards. By shedding light on the dynamics between sustainability initiatives and financial outcomes, the findings of this study empower firms to balance economic success with environmental preservation and societal well-being, fostering sustainable value creation for all stakeholders.

## AUTHOR CONTRIBUTIONS

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## APPENDIX A

**Table A1.** Variable definition

| Variable   | Definition  |
|--|---|
| <b>Dependent Variables: Financial Performance (FP)</b> |   |
| ROA  | <i>Return on Assets.</i> Ratio of net income and total assets   |
| ROE  | <i>Return on Equity.</i> Ratio of net income and total shareholders' equity   |
| BEPS   | <i>Basic Earnings Per Share.</i> Ratio of net income to ordinary shareholders and the weighted average number of ordinary shares outstanding  |
| DEPS   | <i>Diluted Earnings Per Share.</i> Ratio of net income to ordinary shareholders and the weighted average number of ordinary shares outstanding, adjusted for potentially dilutive items   |
| <b>Independent and Control Variables</b>               |   |
| SRI  | <i>Sustainability Reporting Index Score.</i> Overall total of economic, environmental, and social index score. 1 is given on each item of disclosure, otherwise 0. The score is divided by the maximum number of sub-indexes  |
| ECO  | <i>Economic Index Score.</i> Total score of disclosures pertaining to the economic dimension of sustainability reporting. 1 is given on each item of disclosure, otherwise 0. The score is divided by the maximum number of economic dimension sub-indexes                |
| ENV  | <i>Environmental Index Score.</i> Total score of disclosures pertaining to the environmental dimension of sustainability reporting. 1 is given on each item of disclosure, otherwise 0. The score is divided by the maximum number of environmental dimension sub-indexes |
| SOC  | <i>Social Index Score.</i> Total score of disclosures pertaining to the social dimension of sustainability reporting. 1 is given on each item of disclosure, otherwise 0. The score is divided by the maximum number of social dimension sub-indexes                      |
| SIZE   | <i>Firm Size.</i> Total assets at its natural logarithm   |
| LEV  | <i>Leverage.</i> Representing the entity's capital structure, calculated as the ratio of total liabilities and total shareholders' equity   |
| AGE  | <i>Firm Age.</i> Number of years of a company's incorporation   |
| OWNST  | <i>Ownership Structure.</i> Percentage of block ownership held by the major stockholder   |
| IndDum   | <i>Industry Dummy.</i> Control variable for industry categorization to account for industry-specific variations   |
| YearDum  | <i>Year Dummy.</i> Control variable for year representation to account for temporal changes in between years of the study   |

## APPENDIX B

**Table B1.** Global Reporting Initiative (GRI) disclosure content indexes

| <b>Economic Dimension (GRI 200 series)</b> |       |   |
|--|-------|---|
| GRI 201: Economic Performance              | 201-1 | Direct economic value generated and distributed                                 |
|  | 201-2 | Financial implications and other risks and opportunities due to climate change  |
|  | 201-3 | Defined benefit plan obligations and other retirement plans                     |
|  | 201-4 | Financial assistance received from the government                               |
| GRI 202: Market Presence                   | 202-1 | Ratios of standard entry-level wage by gender compared to local minimum wage    |
|  | 202-2 | Proportion of senior management hired from the local community                  |
| GRI 203: Indirect Economic Impacts         | 203-1 | Infrastructure investments and services supported                               |
|  | 203-2 | Significant indirect economic impacts   |
| GRI 204: Procurement Practices             | 204-1 | Proportion of spending on local suppliers                                       |
| GRI 205: Anti-corruption                   | 205-1 | Operations assessed for risks related to corruption                             |
|  | 205-2 | Communication and training about anti-corruption policies and procedures        |
|  | 205-3 | Confirmed incidents of corruption and actions taken                             |
| GRI 206: Anti-competitive Behavior         | 206-1 | Legal actions for anti-competitive behavior, anti-trust, and monopoly practices |
| GRI 207: Tax                               | 207-1 | Approach to tax   |
|  | 207-2 | Tax governance, control, and risk management                                    |
|  | 207-3 | Stakeholder engagement and management of concerns related to tax                |
|  | 207-4 | Country-by-country reporting  |



**Table B1 (cont.).** Global Reporting Initiative (GRI) disclosure content indexes

| <b>Environmental Dimension (GRI 300 series)</b> |        |   |
|---|--------|---|
| GRI 301: Materials                              | 301-1  | Materials used by weight or volume  |
|   | 301-2  | Recycled input materials used   |
|   | 301-3  | Reclaimed products and their packaging materials  |
| GRI 302: Energy                                 | 302-1  | Energy consumption within the organization  |
|   | 302-2  | Energy consumption outside of the organization  |
|   | 302-3  | Energy intensity  |
|   | 302-4  | Reduction of energy consumption   |
|   | 302-5  | Reductions in energy requirements of products and services  |
| GRI 303: Water and Effluents                    | 303-1  | Interactions with water as a shared resource  |
|   | 303-2  | Management of water discharge-related impacts   |
|   | 303-3  | Water withdrawal  |
|   | 303-4  | Water discharge   |
|   | 303-5  | Water consumption   |
| GRI 304: Biodiversity                           | 304-1  | Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas |
|   | 304-2  | Significant impacts of activities, products, and services on biodiversity   |
|   | 304-3  | Habitats protected or restored  |
|   | 304-4  | IUCN Red List species and National Conservation List species with habitats in areas affected by operations                                |
| GRI 305: Emissions                              | 305-1  | Direct (Scope 1) GHG emissions  |
|   | 305-2  | Energy indirect (Scope 2) GHG emissions   |
|   | 305-3  | Other indirect (Scope 3) GHG emissions  |
|   | 305-4  | GHG emissions intensity   |
|   | 305-5  | Reduction of GHG emissions  |
|   | 305-6  | Emissions of ozone-depleting substances (ODS)   |
|   | 305-7  | Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions   |
| GRI 306: Waste                                  | 306-1  | Waste generation and significant waste-related impacts  |
|   | 306-2  | Management of significant waste-related impacts   |
|   | 306-3  | Waste generated   |
|   | 306-4  | Waste diverted from disposal  |
|   | 306-5  | Waste directed to disposal  |
| GRI 308: Supplier Environmental Assessment      | 308-1  | New suppliers that were screened using environmental criteria   |
|   | 308-2  | Negative environmental impacts in the supply chain and actions taken  |
| <b>Social Dimension (GRI 400 series)</b>        |        |   |
| GRI 401: Employment                             | 401-1  | New employee hires and employee turnover  |
|   | 401-2  | Benefits provided to full-time employees that are not provided to temporary or part-time employees  |
|   | 401-3  | Parental leave  |
| GRI 402: Labor/ Management Relations            | 402-1  | Minimum notice periods regarding operational changes  |
| GRI 403: Occupational Health and Safety         | 403-1  | Occupational health and safety management system  |
|   | 403-2  | Hazard identification, risk assessment, and incident investigation  |
|   | 403-3  | Occupational health services  |
|   | 403-4  | Worker participation, consultation, and communication on occupational health and safety   |
|   | 403-5  | Worker training on occupational health and safety   |
|   | 403-6  | Promotion of worker health  |
|   | 403-7  | Prevention and mitigation of occupational health and safety impacts directly linked by business relationships                             |
|   | 403-8  | Workers covered by an occupational health and safety management system  |
|   | 403-9  | Work-related injuries   |
|   | 403-10 | Work-related ill health   |
| GRI 404: Training and Education                 | 404-1  | Average hours of training per year per employee   |
|   | 404-2  | Programs for upgrading employee skills and transition assistance programs   |
|   | 404-3  | Percentage of employees receiving regular performance and career development reviews  |

**Table B1 (cont.).** Global Reporting Initiative (GRI) disclosure content indexes

| <b>Social Dimension (GRI 400 series)</b>                  |       |  |
|---|-------|--|
| GRI 405: Diversity and Equal Opportunity                  | 405-1 | Diversity of governance bodies and employees   |
|   | 405-2 | Ratio of basic salary and remuneration of women to men   |
| GRI 406: Non-discrimination                               | 406-1 | Incidents of discrimination and corrective actions taken   |
| GRI 407: Freedom of Association and Collective Bargaining | 407-1 | Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk |
| GRI 408: Child Labor                                      | 408-1 | Operations and suppliers at significant risk for incidents of child labor                                      |
| GRI 409: Forced or Compulsory Labor                       | 409-1 | Operations and suppliers at significant risk for incidents of forced or compulsory labor                       |
| GRI 410: Security Practices                               | 410-1 | Security personnel trained in human rights policies or procedures  |
| GRI 411: Rights of Indigenous Peoples                     | 411-1 | Incidents of violations involving the rights of indigenous peoples   |
| GRI 413: Local Communities                                | 413-1 | Operations with local community engagement, impact assessments, and development programs                       |
|   | 413-2 | Operations with significant actual and potential negative impacts on local communities                         |
| GRI 414: Supplier Social Assessment                       | 414-1 | New suppliers that were screened using social criteria   |
|   | 414-2 | Negative social impacts in the supply chain and actions taken  |
| GRI 415: Public Policy                                    | 415-1 | Political contributions  |
| GRI 416: Customer Health and Safety                       | 416-1 | Assessment of the health and safety impacts of product and service categories                                  |
|   | 416-2 | Incidents of non-compliance concerning the health and safety impacts of products and services                  |
| GRI 417: Marketing and Labeling                           | 417-1 | Requirements for product and service information and labeling  |
|   | 417-2 | Incidents of non-compliance concerning product and service information and labeling                            |
|   | 417-3 | Incidents of non-compliance concerning marketing communications  |
| GRI 418: Customer Privacy                                 | 418-1 | Substantiated complaints concerning breaches of customer privacy and losses of customer data                   |