Does Sustainability Enhance Profitability in Family Businesses?

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Abstract

This study examines the impact of Environmental, Social, and Governance (ESG) practices and Social Contribution Value Per Share (SCVPS) on the financial performance of publicly listed family businesses in Taiwan. Using public data from the Taiwan Economic Journal (TEJ) covering 2016–2023, the study employs empirical models to assess their relationship with Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS). The results show that ESG and SCVPS positively influence financial performance. However, family businesses do not necessarily affect financial performance on their own. When interaction terms are considered, family businesses have a positive impact on financial performance, but they diminish the positive effects of ESG and SCVPS. These findings highlight the complex role of family ownership in shaping the financial benefits of sustainability practices.

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1. Introduction

Family businesses play a crucial role in global economic stability, especially in East Asia and emerging markets. With their long-term orientation and conservative financial strategies, these businesses often demonstrate resilience during economic downturns. However, succession can be challenging, as it may lead to shifts in governance and management styles that disrupt operations. Research shows that financial performance often declines during leadership transitions due to uncertainty and potential conflicts within the family (Bennedsen et al., 2007). Balancing family control with professional management is another critical issue, which can create tensions between family members and non-family executives. Successful succession is essential not only for business continuity but also for regional economic stability. Structured succession planning—such as the gradual integration of the next generation and the involvement of external advisors—greatly improves the likelihood of a successful transition (Amore et al., 2011). Moreover, focusing on family entrepreneurial orientation can further enhance long-term sustainability and economic contributions (Zellweger et al., 2012). Ultimately, well-managed family succession ensures that these businesses continue to contribute to economic development.

As global attention to sustainable development grows, the importance of sustainability has become increasingly evident. Sustainability practice help companies mitigate risks, enhance their reputation, and build stronger relationships with stakeholders. Lins et al. (2017) point out that companies with strong sustainability performance often achieve higher financial returns and reduced risk, particularly during periods of economic uncertainty. Furthermore, Eccles et al. (2014) emphasize that integrating sustainability considerations into business strategies can improve operational efficiency and lower the cost of capital, thereby enhancing long-term competitiveness. Sustainability has become essential not only for financial success but also for ensuring sustainable growth, positioning companies for long-term success in a rapidly changing global environment.

For family businesses, sustainability considerations are particularly significant, as they align with the focus on long-term development and legacy. By adopting sustainability-oriented practices, family firms can mitigate risks, enhance their reputation, and build stronger relationships with stakeholders. According to Huang and Watson (2015), family-owned firms that incorporate sustainability initiatives are better positioned to create long-term value and remain resilient in competitive markets. Moreover, research by Berrone et al. (2012) shows that family businesses often

prioritize socioemotional wealth, which makes the integration of sustainability practices an important strategy for aligning family interests with corporate sustainability. As family businesses often aim to pass a stable and prosperous company to future generations, adopting sustainability strategies is essential for ensuring their long-term viability and competitive advantage.

In particular, the relationship between sustainability practices and financial performance has gained considerable attention in corporate strategy discussions. Companies that successfully integrate sustainability practices often experience enhanced financial outcomes, such as increased profitability, reduced risk, and improved market valuation. According to Albuquerque et al. (2019), firms with strong sustainability performance are more likely to achieve superior financial performance by reducing firm-specific risk and creating a stronger alignment with long-term investor interests. Their research suggests that sustainability initiatives contribute to a company's financial success by enhancing resilience to external shocks and improving investor confidence. Additionally, companies that prioritize sustainability practices benefit from more favorable investment conditions. El Ghoul et al. (2011) demonstrated that firms with robust sustainability strategies experience lower capital costs, as they are perceived as lower-risk investments by investors and creditors. These companies often enjoy better access to financing, improved credit ratings, and reduced costs of equity. By embedding sustainability values into their operations, companies are better equipped to manage risks, strengthen stakeholder relationships, and ensure long-term financial stability. As sustainability becomes increasingly vital in global markets, firms that prioritize sustainability are positioned to outperform their peers in both financial returns and operational resilience.

This study focuses on Taiwan's publicly listed companies due to the high prevalence of family-owned businesses, making it an ideal sample for examining governance and financial performance in family firms. Research indicates that over 60% of publicly listed companies in Taiwan are family-owned, providing a unique context to explore the relationship between family ownership and corporate performance (Yeh et al., 2001). Furthermore, Taiwan's comprehensive sustainability reporting framework offers a valuable dataset for investigating the impact of sustainability practices on financial performance. Previous studies suggest that companies with strong sustainability performance typically achieve better financial outcomes, particularly in regions with stringent regulatory pressures and increasing stakeholder demands (Hsu and Wang, 2013). Therefore, Taiwan's family-owned firms

present a prime opportunity to examine how sustainability integration influences financial performance in a market where family control and sustainability are critical factors.

The primary aim of this research is to investigate the impact of sustainability performance on the financial outcomes of publicly listed companies in Taiwan. With the increasing focus on sustainable business practices, this study seeks to understand how various aspects of sustainability—such as environmental efforts, social contribution, and responsible management—affect firm performance, particularly in terms of return on assets (ROA), return on equity (ROE), and earnings per share (EPS). Using data from the Taiwan Economic Journal (TEJ) for the period from 2016 to 2023, the study employs a panel data approach with fixed-effects models to account for unobserved heterogeneity across firms and over time. The analysis incorporates variables such as company size, debt ratio, research and development expenses, and family control to provide a comprehensive assessment of how sustainability-related factors influence financial performance.

We find that sustainability performance does not have a statistically significant positive effect on the financial outcomes of publicly listed companies in Taiwan, as measured by ROA, ROE, and EPS. In some periods, particularly from 2021 to 2023, sustainability practices had neutral or even negative impacts on financial performance. Comparing industries, the electronics sector experienced a more pronounced negative effect, likely due to the high operational costs and capital investments required for the implementation of sustainability initiatives in this rapidly evolving field. In contrast, the non-electronics industry faced less of a negative impact, as their sustainability-related investments tend to be less capital-intensive and more gradually integrated. The overall insignificance of sustainability's effect on financial performance could be attributed to high initial implementation costs, which may outweigh short-term benefits. Additionally, Taiwan's regulatory environment may not yet provide sufficient incentives for firms to fully realize sustainability's financial advantages. Many firms, particularly in electronics, are likely still in the early stages of sustainability adoption, delaying the realization of long-term financial benefits.

This study makes several key contributions to the existing literature on sustainability and financial performance. First, it provides empirical evidence from Taiwan, a region where the relationship between sustainability practices and financial outcomes has been relatively underexplored. By examining publicly listed companies in both the electronics and non-electronics industries, the research offers industry-

specific insights into how sustainability-related factors influence firm performance. Second, the study highlights the challenges companies face, particularly in capital-intensive sectors such as electronics, when implementing sustainability initiatives. It suggests that short-term financial setbacks may occur before long-term benefits can materialize. Lastly, the research sheds light on regulatory gaps and market conditions that may limit the immediate financial rewards of sustainability adoption, offering valuable insights for policymakers seeking to strengthen sustainability incentives and frameworks.

The paper is organized as follows: Section 2 reviews the literature on sustainability, family businesses, and financial performance. Section 3 presents the data sources, variables description, and empirical model are presented in Section 4. Sections 5 contain the estimation results and the conclusion.

2. Literature review

This study aims to understand how sustainability practices influence the financial performance of publicly listed family businesses in Taiwan. To achieve this, it draws from three key areas of research: the impact of sustainability on firm performance, the dynamics of family business governance and succession, and the determinants of financial performance. The following sections present a review of the relevant literature in each of these areas.

2.1 Sustainability

In the context of an increasingly globalized and stakeholder-driven economy, a company's ability to achieve sustainable development has become a key factor in determining its market performance and long-term competitiveness. Environmental, Social, and Governance (ESG) factors, as core indicators for evaluating corporate sustainability, are increasingly valued by investors, consumers, and other stakeholders. This study posits that through effective ESG strategies, companies can not only enhance their market reputation but also improve financial performance and adapt to the ever-changing demands of the market.

Stakeholder theory (Freeman, 1984) suggests that companies should consider the needs of multiple stakeholders rather than solely maximizing shareholder value. This theory underscores the central role of ESG strategies in corporate operations, as strong ESG performance helps companies secure a sustainable competitive advantage in the global market. In fact, Godfrey (2005) noted that corporate social responsibility activities can create "implicit assets" that help mitigate risks during times of crisis. This

perspective highlights the importance of ESG strategies as a risk management tool and further emphasizes the positive correlation between ESG and corporate financial performance.

Peloza (2006) found in his research that companies with strong ESG performance often experience increased brand value, which, in turn, enhances market reputation. Additionally, Lins et al. (2017) demonstrate that during financial crises, companies with high ESG scores are better able to protect their market value, demonstrating the significance of ESG in crisis management. Based on these findings, this study argues that ESG strategies are not only a means of risk mitigation but also an effective tool for enhancing market competitiveness. Furthermore, McWilliams et al. (2006) contend that corporate investment in ESG not only provides market advantages but also strengthens long-term competitiveness. Such investments are reflected not only in environmental and social responsibility practices but also in the improvement of corporate governance structures.

Regarding the transparency of ESG reporting, Deephouse (2000) emphasized that when companies accurately and honestly present their ESG outcomes, it not only strengthens stakeholders' trust but also enhances the company's social influence and financial performance. Conversely, if companies exaggerate or conceal facts in their ESG reports, it can lead to reputational damage and even legal risks. This study asserts that clear and transparent ESG reporting is critical for companies to maintain a positive social image and market competitiveness. However, some scholars hold differing views. Brammer and Millington (2005) suggested that while ESG strategies can improve a company's social reputation, excessive investment in ESG may lead to short-term declines in financial performance. This serves as a reminder that companies must carefully balance short-term benefits with long-term goals when implementing ESG strategies. This study argues that as market attention to ESG continues to rise, companies must prudently manage their ESG investments to ensure the sustainability and long-term benefits of their strategies.

Existing literature largely indicates a significant positive relationship between ESG and corporate financial performance, though the specific impact depends on the company's strategic implementation and market conditions. This study hypothesizes that as global market demands for ESG continue to increase, companies will place greater emphasis on ESG implementation and view it as a key factor in enhancing competitiveness and strengthening market reputation.

While ESG metrics have become a dominant framework for assessing corporate sustainability, they are not without limitations, particularly regarding their consistency, measurability, and cross-firm comparability. As a result, scholars and regulatory bodies have proposed alternative or complementary measures to address these gaps. One such measure is the Social Contribution Value per Share (SCVPS), which offers a financially standardized and quantitative approach to capturing firms' social impact.

The SCVPS has emerged as a complementary indicator for evaluating corporate sustainability. Introduced by the Shanghai Stock Exchange (SSE) in 2008, SCVPS was designed based on stakeholder theory to assess a firm's overall contribution to societal value creation (Noronha et al., 2018; Shanghai Stock Exchange, 2025). The SCVPS aggregates quantifiable elements of stakeholder benefits, including net income attributable to shareholders, tax payments to the government, salaries and welfare for employees, interest payments to creditors. This total is then divided by the average number of outstanding shares for the year, providing a standardized measure of social value per share.

Unlike conventional narrative sustainability disclosures, which are often criticized for their subjectivity and lack of comparability (Milne and Chan, 1999), SCVPS offers a financially grounded, uniform framework that facilitates cross-company comparisons of corporate social responsibility (CSR) performance. Empirical evidence further supports its relevance, Noronha et al. (2018) finds a positive association between SCVPS and firm stock prices. However, they also note that this market response is contingent upon governance quality; firms with weak governance structures elicit a weaker reaction to SCVPS disclosures, while those with stronger governance receive significantly more positive responses.

Overall, SCVPS enhances the evaluative scope of sustainability research by bridging financial transparency and social impact. Its standardization and alignment with stakeholder-oriented accountability make it particularly useful for emerging markets facing rising stakeholder expectations and evolving disclosure standards.

2.2 Financial performance

In corporate management research, financial performance remains a critical issue, influencing the direction of a company's development and its market position. With the rapid evolution of the global economic environment, the factors affecting financial performance are no longer limited to internal operations; external market pressures, technological advancements, and globalization also have a profound impact on

corporate financial outcomes. This study posits that financial performance reflects not only a company's short-term profitability but also the interplay of its long-term development strategies and risk management capabilities.

One notable topic that has garnered significant attention is the financial performance of family-owned businesses. Anderson and Reeb (2003), through an analysis of S&P 500 firms, found a strong positive correlation between family ownership and higher financial performance. This is primarily attributed to the long-term commitment of family members and their active involvement in corporate governance. These findings highlight the unique contribution of family ownership structures to financial success.

In further exploring the governance of family firms, Bennedsen et al. (2015) noted that family businesses tend to achieve more stable long-term financial performance due to the steady leadership and long-term investment of family members. This study asserts that the internal governance of family firms effectively mitigates the impact of external market risks, enabling them to maintain financial stability even amid economic fluctuations. These insights reinforce the central role of corporate governance in shaping financial performance, especially in the face of external uncertainties.

Beyond governance structures, the effectiveness of resource allocation also plays a crucial role in determining financial outcomes. Fombrun (1996) emphasized that companies should invest their limited resources in areas with long-term value creation potential, as this can significantly enhance financial performance and consolidate competitive advantages. Wernerfelt and Montgomery (1988), in their resource-based theory, further elaborated on the importance of resource scarcity and inimitability for sustained financial success. This study infers that firms adopting a more strategic approach to resource allocation can achieve sustained financial growth and maintain a competitive edge in the market. However, the relationship between short-term and long-term financial performance is not always positive. Jensen and Meckling (1976), in their agency theory, pointed out that when the short-term interests of management are misaligned with the long-term goals of shareholders, financial performance may be adversely affected. Brammer and Millington (2005) echoed this perspective, finding that excessive focus on short-term financial gains can lead companies to miss long-term investment opportunities, thereby weakening their market competitiveness. This study argues that firms must carefully balance short-term objectives with long-term growth to achieve sustainable financial performance. Lins et al. (2017) examined the relationship between financial performance and a company's ability to respond to

market shocks from a risk management perspective. They found that companies with robust financial performance were better able to withstand market risks during the global financial crisis, maintaining financial stability. This finding underscores the importance of integrating risk management into financial decision-making, as it is a key strategy for improving long-term financial performance.

Current literature consistently highlights the significant impact of corporate governance structures, resource allocation strategies, and risk management on financial performance. This study suggests that as market conditions become increasingly volatile, companies must not only maintain financial stability but also continuously adjust their resource allocation and risk management strategies to achieve long-term financial health.

2.3 Family succession

Family businesses play a crucial role in the global economy, and family succession is one of the key factors affecting their long-term survival and growth. This study posits that family succession is not merely a transfer of ownership but also a comprehensive test of leadership transition, value continuity, and market adaptability. Therefore, exploring the challenges and influencing factors of family succession is essential to understanding the stability and success of family businesses. Claessens et al. (2000) demonstrated that the concentration of control in family firms has a profound impact on performance, particularly when family members successfully take over, ensuring the firm's long-term stability. Furthermore, Anderson and Reeb (2003) highlighted that family firms tend to outperform non-family firms in terms of financial performance, largely due to the long-term commitment and far-reaching plans of family members. These perspectives collectively underscore the critical role of family succession in maintaining business continuity.

The selection of successors and their managerial capabilities are crucial to the future of family businesses. Bennedsen and Fan (2014) emphasized that introducing professional managers or external experts during the succession process could significantly enhance financial performance. Their research revealed that professionalized management could help mitigate internal conflicts and increase transparency in decision-making. Pérez-González (2006) further supported this view, indicating that the involvement of external professionals helps prevent performance declines caused by the inadequacies of unprepared successors.

Additionally, leadership transition during family business succession is a key area of concern. This study believes that the successors' capabilities and preparedness are critical determinants of successful succession. The external environment's influence on family business succession is equally significant. Amore et al. (2011) found that when economic uncertainty increases, the succession process becomes more complex. This complexity arises because external market risks heighten the management pressure on family members, affecting the firm's stability and performance. This study argues that family businesses should adopt flexible strategies to cope with external environmental changes and implement appropriate risk management measures to ensure a smooth succession process.

In particular, successful family succession involves not only financial and managerial transitions but also the inheritance of core values and corporate culture. Jaskiewicz et al. (2016) suggested that successors must deeply understand the family business's values and effectively pass them on to ensure long-term stability and competitiveness. Similarly, Xu et al. (2015) emphasized that family businesses should preserve their core values during the succession process while simultaneously embracing necessary innovations and transformations to maintain a competitive edge. Family succession is a critical factor influencing the long-term development of family businesses. The literature suggests that professionalized management, successor development, and flexibility in addressing external challenges are key to ensuring successful succession. This study concludes that future family businesses need to focus more on the foresight of succession planning and balance the continuity of family values and corporate culture to achieve sustainable development in an increasingly competitive market.

In sum, the interaction between family succession, ESG, and financial performance determines a firm’s long-term success. Existing literature suggests that firms that effectively manage the relationships between these three elements are better positioned to build a strong competitive advantage in the global market. This study will further explore the interconnections between these factors and analyze their impact on the long-term development of family businesses.

3. Data sources and model framework

3.1 Data

The data for all variables in this study were obtained from the Taiwan Economic Journal Data Bank (TEJ), the largest and most comprehensive financial database in Taiwan. TEJ encompasses a broad range of data, including financial markets, corporate finance, and macroeconomic information. Since ESG data for companies in TEJ has only been available since 2016, the study period covers 2016 to 2023, using annual data. The sample consists of 929 publicly listed companies, excluding those in the financial industry, resulting in a final dataset of 6,800 observations.[1] This section will introduce the dependent variable, key explanatory variables, and control variables used in the study, along with their definitions and calculation formulas.

3.2 Variable descriptions

In terms of the dependent variable, this study employs three different approaches to measure corporate performance.

(1) Return on Assets (ROA): ROA measures a company's ability to generate profit from its assets. A higher ROA indicates more efficient use of assets in generating net income. The formula for calculating ROA is as follows:

$$ROA = \frac{Net\ Income\ Before\ Tax\ and\ Interest}{Average\ Total\ Assets} \times 100$$

(2) Return on Equity (ROE): ROE measures a company's ability to generate profit from its post-tax net income. A higher ROE indicates more efficient use of shareholders' equity in generating profit, meaning that more income is produced for each unit of shareholders' equity. The formula for calculating ROE is:

$$ROE = \frac{Net\ Income\ After\ Tax}{Average\ Shareholders'\ Equity} \times 100$$

(3) Earnings Per Share (EPS): EPS measures the net income generated for each common share of a company. A higher EPS indicates stronger profitability, meaning each share becomes more valuable.

$$EPS = \frac{Net\ Income\ After\ Tax}{Number\ of\ Outstanding\ Shares} \times 100$$

Next, regarding the key explanatory variable, this study conceptualizes sustainability as a central construct and operationalizes it using two proxy measures: Environmental, Social, and Governance (ESG) scores and Social Contribution Value

[1] The financial industry was excluded from the sample because it differs significantly from non-financial industries in terms of accounting standards, financial statement structures, performance evaluation methods, government regulations, and industry competition.

per Share (SCVPS). The ESG score reflects a firm's strategic alignment with environmental stewardship, social responsibility, and corporate governance practices. In contrast, SCVPS captures the firm's tangible contributions to stakeholders through quantifiable financial and social outputs. Together, these two indicators offer a complementary and multidimensional view of corporate sustainability, encompassing both normative intentions and measurable outcomes.

Under the three sub-dimensions of ESG, E represents the Environmental Score. It represents the environmental protection dimension of the TESG sustainable development indicators proposed by TEJ. The topics it covers include: (1) Greenhouse gas emissions; (2) Energy management; (3) Water and wastewater management; (4) Waste and toxic substance management; (5) Ecological impact. S represents the Social Score. This reflects the social responsibility dimension of the TESG sustainable development indicators proposed by TEJ. The topics it covers include: (1) Human rights and community relations; (2) Data security; (3) Product quality and safety; (4) Employee data and statistics; (5) Employee health and safety; (6) Employee diversity. G represents the Governance Score, It represents the corporate governance dimension of the TESG sustainable development indicators proposed by TEJ. The topics it covers include: (1) Business model and innovation; (2) Management leadership; (3) Control and board composition; (4) Fair treatment of stakeholders; (5) Transparency in corporate governance.

Another key explanatory variable in this study is the Social Contribution Value per Share (SCVPS). According to the definition provided by the Shanghai Stock Exchange (SSE), SCVPS is a standardized indicator designed to measure a firm's overall contribution to stakeholders and society. The calculation includes four components: (1) net profit attributable to shareholders, (2) salaries and benefits provided to employees, (3) taxes paid to the government, (4) interest payments made to creditors. These components are summed and then divided by the average number of outstanding shares in the fiscal year, resulting in a per-share measure of social value creation (Shanghai Stock Exchange, 2025; Noronha et al., 2018). This indicator captures not only the financial returns to shareholders but also the broader economic and social benefits a firm generates for its stakeholders, providing a comprehensive perspective on sustainability performance.

In terms of control variables, this study includes several variables that may affect company performance as control variables. These include company size, debt ratio,

research and development expense ratio, revenue growth rate, board ownership ratio, independent director ratio, dual roles of chairman and CEO, and single-family control.

The complete list of variables used in this study, including their respective names, codes, and definitions, are provided in Table 1. This table serves as a comprehensive reference, detailing the specific attributes and calculations for each variable, allowing for greater clarity and consistency in the analysis of company performance within the context of the study.

======Insert Table 1======

3.3 Descriptive Statistics

Table 2 presents the descriptive statistics for all variables. Due to some missing data, the number of observations for the dependent variables—ROA, ROE, and EPS—are 6,699, 6,686, and 6,674, respectively. In contrast, all other explanatory variables have 6,800 observations. The descriptive statistics are calculated based on all available data.

======Insert Table 2======

Based on the correlation coefficients presented in Table 3, the key explanatory variables, ESG and SCVPS, exhibit significant positive correlations with the financial performance indicators (ROA, ROE, and EPS). Nevertheless, multicollinearity does not pose a concern in this study, as the mean variance inflation factor (VIF) for all predictor variables remains below 5, thereby confirming the robustness and reliability of our regression results.

======Insert Table 3======

3.4 Model

This study utilizes panel data from 929 publicly listed companies in Taiwan, covering the period from 2016 to 2023, to examine the impact of ESG and SCVPS on company performance. The model specifications are presented in equations (1) and (2). To further investigate whether family business (FAM) moderate the relationship between ESG, SCVPS, and corporate performance, the interaction term between ESG and FAM is included in equation (3); the interaction term between SCVPS and FAM is included in equation (4).

$$Per_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_3 DEBT_{it} + \beta_4 RD_{it} + \beta_5 REV_{it} + \beta_6 DIR_{it} + \beta_7 IDIR_{it} + \beta_8 GM_{it} + \beta_9 FAM_{it} + \varepsilon_{it} \quad (1)$$

$$Per_{it} = \beta_0 + \beta_1 SCVPS_{it} + \beta_2 SIZE_{it} + \beta_3 DEBT_{it} + \beta_4 RD_{it} + \beta_5 REV_{it} + \beta_6 DIR_{it} + \beta_7 IDIR_{it} + \beta_8 GM_{it} + \beta_9 FAM_{it} + \varepsilon_{it} \quad (2)$$

$$Per_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_3 DEBT_{it} + \beta_4 RD_{it} + \beta_5 REV_{it} + \beta_6 DIR_{it} + \beta_7 IDIR_{it} + \beta_8 GM_{it} + \beta_9 FAM_{it} + \beta_{10} ESGxFAM_{it} + \varepsilon_{it} \quad (3)$$

$$Per_{it} = \beta_0 + \beta_1 SCVPS_{it} + \beta_2 SIZE_{it} + \beta_3 DEBT_{it} + \beta_4 RD_{it} + \beta_5 REV_{it} + \beta_6 DIR_{it} + \beta_7 IDIR_{it} + \beta_8 GM_{it} + \beta_9 FAM_{it} + \beta_{10} SCVPSxFAM_{it} + \varepsilon_{it} \quad (4)$$

where i =1…929, represents 929 publicly listed companies, and t =1…8, represents the years from 2016 to 2023, totaling 8 years. In this model, Per_{it} represents company performance, with this study using ROA_{it}, ROE_{it}, and EPS_{it} as the three dependent variables. ESG_{it} and $SCVPS_{it}$ is the key explanatory variable, representing the company's ESG score and the social contribution value per share. $SIZE_{it}$, $DEBT_{it}$, RD_{it}, REV_{it}, DIR_{it}, $IDIR_{it}$, GM_{it}, and FAM_{it} are the control variables. $ESGxFAM_{it}$, $SCVPSxFAM_{it}$ are the interaction term.

4. Estimation results

4.1 Benchmark results

Table 4 presents the regression results for our benchmark models that investigate the impact of ESG performance and social contribution value per share (SCVPS) on firm performance (ROA, ROE, EPS). In Models (1) ~ (3), which focus on ROA, ROE, and EPS respectively, the coefficient on ESG is positive and statistically significant (β = 0.166 for ROA, β = 0.225 for ROE, and β = 0.054 for EPS; all $p < 0.01$). These findings suggest that higher ESG performance is associated with improved profitability and earnings outcomes. Similarly, In Models (4) ~ (6) SCVPS exhibits robust positive effects on firm performance, with coefficients of 0.183, 0.238, and 0.281 for ROA, ROE, and EPS respectively (all $p < 0.01$), indicating that firms generating greater social contribution per share tend to achieve superior financial performance.

The models also control for several firm-level characteristics. Notably, company size exerts a consistently positive influence across the performance measures, whereas the debt ratio is negatively related to firm performance.

======Insert Table 4======

4.2 Moderating effects of family business

As shown in Table 5, the coefficient for ESG x FAM is negative and significant for ROE ($\beta = -0.0795$, $p < 0.01$) and EPS ($\beta = -0.0301$, $p < 0.05$), whereas it is statistically insignificant for ROA. These results suggest that although ESG has a positive main effect on performance, its impact may be attenuated in family business for certain profitability measures. Likewise, the interaction between SCVPS and FAM is consistently negative and highly significant across all three dependent variables ($\beta = -0.0857$ for ROA, $\beta = -0.170$ for ROE, and $\beta = -0.0879$ for EPS; all $p < 0.01$). While SCVPS itself exerts a robust positive effect on firm performance, the negative interaction terms indicate that family business can temper the financial benefits derived from social contribution activities.

One possible explanation is that family business, due to their unique governance structures and strategic priorities, may channel resources in ways that partially reduce the performance gains associated with ESG and SCVPS. Nonetheless, the significant positive main effects of ESG and SCVPS remain, underscoring their continued importance for corporate success even when moderated by family business status.

======Insert Table 5======

4.3 Electronics and non-electronics industries

Table 6 presents the regression results for the industry-specific models, where the sample is split into electronics (Models (1) ~ (6)) and non-electronics (Models (7) ~ (12)) industries as a robustness check. In both sub-samples, the key explanatory variables, ESG and SCVPS continue to exert a significant positive influence on firm performance as measured by ROA, ROE, and EPS. Although some variations in the magnitude of the coefficients exist, the overall pattern remains consistent, thereby affirming the robustness of our baseline results across different industry contexts.

In the electronics sector, characterized by rapid technological advancement and intense competition, company appear to benefit from enhanced ESG performance and social contribution initiatives, which may signal superior environmental and social management practices to stakeholders. Conversely, in the non-electronics sector, while the positive effects of ESG and SCVPS persist, the underlying mechanisms might differ;

these company could be leveraging social contribution to build long-term stakeholder trust and reputation in a more stable market environment. These industry-specific dynamics underscore the adaptability of our core findings and suggest that, regardless of sector, effective ESG strategies and social contribution measures are critical drivers of corporate performance.

======Insert Table 6======

5. Conclusion

This study examined the relationship between sustainability practices, as measured by ESG scores and Social Contribution Value per Share (SCVPS), and the financial performance of publicly listed companies in Taiwan. The results demonstrated that sustainability performance generally has a positive influence on corporate financial outcomes, specifically on ROA, ROE, and EPS. However, when considering the moderating role of family ownership, the positive impact of sustainability becomes attenuated. Moreover, industry-specific analyses revealed that while both electronics and non-electronics firms benefited from sustainability practices, the extent of these benefits varied, likely due to differences in capital intensity and strategic priorities within these sectors.

Theoretically, this research contributes to the existing literature by integrating ESG scores and SCVPS into a unified construct of corporate sustainability, thus providing a more comprehensive assessment of firms' sustainability practices. Additionally, it clarifies the nuanced role of family ownership in shaping the relationship between sustainability and financial performance, highlighting how unique governance and strategic objectives in family firms might moderate expected benefits. Furthermore, the industry-specific insights contribute to a better understanding of how sustainability initiatives operate differently across sectors.

Practically, the findings suggest that family-owned firms should carefully evaluate and stage their sustainability investments, balancing long-term strategic advantages against immediate financial costs. Non-family executives within family-controlled firms could leverage transparent sustainability disclosures like SCVPS to align these investments with family members' expectations and strategic priorities. Policymakers are encouraged to develop targeted incentives and reporting standards that can mitigate

the short-term financial impacts of sustainability initiatives, particularly within capital-intensive industries, to promote broader and earlier adoption.

Reference

Albuquerque, R., Koskinen, Y., & Zhang, C. (2019). Corporate social responsibility and firm risk: Theory and empirical evidence. *Management Science*, 65(10), 4451–4469.

Amore, M. D., Minichilli, A., & Corbetta, G. (2011). How do managerial successions shape corporate financial performance? Evidence from a panel of Italian firms. *Strategic Management Journal*, 32(6), 946–957.

Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: Evidence from the S&P 500. *Journal of Finance*, 58(3), 1301–1328.

Barnett, M. L. (2007). Stakeholder Influence Capacity and the Variability of Financial Returns to Corporate Social Responsibility. *The Academy of Management Review*, 32(3), 794–816.

Bennedsen, M., Nielsen, K. M., Pérez-González, F., & Wolfenzon, D. (2007). Inside the Family Firm: The Role of Families in Succession Decisions and Performance. *The Quarterly Journal of Economics*, 122(2), 647–691.

Bennedsen, M., & Fan, J. P. H. (2014). The family business map: Framework, selective survey, and evidence from Chinese family firm succession. *Journal of Corporate Finance*, 28, 184–204.

Berrone, P., Cruz, C., & Gómez-Mejía, L. R. (2012). Socioemotional wealth in family firms: Theoretical dimensions, assessment approaches, and agenda for future research. *Family Business Review*, 25(3), 258–279.

Brammer, S., & Millington, A. (2005). Corporate reputation and philanthropy: An empirical analysis. *Journal of Business Ethics*, 61(1), 29-44.

Claessens, S., Djankov, S., & Lang, L. H. P. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*, 58(1-2), 81-112.

Deephouse, D. L. (2000). Media reputation as a strategic resource: An integration of mass communication and resource-based theories. *Journal of Management*, 26(6), 1091-1112.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835–2857.

El Ghoul, S., Guedhami, O., Kwok, C. C. Y., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, 35(9), 2388–2406.

Fombrun, C. J. (1996). Reputation: Realizing value from the corporate image**.** Harvard Business School Press.

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

Giannopoulos, G., Fagernes, R. V. K., Elmarzouky, M., & Hossain, K. A. B. M. A. (2022). The ESG Disclosure and the Financial Performance of Norwegian Listed Firms. *Journal of Risk and Financial Management*, 15(6), 1–16.

Godfrey, P. C. (2005). The relationship between corporate philanthropy and shareholder wealth: A risk management perspective. *Academy of Management Review*, 30(4), 777–798.

Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal*, 30(4), 425–445.

Hsu, F. J., & Wang, T. (2013). The level and stability of institutional ownership and firm performance: Evidence from Taiwan. *Emerging Markets Finance and Trade*, 49(3), 34-55.

Huang, X., & Watson, L. (2015). Corporate social responsibility research in accounting. *Journal of Accounting Literature*, 34, 1–16.

Julian, S. D., & Ofori-dankwa, J. C. (2013). Financial resource availability and corporate social responsibility expenditures in a sub-Saharan economy: The institutional difference hypothesis. *Strategic Management Journal*, 34(11), 1314–1330. https://doi.org/10.1002/smj.2070

Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance*, 72(4), 1785–1824.

Jaskiewicz, P., Combs, J. G., & Rau, S. B. (2016). Entrepreneurial legacy: Toward a theory of how some family firms nurture transgenerational entrepreneurship. *Journal of Business Venturing*, 31(5), 652–671.

McWilliams, A., Siegel, D. S., & Wright, P. M. (2006). Corporate social responsibility: Strategic implications. *Journal of Management Studies*, 43(1), 1–18.

Milne, M. J., & Chan, C. C. (1999). Narrative corporate social disclosures: How much of a difference do they make to investment decision-making? *The British Accounting Review, 31(4)*, 439–457.

Nollet, J., Filis, G., & Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling*, 52, 400–407. https://doi.org/10.1016/j.econmod.2015.09.019

Noronha, C., Guan, J., & Fan, J. (2018). Firm value and social contribution with the interaction of corporate governance: Social contribution value per share. S*ustainability Accounting, Management and Policy Journal, 9(2)*, 165–200.

Peloza, J. (2006). Using corporate social responsibility as insurance for financial performance. *California Management Review*, 48(2), 52–72.

Pérez-González, F. (2006). Inherited control and firm performance. *American Economic Review*, 96(5), 1559–1588.

Shanghai Stock Exchange. (2025). SCVPS indicator description and disclosure guidelines. https://www.sse.com.cn/

Wernerfelt, B., & Montgomery, C. A. (1988). Tobin's q and the importance of focus in firm performance. **A***merican Economic Review*, 78(1), 246–250.

Xu, X., Zhou, X., & He, X. (2015). The impact of family involvement on financial reporting quality in family firms. *Journal of Business Ethics*, 132(2), 295–317.

Yeh, Y. H., Lee, T. S., & Woidtke, T. (2001). Family control and corporate governance: Evidence from Taiwan. *International Review of Finance*, 2(1-2), 21–48.

Zellweger, T. M., Nason, R. S., & Nordqvist, M. (2012). From longevity of firms to transgenerational entrepreneurship of families: Introducing family entrepreneurial orientation. *Family Business Review*, 25(2), 136–155.

Table 1. Variables definitions

Variable	Code	Definition
Dependent Variables		
Return on Assets	ROA	Earnings before interest and taxes / Average total assets
Return on Equity	ROE	Net income after tax / Average shareholders' equity
Earnings Per Share	EPS	Net income after tax / Shares outstanding
Key Explanatory Variables		
Social Contribution Value Per share	SCVPS	(Interest expenses + Taxes + Employee salaries + After-tax earnings) / Shares outstanding
ESG Score	ESG	(Environmental + Social + Governance scores) / 3
Control Variables		
Company Size	SIZE	Natural logarithm of total assets
Debt Ratio	DEBT	Total liabilities / Total assets
R&D Expense Ratio	RD	R&D expenses / Operating revenue
Revenue Growth Rate	REV	(Current period revenue - Previous period revenue) / Previous period revenue
Board Ownership Ratio	DIR	Total board ownership / Number of outstanding shares
Independent Director Ratio	IDIR	Number of independent directors / Total number of directors
Dual Role of Chairman & CEO	GM	If the chairman also serves as CEO, 1; otherwise, 0
Single-Family Control	FAM	If controlled by a single family, 1; otherwise, 0

Table 2. The descriptive statistics of the variables

Variables	N	Mean	SD	Min	Max
ROA	6,699	9.099	7.221	-12.800	32.710
ROE	6,686	7.839	11.187	-45.650	43.290
EPS	6,674	3.042	4.345	-4.500	30.070
ESG	6,800	56.031	8.424	29.890	83.730
SCVPS	6,800	11.423	17.066	-21.682	350.234
SIZE	6,800	16.125	1.430	9.757	22.434
DEBT	6,800	43.468	18.201	0.690	99.760
RD	6,800	3.404	4.965	0	36.860
REV	6,800	3.176	27.111	-99.780	191.100
DIR	6,800	21.485	15.703	0	87.830
IDIR	6,800	35.805	9.898	0	75.000
GM	6,800	0.316	0.465	0	1.000
FAM	6,800	0.654	0.476	0	1.000

Notes: SD is standard deviation components, and N is number of observations.

Table 3. The correlation analysis of the variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) ROA	1.000												
(2) ROE	0.790	1.000											
(3) EPS	0.674	0.724	1.000										
(4) ESG	0.240	0.243	0.242	1.000									
(5) SCVPS	0.458	0.424	0.800	0.196	1.000								
(6) SIZE	0.159	0.230	0.314	0.472	0.306	1.000							
(7) DEBT	-0.168	-0.051	-0.041	0.079	0.039	0.316	1.000						
(8) RD	0.006	-0.041	0.020	0.047	0.092	-0.149	-0.228	1.000					
(9) REV	0.275	0.315	0.240	0.024	0.169	0.089	0.102	-0.039	1.000				
(10) DIR	0.102	0.059	0.039	-0.009	0.000	-0.095	-0.037	-0.063	0.029	1.000			
(11) IDIR	0.045	0.017	0.059	-0.050	0.054	-0.085	-0.024	0.157	0.013	-0.047	1.000		
(12) GM	-0.071	-0.062	-0.053	-0.182	-0.041	-0.100	0.005	0.084	-0.014	-0.080	0.130	1.000	
(13) FAM	-0.030	-0.023	-0.029	-0.124	-0.031	-0.004	0.038	-0.187	-0.010	0.002	-0.006	0.007	1.000

Table 4: Benchmark results

	ROA	ROE	EPS	ROA	ROE	EPS
	(1)	(2)	(3)	(4)	(5)	(6)
ESG	0.166***	0.225***	0.0540***			
	(0.0109)	(0.0171)	(0.00664)			
SCVPS				0.183***	0.238***	0.281***
				(0.00479)	(0.00745)	(0.00273)
FAM	-0.0375	-0.109	-0.0212	-0.296*	-0.466*	-0.0196
	(0.169)	(0.264)	(0.103)	(0.155)	(0.247)	(0.0639)
SIZE	0.763***	1.517***	0.986***	0.550***	1.250***	0.374***
	(0.0686)	(0.106)	(0.0413)	(0.0588)	(0.0931)	(0.0240)
DEBT	-0.107***	-0.112***	-0.0406***	-0.105***	-0.107***	-0.0457***
	(0.00472)	(0.00745)	(0.00286)	(0.00434)	(0.00703)	(0.00179)
RD	-0.0524***	-0.119***	0.0258**	-0.103***	-0.185***	-0.0471***
	(0.0171)	(0.0266)	(0.0105)	(0.0158)	(0.0252)	(0.00654)
REV	0.0786***	0.134***	0.0377***	0.0639***	0.115***	0.0185***
	(0.00301)	(0.00469)	(0.00181)	(0.00280)	(0.00446)	(0.00115)
DIR	0.0457***	0.0431***	0.0164***	0.0416***	0.0365***	0.00426**
	(0.00508)	(0.00789)	(0.00308)	(0.00468)	(0.00745)	(0.00192)
IDIR	0.0535***	0.0525***	0.0374***	0.0327***	0.0268**	0.00618**
	(0.00812)	(0.0126)	(0.00493)	(0.00750)	(0.0119)	(0.00309)
GM	-0.247	-0.0967	-0.0802	-0.524***	-0.458*	-0.130**
	(0.174)	(0.272)	(0.106)	(0.159)	(0.253)	(0.0652)
Cons	-10.65***	-27.16***	-15.94***	1.218	-11.39***	-4.105***
	(1.045)	(1.616)	(0.630)	(0.994)	(1.569)	(0.406)
N	6699	6686	6674	6699	6686	6674
R^2	0.208	0.200	0.196	0.327	0.288	0.686

Note: Standard errors are listed in parentheses. *significant at 10%; **significant at 5%; ***significant at 1%.

Table 5: Interacting term results

	ROA	ROE	EPS	ROA	ROE	EPS
	(1)	(2)	(3)	(4)	(5)	(6)
ESG	0.186***	0.277***	0.0736***			
	(0.0168)	(0.0261)	(0.0102)			
SCVPS				0.248***	0.368***	0.344***
				(0.00909)	(0.0142)	(0.00473)
FAM	1.750	4.399**	1.680**	0.689***	1.501***	0.936***
	(1.124)	(1.753)	(0.685)	(0.194)	(0.307)	(0.0862)
ESG x FAM	-0.0315	-0.0795***	-0.0301**			
	(0.0196)	(0.0306)	(0.0120)			
SCVPS x FAM				-0.0857***	-0.170***	-0.0879***
				(0.0102)	(0.0159)	(0.00545)
SIZE	0.756***	1.498***	0.980***	0.499***	1.142***	0.345***
	(0.0688)	(0.106)	(0.0413)	(0.0588)	(0.0929)	(0.0236)
DEBT	-0.108***	-0.112***	-0.0408***	-0.106***	-0.109***	-0.0465***
	(0.00472)	(0.00745)	(0.00286)	(0.00432)	(0.00697)	(0.00175)
RD	-0.053***	-0.121***	0.0252**	-0.110***	-0.198***	-0.0473***
	(0.0171)	(0.0266)	(0.0105)	(0.0157)	(0.0250)	(0.00641)
REV	0.0787***	0.134***	0.0378***	0.0634***	0.113***	0.0183***
	(0.00301)	(0.00469)	(0.00181)	(0.00278)	(0.00443)	(0.00113)
DIR	0.0459***	0.0438***	0.0167***	0.0429***	0.0397***	0.00611***
	(0.00508)	(0.00789)	(0.00308)	(0.00466)	(0.00739)	(0.00189)
IDIR	0.0534***	0.0522***	0.0373***	0.0328***	0.0260**	0.00763**
	(0.00812)	(0.0126)	(0.00493)	(0.00746)	(0.0118)	(0.00304)
GM	-0.253	-0.110	-0.0858	-0.476***	-0.356	-0.105
	(0.174)	(0.272)	(0.106)	(0.158)	(0.251)	(0.0640)
Cons	-11.71***	-29.78***	-16.96***	1.293	-11.15***	-4.413***
	(1.234)	(1.903)	(0.749)	(0.989)	(1.556)	(0.399)
N	6699	6686	6674	6699	6686	6674
R^2	0.208	0.201	0.197	0.334	0.300	0.698

Note: Standard errors are listed in parentheses. *significant at 10%; **significant at 5%; ***significant at 1%.

Table 6: Electronics and non-electronics results

	Electronics						Non-electronics					
	ROA	ROE	EPS	ROA	ROE	EPS	ROA	ROE	EPS	ROA	ROE	EPS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
ESG	0.105***	0.198***	0.0472***				0.199***	0.239***	0.0545***			
	(0.0168)	(0.0269)	(0.0108)				(0.0142)	(0.0219)	(0.00825)			
SCVPS				0.0982***	0.143***	0.278***				0.393***	0.507***	0.290***
				(0.00586)	(0.00916)	(0.00408)				(0.00837)	(0.0138)	(0.00382)
SIZE	1.411***	2.049***	1.240***	1.159***	1.806***	0.314***	0.145	0.921***	0.708***	0.0424	0.745***	0.392***
	(0.100)	(0.158)	(0.0634)	(0.0890)	(0.141)	(0.0375)	(0.0937)	(0.145)	(0.0543)	(0.0707)	(0.118)	(0.0316)
DEBT	-0.131***	-0.110***	-0.0407***	-0.128***	-0.104***	-0.0504***	-0.0911***	-0.109***	-0.0395***	-0.0950***	-0.116***	-0.0429***
	(0.00731)	(0.0118)	(0.00469)	(0.00703)	(0.0115)	(0.00295)	(0.00603)	(0.00947)	(0.00352)	(0.00488)	(0.00822)	(0.00220)
RD	-0.0917***	-0.0944***	0.0124	-0.108***	-0.112***	-0.0315***	-0.0589	-0.237***	0.0286	-0.166***	-0.388***	-0.0885***
	(0.0207)	(0.0332)	(0.0134)	(0.0199)	(0.0321)	(0.00844)	(0.0383)	(0.0591)	(0.0223)	(0.0310)	(0.0512)	(0.0139)
REV	0.116***	0.189***	0.0553***	0.102***	0.169***	0.0250***	0.0597***	0.106***	0.0289***	0.0410***	0.0813***	0.0153***
	(0.00510)	(0.00812)	(0.00326)	(0.00497)	(0.00797)	(0.00210)	(0.00364)	(0.00564)	(0.00210)	(0.00297)	(0.00494)	(0.00133)
DIR	0.0390***	0.0459***	0.00333	0.0340***	0.0376***	-0.00812**	0.0578***	0.0497***	0.0301***	0.0374***	0.0205**	0.0101***
	(0.00787)	(0.0125)	(0.00505)	(0.00758)	(0.0122)	(0.00319)	(0.00658)	(0.0101)	(0.00382)	(0.00535)	(0.00884)	(0.00240)
IDIR	0.0359***	0.0177	0.0276***	0.0361***	0.0221	0.0114**	0.0477***	0.0559***	0.0343***	0.00330	-0.00104	0.00393
	(0.0123)	(0.0197)	(0.00793)	(0.0119)	(0.0191)	(0.00500)	(0.0107)	(0.0165)	(0.00622)	(0.00871)	(0.0144)	(0.00391)
GM	-1.179***	-0.985**	-0.454***	-1.299***	-1.239***	-0.366***	0.444*	0.726*	0.185	-0.0174	0.114	0.0969
	(0.246)	(0.395)	(0.159)	(0.233)	(0.377)	(0.0982)	(0.241)	(0.372)	(0.140)	(0.194)	(0.320)	(0.0868)
FAM	-0.0794	-0.323	0.105	-0.525**	-1.098***	-0.254***	0.442*	0.627*	0.157	0.361*	0.494	0.176**
	(0.235)	(0.376)	(0.152)	(0.222)	(0.359)	(0.0939)	(0.246)	(0.380)	(0.143)	(0.199)	(0.329)	(0.0893)
Cons	-15.03***	-32.59***	-18.72***	-6.018***	-19.12***	-2.878***	-4.284***	-19.52***	-12.13***	7.616***	-4.274**	-4.695***
	(1.475)	(2.324)	(0.939)	(1.499)	(2.368)	(0.631)	(1.466)	(2.271)	(0.850)	(1.193)	(1.979)	(0.534)
N	3058	3063	3036	3058	3063	3036	3641	3623	3638	3641	3623	3638
R^2	0.292	0.270	0.267	0.343	0.312	0.709	0.179	0.163	0.151	0.461	0.370	0.668

Note: Standard errors are listed in parentheses. *significant at 10%; **significant at 5%;
***significant at 1%.