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Do stockholders appreciate CSR? The role of firm visibility, financial slack, and monitoring

Ali Uyar, Faten Lakhal, Cemil Kuzey, Abdullah S. Karaman

ABSTRACT

Although numerous past studies have examined the association between corporate social responsibility (CSR) and firm value, the findings have been inconsistent. This study examines how firm visibility, financial slack, and monitoring affected the relationship between CSR and firm value. We find that CSR performance and its three dimensions, that is, environmental, social, and governance—have positive effects on firm value. The results also show that under slack resources and strong corporate governance, the positive effect of CSR on firm value is strongly supported. These results suggest that managers should be aware that they can also attract shareholders' interests in the stock market while addressing stakeholders' concerns, especially when the firm has available financial slack and strong board monitoring.

Keywords: CSR, firm value, firm visibility, financial slack, corporate governance, monitoring

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Ali Uyar
Excelia Business School, France
Email: aliuyar@hotmail.com

Faten Lakhal
Léonard de Vinci Pôle Universitaire, Research Center, 92916 Paris La Défense, France
Email: faten.lakhal@devinci.fr

Cemil Kuzey
Arthur J. Bauernfeind College of Business, Murray State University, Murray, Kentucky, USA
Email: cemilkuzey@gmail.com

Abdullah S. Karaman
College of Engineering and Technology, American University of the Middle East, Kuwait
Email: Abdullah.Karaman@aum.edu.kw

Do stockholders appreciate CSR? The role of firm visibility, financial slack, and monitoring

Abstract
Although numerous past studies have examined the association between corporate social responsibility (CSR) and firm value, the findings have been inconsistent. This study examines how firm visibility, financial slack, and monitoring affected the relationship between CSR and firm value. We find that CSR performance and its three dimensions, that is, environmental, social, and governance—have positive effects on firm value. The results also show that under slack resources and strong corporate governance, the positive effect of CSR on firm value is strongly supported. These results suggest that managers should be aware that they can also attract shareholders' interests in the stock market while addressing stakeholders' concerns, especially when the firm has available financial slack and strong board monitoring.
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Les actionnaires apprécient-ils la responsabilité sociale des entreprises ? Le rôle de la visibilité de l'entreprise, des ressources financières disponibles et de la surveillance

Résumé :

Bien que de nombreuses études antérieures aient examiné la relation entre la responsabilité sociale des entreprises (RSE) et la valeur de l'entreprise, les conclusions ont été incohérentes. Cette étude examine comment la visibilité de l'entreprise, les ressources financières et la surveillance influent sur la relation entre la RSE et la valeur de l'entreprise. Nous constatons que la performance RSE et ses trois dimensions : environnementale, sociale et de gouvernance, ont des effets positifs sur la valeur de l'entreprise. Les résultats montrent également qu'en présence de ressources excédentaires et d'une gouvernance d'entreprise solide, l'effet positif de la RSE sur la valeur de l'entreprise est fortement soutenu. Ces résultats suggèrent que les dirigeants doivent à la fois prendre en compte les intérêts des actionnaires et répondre aux préoccupations des parties prenantes, surtout lorsque l'entreprise dispose de ressources financières disponibles et un conseil efficace.

Mots-clés : RSE, valeur de l'entreprise, visibilité de l'entreprise, ressources financières disponibles, gouvernance d'entreprise, surveillance

¿Los accionistas valoran la responsabilidad social corporativa (RSC)? El papel de la visibilidad de la empresa, los recursos financieros disponibles y la supervisión

Resumen :

Aunque muchos estudios anteriores han examinado la relación entre la responsabilidad social empresarial (RSE) y el valor de la empresa, las conclusiones han sido inconsistentes. Este estudio examina cómo la visibilidad de la empresa, los recursos financieros y la supervisión influyen en la relación entre la RSE y el valor de la empresa. Observamos que el rendimiento de la RSE y sus tres dimensiones: ambiental, social y de gobernanza, tienen efectos positivos en el valor de la empresa. Los resultados también muestran que en presencia de recursos excedentes y una sólida gobernanza corporativa, el efecto positivo de la RSE en el valor de la empresa está fuertemente respaldado. Estos hallazgos sugieren que los líderes deben tener en cuenta tanto los intereses de los accionistas como abordar las preocupaciones de las partes interesadas, especialmente cuando la empresa cuenta con recursos financieros disponibles y un consejo efectivo.

Palabras clave : RSC, valor de la empresa, visibilidad de la empresa, recursos financieros disponibles, gobernanza corporativa, supervisión

Introduction

Corporate social responsibility (CSR) refers to corporate commitment to pursuing economic, legal, ethical, and discretionary aspects (Carroll, 1979). CSR has become a widespread practice worldwide, and in recent years, many global companies have made efforts to report their CSR investments in their annual financial and similar reports (Lins et al., 2017). The importance of CSR has gained increasing media attention both within and outside the United States (US), and a survey by KPMG (2017)[1] revealed that CSR reporting in the Eurozone stood at 77%, compared to 83% in the US. In 2019, over 180 US CEOs claimed that their firms' aims had shifted from serving only shareholders' interests to all stakeholders' interests (i.e., those of customers, suppliers, employees, and communities).[2] This increasing interest in CSR has sparked debate among academics regarding its legitimacy, with the existing literature mainly focusing on whether CSR activities actually increase firm value or, in fact, satisfy stakeholders' interests at the expense of wealth creation (for a review, see Busch & Friede, 2018).

The current literature is inconclusive regarding the impact of CSR on firm value (Buchanan et al., 2018; Servaes & Tamayo, 2013). On the one hand, agency theory (Jensen & Meckling, 1976) holds that CSR involves high agency costs. Specifically, managers and controlling shareholders may use firms' resources to engage in CSR activities that maximize the benefits of control at the expense of shareholders' interests (Barnea & Rubin, 2010). On the other hand, the conflict resolution hypothesis—an articulation of stakeholder theory (Freeman, 1984)—considers CSR a value-maximizing activity that is consistent with financial and non-financial stakeholders' interests. Indeed, CSR is a strategic intangible asset that contributes to increases in competitiveness and firm value (Flammer, 2015; Renneboog et al., 2008). CSR can further support strategic market differentiation (Lins et al., 2017), better credit ratings (Attig et al., 2013) and easier access to finance (Cheng et al., 2014).

This study aims to revisit the effect of CSR and its three dimensions—environmental, social, and governance—on firm value. Indeed, even though there has been growing interest in the CSR–performance relationship (see, for example, Al-Shammari et al., 2022), the findings are largely mixed. In their meta-analysis, Wang et al. (2016) reported a modestly positive association between CSR and financial performance, whereas other reviews showed that the results regarding the direction of the relationship are still inconclusive. For instance, in a meta-analysis conducted by Peloza (2009), 59% of the 128 studies reviewed indicated a positive correlation between CSR and financial success. Only 14% of the studies found a negative relationship, while 27% reported no significant association between CSR and financial performance. By focusing on non-financial Brazilian firms, Crisóstomo et al. (2011) documented, however, a strong negative relationship between CSR and firm value, or Tobin's Q. This implies that companies that prioritize CSR activities experience a decline in their overall market value. Chih et al. (2010) examined the factors influencing CSR among 520 financial organizations in 34 countries. The results indicated that larger companies showed greater interest in CSR, but there was no connection between financial performance and CSR.

These inconsistent empirical findings have led researchers to investigate the contingencies that moderate the effect of CSR on firm performance. Prior studies have focused on various contingencies that either strengthen or attenuate the effect of CSR on firm value, including firm characteristics (Al-Shammari et al., 2022) and institutional drivers. Our study examines a set of firm-level factors that might shape the relationship between CSR and its subdimensions and firm value by investigating the role of organizational contingencies—firm visibility, financial slack, and monitoring. As highlighted above, the inconsistent findings regarding the relationship between CSR and firm value motivated us to explore the critical channels with which these two

[1] https://home.kpmg/xx/en/home/insights/2017/10/the-kpmg-survey-of-corporate-responsibility-reporting-2017.html

[2] Business Roundtable. Statement on the Purpose of Corporation,

constructs could be associated. We posit that board structure, financial resource availability, and the willingness of firms to be visible in society are among the main stimulators of CSR engagement. The board, with its composition and mechanisms, is the ultimate construct triggering all major corporate policies and practices, including CSR (Lu, 2021), and the growing importance of CSR has placed it on top of the board agenda. The board is also responsible for addressing both shareholders' and other stakeholders' rights. However, whereas the availability of financial resources facilitates CSR uptake (Uyar et al., 2023), their scarcity puts tension on CSR practices, given that CSR-associated expenditures are mostly discretionary. Thus, shareholders pay attention to the financial resource availability of firms when attaching value to CSR. Lastly, firms wish to be more visible in society with their CSR actions (Li et al., 2019) as part of image building, which incited us to test the interaction of CSR with advertising in generating value. Our investigation extends prior studies that explored the substitutive effect of CSR and advertising in driving firm visibility and reputation without relating the interaction of CSR and advertising to firm value (Lloyd-Smith & An, 2019; Karmani et al., 2023). Relating the interaction of CSR and advertising to firm value will enable us to infer stock market implications, such as whether shareholders find the usage of two visibility channels excessive.

CSR and firm visibility may help firms generate value and satisfy the interests of both internal stakeholders (e.g., owners) and external stakeholders (e.g., consumers). For instance, firm visibility through advertising helps companies attract new consumers and build their brand images (West et al., 2008), ultimately generating increased sales and profitability (Osinga et al., 2010). Second, firm value is strongly linked to financial resources, particularly slack resources (Mishina et al., 2004). Slack resources may be a source of competitive advantage for firms, enabling them to finance positive net present value projects. We also considered whether sound corporate governance practices moderate the CSR–firm value relationship. Corporate governance is likely to ensure that managers use CSR activities effectively and prevent diversion from shareholders' interests (Aguilera et al., 2008). In the presence of strong corporate governance, CSR is effectively controlled, and its value is maximized (Daily et al., 2003) as a strategic investment consistent with shareholders' interests (Harjoto & Jo, 2011).

Based on a large worldwide sample from 2002 to 2019, our results showed that CSR performance increased firm value through environmental, social, and governance dimensions. This positive effect of CSR on firm value was motivated by three contingencies. First, the positive effect of firms' visibility on firms' CSR–firm value nexus was supported for social performance but not for the overall CSR score and environmental and governance performance. Second, the moderating effect of financial slack on the association between CSR and firm value was strongly supported by the composite CSR investment and its three components. Lastly, as a proxy for monitoring, the governance dimension strengthened the association between environmental and social performance and firm value. This study considers the implications of considering contingencies, including budgeting for CSR investments and advertising expenditures.

This study adds to the recent literature in several ways. First, it enriches the growing research on the legitimacy of CSR within business strategies (Lins et al., 2017; Renneboog et al., 2008). Although numerous prior studies have examined the connection between CSR and firm value (see Al-Shammari et al., 2022), their results have been inconsistent. Our study attempts to provide answers to the unresolved relationship between CSR and firm performance based on the three subdimensions of CSR, along with overall CSR performance. We differ from Albuquerque et al. (2019) and Lin et al. (2020), who explored the effect of an aggregate measure of CSR performance on firm value in US firms. Analyzing the individual subdimensions of CSR (e.g., environmental, social, and governance aspects) offers a more detailed and nuanced understanding of how each aspect contributes to firm performance. This allows for a more targeted assessment of the specific areas in which CSR initiatives have the most significant impact. Second, the study identifies the conditions under which CSR initiatives have a more or less pronounced impact on firm value. We particularly shed new light on the role that firm visibility, financial slack, and corporate governance play in shaping the relationship between

CSR and firm value. Moreover, our corporate governance proxy was based on a comprehensive set of governance indicators (i.e., governance pillars) rather than individual board dimensions, as is the case in most prior studies (Chang et al., 2017). The findings of this study have important implications for policymakers, since authorities around the world encourage businesses to operate in a responsible and sustainable manner. Indeed, by providing financial support, promoting responsible advertising, and strengthening corporate governance, policymakers can drive sustainable business practices.

The remainder of the paper is organized as follows. Section 2 reviews the existing literature and presents the research hypotheses. Section 3 describes the research methodology followed by empirical evidence in Section 4. Finally, Sections 5 and 6 present the conclusions, theoretical and managerial implications, and future research avenues.

Theoretical framework and hypotheses

CSR performance and firm value

CSR has gained increasing worldwide attention in recent years; however, to date, there is conflicting evidence regarding whether and to what extent CSR influences firm value (Buchanan et al., 2018). The relationship between CSR and firm value is ambiguous. The mixed findings are mostly due to a lack of understanding of the mechanisms through which CSR may affect firm value. However, two major theoretical views can explain the impact of CSR on firm value.

According to the agency theory perspective and the related shift-of-focus theoretical hypothesis (Jensen & Meckling, 1976), there is a negative relationship between CSR and firm value. When managers engage in CSR activities, they may do so by diverting firms' resources that could otherwise be invested in profitable projects. For instance, managers may use their firms' resources for socially responsible activities to shift focus away from their own inadequacies (Preston & O'Bannon, 1997). Similarly, instead of maximizing firm value, managers may utilize resources for CSR to build their personal reputations as responsible corporate citizens (Barnea & Rubin, 2010). The additional resources and costs associated with CSR may prevent socially responsible companies from maximizing firm value and profitability (Barnea & Rubin, 2010; Harjoto & Jo, 2011; Sprinkle & Maines, 2010). Indeed, if managerial opportunism takes precedence over shareholder interests, CSR may become costly, leading to overinvestments that are likely to harm firm value (Crisóstomo et al., 2011; Duque-Grisales & Aguilera-Caracuel, 2021; Kuzey et al., 2021). For instance, Brammer et al. (2006) found that firms in the UK with higher social performance scores have lower shareholder values. Specifically, they found that the poor financial reward offered by socially responsible firms is attributable to their sustainable behavior in the environment and, to a lesser extent, the community aspects. Similarly, focusing on non-financial Brazilian firms, Crisóstomo et al. (2011) documented a strong negative relationship between CSR and firm value (Tobin's Q). This implies that companies that prioritize CSR activities experience a decline in their overall market value. Duque-Grisales and Aguilera-Caracuel (2021) examined whether the financial performance of firms in Latin American countries is associated with their environmental, social, and governance (ESG) scores and found a negative relation in emerging markets.

In contrast to the agency view, the conflict resolution hypothesis introduces CSR as an instrument for resolving conflicts among various stakeholders and increasing firm value (Freeman, 1984; Jensen, 2002). By engaging in CSR, managers create positive synergies with diverse stakeholders by addressing their legitimate expectations and concerns (Cui et al., 2016). This theoretical argument aligns with stakeholder theory (Freeman, 1984), which stipulates that managers should not only prioritize the interests of shareholders but should also consider all stakeholders' interests. According to stakeholder theory, managers show their commitment to doing the right thing by paying attention to stakeholders' interests. CSR also plays a crucial risk management role

and is considered a monitoring mechanism to reduce deviations from optimal risk taking (Harjoto & Laksmana, 2018). The existing literature considers CSR to be a firm value creation lever that helps protect both financing and non-financing stakeholders' interests (Harjoto & Laksmana, 2018; Kuzey et al., 2021). Choi et al. (2018) found a positive effect of CSR on firm value for small companies in Korea, and Kuzey et al. (2021) confirmed this positive relationship in the financial sector.

Existing theoretical arguments have thus posited a mixed effect of CSR on firm value. Despite CSR practices being costly for firms, engaging in CSR activities can lead to high stock market valuations by reducing conflicts of interests among stakeholders and managing all stakeholders' needs. To achieve this, companies are likely to address environmental, social, and governance issues—that is, the three dimensions of CSR practices (Wong et al., 2021).

In the context of environmental sustainability, numerous studies have shown that companies with high environmental performance experience an increase in their market value (e.g., Benkraiem et al., 2022). Investors generally perceive companies' green investment announcements as positive news (Yadav et al., 2016). For instance, companies engaging in carbon reduction activities have shown a rise in their market capitalization (Chapple et al., 2013). For example, Clarkson et al. (2004) found that the market rewards environmental investments, although mainly in low-polluting firms. By contrast, Matsumura et al. (2014) showed a negative impact of carbon emission intensity on firm value, suggesting that the market penalizes companies for their increased level of carbon emissions.

The social dimension of CSR was also found to be associated with high financial performance. According to Drucker (1984), the social responsibility of a business is to transform social issues into productive capacity, better workforce ability and skills, better compensation, and higher wealth for all the parties engaged with company business. Jo and Harjoto (2011) showed that CSR initiatives that focus on improving internal social aspects within a company, including diversity among employees, the company's relationship with its workforce, and productivity, lead to an increase in the firm's overall value. Bode et al. (2015) revealed a positive association between socially responsible programs and the retention of a skilled workforce. Following the resource-based view (Barney, 1991), the knowledge held by skilled employees is considered a strategic asset critical to enhancing firm value (Suto and Takehara, 2022).

As for the governance dimension of CSR, the literature based on agency theory has established a strong positive effect of corporate governance quality on firm valuation (e.g., Xie et al., 2022; Bebchuk et al., 2009). Using firm-level evidence on corporate governance practices for 495 companies from 25 emerging markets, Klapper and Love (2004) showed that better corporate governance is highly correlated with enhanced firm performance. The positive effects of good corporate governance practices on firm valuation are explained by higher investor confidence (Garay and González, 2008). According to Zhu (2014), high governance quality lowers the cost of capital and may ultimately increase firm value. Corporate governance may also lead to higher stock prices, as investors anticipate less diversion of cash flows and firm's profits being distributed as dividends (Xie et al., 2022). Hence, the preceding discussion leads to the following hypothesis:

H_1: CSR performance and its three dimensions, environmental, social, and governance, positively influence firm value.

The moderating role of firm visibility

A growing number of researchers have recognized the benefits of firms increasing their visibility (Li et al., 2019). According to Belo et al. (2014), firm value reflects both the value of a firm's physical capital (e.g., plant and machinery) and the value of its intangible assets (e.g., employee skills and satisfaction or the company brand name). As an investment in a firm's intangible assets, visibility generates value for shareholders, as it can attract new consumers and enhance customer preferences and brand image (West et al., 2008). Visibility

can also contribute to achieving future increases in firms' sales, profits, and value (Albuquerque et al., 2019; Lloyd-Smith & An, 2019; Osinga et al., 2010). Belo et al. (2014) argued that a company with high brand value exhibits greater returns and less risk than other companies.

Moreover, according to legitimacy theory (Dowling & Pfeffer, 1975), companies strive to gain and maintain social legitimacy. As part of their legitimacy-seeking efforts, organizations engage in CSR activities to demonstrate their commitment to social and environmental concerns. When a firm has high visibility, its CSR activities are more likely to be observed and scrutinized by various stakeholders (Wu et al., 2018). High visibility may then increase the pressure on firms to engage in social and environmental issues and improve their governance quality (Wong et al., 2014). Stakeholders expect visible firms to demonstrate their commitment to social and environmental responsibility as part of maintaining their social legitimacy. Thus, Li et al. (2019) found a positive effect of firm visibility on CSR. Servaes and Tamayo (2013) indicated that firms with high costumers' awareness and that engage in CSR programs experience better firm value.

Given the potential impact of firm visibility on firm performance and CSR engagement, we assume that firm visibility and the three dimensions of CSR—environmental, social, and governance—can generate value because they help satisfy the interests of both internal stakeholders (e.g., owners and employees) and external stakeholders. The preceding discussion shows that the effect of firm visibility on the relationship between CSR and firm value is positive. Therefore, we formulated the following hypothesis:

H_2: Firm visibility has a moderating effect on the positive relationship between firm value and the performance of CSR environmental, social, and governance dimensions.

The moderating role of financial slack

According to resource-based theory, the acquisition of specific resources (e.g., slack resources) gives firms a competitive advantage over their rivals (Rafailov, 2017). Specifically, slack resources help firms innovate and implement new strategies to improve their long-term performance (Tan & Peng, 2003). Slack resources provide a firm with the ability to respond to unexpected changes in the business environment. This strategic flexibility allows the company to adapt to new opportunities or challenges, make strategic investments, or pursue innovative initiatives (Rafailov, 2017). By having slack resources, a firm can position itself for long-term growth and increase its value in the eyes of investors.

This study focuses on the moderating effect of financial slack on the CSR–firm value relationship. The existing literature emphasizes that slack resources are available funds that can be used to resolve organizational issues and achieve environmental, social, and governance objectives (Chang et al., 2017). According to Clarkson et al. (2011), companies with greater financial slack have the ability to allocate resources to CSR initiatives. Similarly, Waddock and Graves (1997) indicated that high levels of retained profits are positively associated with CSR, as financial slack can enable companies to take a long-term perspective and prioritize environmental (Liu et al., 2021), social (Singh et al., 2023), and governance (Tabassam and Khan, 2021) initiatives. Overall, financially strong companies with surplus resources are often seen as more capable of engaging in CSR initiatives and building stronger relationships with stakeholders (Lin et al., 2019; Orlitzky et al., 2003). This is likely to enhance a firm's value. Duque-Grisales and Aguilera-Caracuel (2021) investigated the moderating effect of financial slack in emerging markets. The authors found that in countries of Latin America, the effect of environmental, social, and governance scores on firm value is moderated by the existence of a financial slack. In light of the preceding discussion, financial slack can be an appropriate source of financing for new investments (e.g., CSR), increasing potential value in the long run. Hence, we developed our third hypothesis as follows:

H_3: Financial slack has a moderating effect on the positive relationship between firm value and the performance of CSR environmental, social, and governance dimensions.

The moderating role of corporate governance

The role of corporate governance is to ensure that corporate strategies, including CSR, are applied effectively and in the best interests of shareholders (Aguilera et al., 2008; Daily et al., 2003). According to Lu (2021), recognizing the role of corporate governance can assist top-level management in efficiently allocating their scarce resources during strategic decision-making processes within corporations, particularly in the realm of strategic sustainability investing.

According to agency theory, corporate governance aims to mitigate conflicts of interest between managers and shareholders (Jensen & Meckling, 1976) and results in a positive impact on firm performance (Harjoto & Jo, 2011). The primary goal of shareholder value maximization can be achieved through effective corporate governance practices, as highlighted by Li et al. (2020). According to Barnea and Rubin (2010), insiders (e.g., CEOs) have an incentive to overinvest in CSR to enhance their reputations, potentially at the expense of shareholders' interests. However, strongly governed firms are likely to discipline managerial actions (Pham & Tran, 2020).

To date, little research has considered how CSR and corporate governance jointly influence firm value (Lu, 2021). In Lu's study, it is demonstrated that in the top largest U.S. companies, the effect of CSR on firm performance is higher in the presence of strong corporate governance. Indeed, a well-governed company is likely to prioritize the interests of stakeholders and ensure that environmental and social strategies are implemented more effectively. This ultimately leads to improved firm performance and increased value for shareholders. Furthermore, Sar (2018) found that companies with a high corporate governance index are associated with superior sustainability and particularly with environmental performance and social equity. Specifically, in the presence of a good corporate governance structure, environmental and social activities are well controlled and have a value-maximization purpose (Aguilera et al., 2008).

Considering the preceding discussion, agency problems related to CSR are supposed to be less likely in companies with strong governance structures. Further, CSR activities in well-governed firms are effectively monitored, leading investee firms toward value maximization. We then assume that corporate governance mechanisms moderates the relationship between firm value and CSR environmental and social initiatives. Thus, we formulated our fourth hypothesis as follows:

H_4: Corporate governance has a moderating effect on the positive relationship between firm value and the performance of CSR environmental and social dimensions.

Research methodology

Description of variables

CSR variables were proxied by the composite CSR (ESG) score and its three components: environmental (ENV), social (SOC), and governance (GOV) scores (Govindan et al., 2021; Kuo et al., 2021). They were all retrieved from the Thomson Reuters Eikon (TRE) database, with scores ranging from 0 (lowest) to 100 (highest). In our robustness tests, we used industry-adjusted counterparts (ESG-adj, ENV-adj, SOC-adj, and GOV-adj), which were calculated as the difference between a company's CSR score and the median CSR score of the companies for each metric in the same sector in the same year (Yu et al., 2018). When governance was used as a proxy for managerial monitoring in the moderating effect, we replaced ESG with the mean of the environmental and social pillars (ENV_SOC) to avoid overlap between the governance pillar (i.e., moderator) and ESG (Ghoul et al., 2017).

Firm value was proxied by Tobin's Q (T'sQ), calculated as the market value of equity plus the book value of liabilities scaled by total assets. Along with industry-adjusted CSR proxies in the robustness tests, we

calculated the industry-adjusted Tobin's Q (T'sQ-adj)—that is, the difference between a firm's Tobin's Q and the median of firms in the same industry and year (Yu et al., 2018).

We proxied firm visibility (Fvisibility) by advertising expenditure scaled by net sales (Servaes & Tamayo, 2013), since advertising increases firm visibility via increasing product market share (Oak & Dalbor, 2010) and attracting investors' attention (Chen et al., 2020).

Financial slack was measured by free cash flow (FCF; Lin et al., 2019), and monitoring was captured through the governance pillar of CSR (GOV). Although most studies used specific board characteristics, such as board independence and diversity, we followed previous studies (Nekhili et al., 2021) to adopt a proxy based on a comprehensive set of governance indicators.

Lastly, we incorporated several control variables, namely board size (Bsize), return on assets (ROA), firm size (Fsize), leverage, research and development expenditure intensity (R&Dintensity), current ratio (Currentratio), and free float percentage (Freefloat), following McWilliams and Siegel (2000), Yu et al. (2018), and Govindan et al. (2021). These variables are potential indicators that we expected to affect firm value. All the described variables are listed and defined precisely in Table A1 in the Appendix.

Sample

The initial sample included all firm-year observations with available CSR data in the TRE database from 2002 to 2019 across 10 industry sectors and 65 countries. The TRE database houses fundamental data for publicly listed companies from emerging and developed economies (Refinitiv, 2022a). The fundamental data are compiled from annual reports, balance sheets, and income statements, among other reports. The data on the current and historical financial health of the companies cover companies trading in over 120 countries, with histories as long as 40 years. The ESG data, however, have limited coverage compared to the fundamental data and reach over 88% of the global market capitalization, with histories dating back to 2002 (Refinitiv, 2022b). The ESG data measure a firm's relative ESG score across 10 main constituents, including resource use, environmental innovation, workforce, and CSR strategy, among others, based on publicly disclosed information (Refinitiv, 2022b). The TRE's ESG rating/scoring system has been well-acknowledged for its standardized scores, rigor, and integrity (Banerjee et al., 2020), and is widely adopted in measuring firms' CSR performance in recent literature (Liu et al., 2022; Ozkan et al., 2022). Even though Kinder, Lydenberg, and Domini (KLD) Research & Analytics and Bloomberg also provide ESG data, Bloomberg's ESG metrics are commonly used for measuring the extent of CSR "disclosure" but not "performance" (Hamrouni et al., 2019), and KLD's ESG rating methodology is built on binary metrics (Berg et al., 2022). Further, the TRE database has the highest number of individual indicators (i.e., 282) compared to other ESG data providers (Berg et al., 2022). Thus, we acknowledge the existence and divergence of different ESG rating providers, notably KLD, Sustainalytics, Moody's ESG (previously Vigeo-Eiris), S&P Global (previously RobecoSAM), TRE (previously Asset4), and MSCI. Berg et al. (2022) examined the drivers of divergence (i.e., scope, weight, and measurement) and concluded that variations in measurement are the main cause of ESG rating divergence.

Table 1 shows the sample distribution based on the years and sectors. Accordingly, the firm-year records ranged between 410 in 2002 and 7,702 in 2019, with the data points continuing to increase from 2002 to 2019. Regarding sample distribution based on sector, 22.53% of the firm-year observations were for the financial sector, 16.27% for industrials, 14.67% for consumer cyclicals, 10.15% for basic materials, 8.77% for technology, 7.07% for healthcare, 6.92% for consumer non-cyclicals, 6.79% for energy, 4.21% for utilities, and 2.63% for telecommunications services. Lastly, the research sample included 65 countries with 7,702 unique firms within the countries and 59,172 firm-year data points (see Appendix Table A2).

Methodology

We used panel regression analysis because there was a time-variant relationship between the dependent and independent variables. We we used a fixed-effects (FE) panel regression analysis to test the research models.

Equation 1 represents the models for the functional relationships among the variables to test H_1:

$$y_{it} = \alpha + \beta x_{it} + \vartheta_i + \epsilon_{it}. \quad (1)$$

Here, the dependent variable, T'sQ, is represented by the term y_{it}. The independent variables (ESG, ENV, SOC, and GOV) and the control variables (Bsize, Fsize, ROA, Leverage, R&Dintensity, Currentratio, and Freefloat) are represented by the term x_{it}. The error term is represented by $\vartheta_i+\epsilon_{it}$. Firms are the panel variables indicated by index *i*, whereas the years are the time variables indicated by *t*.

Moderation analysis

The moderating effects of firms' visibility, financial slack, and governance on the relationship between the dependent variable (T'sQ) and the independent variables (GOV, ESG, ENV, and SOC) were investigated to test H_2, H_3, and H_4. The variable GOV was used as a moderator to test H_4. Following Hayes' (2017) moderation analysis, our equation was formulated as follows:

$$y_i = \alpha + \beta_1 x_{1i} + \beta_2 M_i + \beta_3 (x_{1i} * M_i) + \beta_4 x_{2i} + \epsilon_i. \quad (2)$$

The dependent variable (y_i) is T'sQ. The moderating variables (M) are Fvisibility, FCF, and GOV. The independent variables (x_{1i}) are GOV, ESG, ENV, and SOC, and the control variables (x_{2i}) are Bsize, Fsize, ROA, Leverage, R&Dintensity, Currentratio, and Freefloat.

Empirical results and discussion

Descriptive statistics

The descriptive statistics are presented in Table 2, including the minimum, maximum, standard deviation, and average values. According to the obtained results, the mean value was 1.81 for T'sQ, whereas it was 40.86 for ESG, 31.04 for ENV, 41.21 for SOC, 48.06 for GOV, and 36.12 for ENV_SOC. The averages were 0.37 for T'sQ-adj, 1.98 for ESG-adj, 6.4 for ENV-adj, 2.75 for SOC-adj, and -0.14 for GOV-adj. The average FCF value was 0.01, and that of Fvisibility was 0.01.

Multicollinearity and Pearson's correlation analysis

The multicollinearity issue was addressed using variance inflation factor (VIF) values. The VIF values for Model 1 ranged between 1.02 and 1.76, those for Model 2 ranged between 1.01 and 1.69, those for Model 3 ranged between 1.01 and 1.67, and those for Model 4 ranged between 1.03 and 1.63. The threshold value for the risk of multicollinearity was 10 (Hair et al., 2019). Therefore, we detected no risk of multicollinearity among the variables of interest in the proposed models.

Summary statistics for the research variables based on Pearson's correlation coefficients are reported in Table 3. The correlation analysis of ESG was separated from that of the ENV, SOC, and GOV pillars, along with the rest of the research variables, which are presented in Table 3 (Panels A and B), respectively. Thus, while Panel A gives the correlations of ESG with other variables, Panel B gives the correlations of the ENV, SOC, and GOV pillars with other variables. We also examined bivariate linear correlations. Accordingly, ESG, ENV, SOC, and GOV had negative and significant linear correlations with T'sQ and T'sQ-adj ($p < 0.05$).

Baseline analysis

Table 4 presents the results in columns 1–4. The results revealed that the coefficients of ESG, ENV, and SOC were significant and positive ($p < 0.01$), while the coefficient of GOV was significant and positive ($p < 0.10$). Hence, the value-enhancing role of CSR performance and its three sub-pillars were confirmed, lending support to H_1. This result supports the conflict resolution hypothesis of stakeholder theory (Cui et al., 2016; Freeman, 1984). In line with this perspective, shareholders appreciate mainly environmental and social efforts, which may help firms accumulate intangible assets and firm value by addressing both shareholders' and stakeholders' interests (Kuzey et al., 2021), thus ensuring firms' long-term stability and success. Hence, stockholders are unlikely to perceive CSR engagement as a tool of managerial opportunism and a wasteful diversion of resources (Buchanan et al., 2018; Govindan et al., 2021). This finding provides additional evidence regarding prior inconclusive results that demonstrated positive (Harjoto & Laksmana, 2018), negative (Crisóstomo et al., 2011; Govindan et al., 2021), or neutral (Kuzey et al., 2021) associations between CSR and firms' performance in various samples and industries.

Moderating effects

Table 5 presents the results of the moderating role of firms' visibility on the relationship between CSR performance and T'sQ. The results showed that the coefficients of visibility were significantly positive ($p < 0.01$), suggesting that firms' visibility helped improve firm value. The results also showed that firms' visibility did not affect the CSR–firm value relationship, thus rejecting H_2. However, the results supported H_2 on the social performance dimension of CSR but not on its environmental and governance dimensions. This result suggests that while advertising strengthens the association between social performance and firm value, it weakens the association between environmental and governance performance and firm value. This implies that shareholders favor publicity for social initiatives via advertising but not environmental and governance engagements. This finding on the moderating effect of social performance aligned with the one of Albuquerque et al. (2019), who indicated that the interaction between CSR and advertising on firm value was positive. Unlike our study, which included three CSR pillars and a composite CSR proxy, Albuquerque et al. (2019) used only a composite CSR proxy. Further, the negative effect on the environmental and governance dimensions confirmed Lloyd-Smith and An's (2019) finding that the "substitutability" of CSR and advertising expenditure supported firms' reputations in a US context. The different nature of the three CSR initiatives may explain the different findings, in that social initiatives directed at community development are more outward, and hence, they may better enhance firms' reputations, coupled with advertising. By contrast, environmental and governance engagements are more inward and, hence, should not be coupled with advertising.

Table 6 shows the results for the moderating effect of financial slack on the CSR–firm value relationship. The results showed that all interaction terms between the FCF variable and CSR and its three dimensions were positive and statistically significant ($p < 0.01$), supporting H_3. Hence, shareholders appreciate firms' investments in CSR's three sub-pillars if the firms have considerable financial slack, supporting the resource-based view (Rafailov, 2017). This finding is in line with that of Lin et al. (2019). Shareholders may consider that CSR investment prevents managers from expropriating a firm's surplus financial resources in a self-serving manner.

Finally, we examined the moderating role of GOV on the CSR–firm value relationship. Table 7 shows that the coefficients of the interaction terms ENV_SOC × GOV, ENV × GOV, and SOC × GOV were significant and positive ($p < 0.01$). These results supported H_4, suggesting that the governance dimension plays a significant moderating role in leveraging environmental and social performance for firm value. Our findings converge with those of Jo and Harjoto (2011), who reported a positive moderating effect of corporate governance (i.e., institutional ownership) on the CSR–firm value relationship. This finding suggests that when environmental and social initiatives are supported by a strong corporate governance structure, they enhance firm value.

Despite some researchers' argument that CSR can increase agency costs due to its appropriation by managers for personal benefit (Pham & Tran, 2020), it is evident that an effective board and strong monitoring reassure shareholders that CSR is not detrimental to their wealth.

Robustness checks

Endogeneity concern: We addressed endogeneity and omitted variable bias issues using a Generalized Method of Moments (GMM)-based dynamic panel regression analysis (Arellano & Bond, 1991). One lag of the dependent variable (T'sQ) was included as an independent variable, which also contained unobserved panel-level fixed effects, making the standard estimators consistent (Arellano & Bond, 1991). Furthermore, the GMM-based dynamic panel regression approach used moment restrictions, which eliminated the potential bias caused by time-invariant unobserved heterogeneity. The results reported in Table 8 indicate that they resembled our main findings.

Alternative sample: We used an alternative sample by excluding US-based firms because of their dominance in the sample. The moderation analysis is presented as a single table with three panels (Table 9). Whereas the results in Panels B and C perfectly align with the baseline moderation analysis (positive moderations of FCF and GOV), those in Panel A exhibit some divergence. As shown in Panel A, the moderating effect of firms' visibility produced more positive results after excluding the US from the sample in the robustness test. This implies that advertising expenditure and CSR tended to be complementary in the sample excluding the US, whereas they tended to be substitutes in the full sample.[3]

Using entropy balancing and PSM approaches: Alternative samples were generated using entropy balancing (Hainmueller & Xu, 2013) and propensity score matching (PSM) (Leuven & Sianesi, 2003) methods. These two approaches are commonly used to mitigate potential endogeneity concerns in accounting research. We created a binary variable with the treatment and control groups to perform entropy balancing and PSM methods. The baseline research models were examined using alternative samples based on entropy balancing (Table 10). The results of the entropy balancing remained unchanged. The treatment group was created from the top quartile observations with the highest ESG score, and the control group comprised the rest of the observations. For each record in our treatment group, we identified the most similar record from the rest of the sample using PSM based on seven characteristics using the control variables in the regression. Moreover, we performed a diagnostic check to ensure the successful application of the PSM method. In this regard, we performed logistic regression with treatment (High ESG score) and control levels as the binary dependent variable to predict the chance of being included in the treatment group (High ESG score) for the whole sample (Table 11, Panel A, Pre-Match Treatment). We then ran another logistic regression with the same binary dependent variable using the sample from the PSM analysis (Table 11, Panel A, Post-Match Treatment). The results of the post-match treatment model showed that the coefficients were not significant, confirming the success of the PSM application. Therefore, the treatment and control groups were statistically indistinguishable. The baseline research models were then examined using a sample from PSM (Table 11, Panel B). The results were consistent with the initial analysis findings, with the coefficients of ESG, ENV, SOC, and GOV remaining significantly positive.

Time period analysis: To check whether the results vary in earlier periods versus recent periods, we decomposed the sample into two sub-periods: earlier (2002–2014) versus recent periods (2015–2019). In dividing the sample, we also paid attention to obtaining equivalent/balanced number of observations for the periods. The baseline research models were reexamined based on these two sub-groups (Table 12). Whereas the results held for ENV, SOC, and GOV for the time periods between 2015 and 2019, they weakened for the

[3] However, the interaction effect of SOC × Fvisibility remained stable (positive) across the baseline analysis and robustness tests.

time periods between 2002 and 2014[4]. Thus, it appears that the value relevance of ESG practices has increased in recent periods.

Country, industry, and year fixed effects: The sample has country, industry, and year levels. Thus, we examined the baseline research models by incorporating country, industry, and year fixed effects to alleviate potential time-invariant endogeneity issues (Nunn, 2007). As presented in Table 13, the results remained unchanged.

Conclusion

In this study, we investigated the relationship between CSR and firm value in an international context. However, prior studies have shown that the association between CSR and firm value is not always straightforward; they could be negatively (Govindan et al., 2021) or positively (Choi et al. (2018) correlated or may have a non-linear relationship (Chih et al. 2010). These inconclusive findings motivate researchers to focus on contingencies/channels influencing the CSR–firm value relationship. Therefore, we shed light on the moderating effects of firms' visibility, financial slack, and board monitoring in leveraging CSR investments to enhance firm value.

First, we found robust evidence that CSR performance and its three pillars (i.e., environmental, social, and governance) play a significant positive role in promoting firm value. This result supports Choi et al. (2018), who found evidence of a positive relationship; however, it contradicts Govindan et al.'s (2021) report of a negative CSR–firm value relationship. Second, we found that the moderating effect of firm visibility (proxied by advertising) was not uniform across CSR dimensions. Whereas firm visibility negatively moderates the link between environmental and governance performance and firm value, it positively moderates the association between social performance and firm value. This finding extends prior studies that explored the substitutive effect of CSR and advertising in driving firm visibility and reputation without relating the interaction of CSR and advertising to firm value (Lloyd-Smith & An, 2019; Karmani et al., 2023). Our study particularly demonstrates shareholders' disapproval of the use of both advertising and the performance of CSR environmental and governance dimensions but not the social dimension. Third, financial slack accentuates the positive effect of CSR and its three dimensions on firm value. Given that financial slack represents ample funds for stimulating firm visibility channels, such as CSR and advertising (Karmani et al., 2023), our findings show that shareholders appreciate CSR initiatives at the existence of financial slack. Finally, as a proxy for board monitoring, the governance dimension positively moderates the CSR–firm value relationship. The result confirms Su and Sauerwald's (2018) finding of a positive moderating effect of corporate governance on the corporate philanthropy–firm value relationship. This outcome also supports the critical role of board monitoring in connecting CSR to other firm outcomes, such as dividend payout (Lakhal et al., 2023), firm innovation (Jia et al., 2022), and risk mitigation (Nirino et al., 2022).

The findings have several theoretical and practical implications. We reveal two main theoretical perspectives on the effect of CSR on firm value. On the one hand, CSR reduces shareholder value and exacerbates agency costs. On the other hand, the conflict resolution hypothesis (consistent with stakeholder theory) considers CSR to be a value-maximizing activity that aligns with the interests of all stakeholders. Our results support the conflict resolution hypothesis and reject the agency theory. However, the results for the moderating effects highlight the roles of contingencies, confirming resource-based theory and the role of board monitoring mechanisms in CSR's value creation for shareholders. The findings regarding firm visibility's moderating role mostly confirm the neoclassical theory of investment, which claims that the cost of advertising, coupled with spending on CSR investment, decreases firm value. By contrast, the findings for social

[4] While the coefficients of ESG and SOC are significantly positive, the coefficients of ENV and GOV became non-significant between 2002 and 2014 in the robustness check.

performance diverge from the other dimensions and support the intangible capital-generating role of social performance and advertising combined.

The results also have practical implications for firms, shareholders, and policymakers. First, the results imply that investors appreciate firms' CSR investments across all dimensions. Thus, firms should consider that while addressing stakeholders' concerns, they can also attract shareholders' interest in the stock market. However, our moderating effect analysis of channels through which investors appreciate CSR efforts reveals that stockholders appreciate firms' CSR engagement when the firms have available financial slack and strong board monitoring. Second, given that free cash flow is the proxy for financial slack, firms are advised to budget for CSR investments after allocating funds for capital expenditure and dividend payouts. Board monitoring's positive moderating effect implies that the existence of a well-established board structure and monitoring mechanism might assure shareholders that CSR investment is maintained by corporate policy, and hence not a waste of corporate resources. Third, regarding advertising, the findings have different implications: whereas advertising weakens the relationship between environmental and governance performance and firm value, it strengthens the relationship between social performance and firm value. This implies that investors may find the simultaneity of these two visibility channels (i.e., advertising and CSR environmental and governance pillars) costly. This finding suggests the importance of budgeting for advertising expenditures and CSR investments. On the contrary, the results imply that combining advertising with social engagement, such as community development and improving employee welfare, reinforces firm value. This suggests that doing good for society and simultaneously advertising creates synergy for firm visibility and favorable stakeholder perceptions. Finally, our findings may help regulators formulate policies by identifying the channels through which CSR is leveraged for firm value.

This study has some limitations. First, other than the ESG rating provider we used (i.e., TRE), there are five more ESG rating providers, as listed in the sampling section. Using different ESG providers may alter the results, as there might be some divergence between their measurements. Second, we used a market-based indicator measuring firm performance as the dependent variable (i.e., T'sQ), which assesses the appreciation of shareholders of CSR. Thus, our dependent variable does not measure accounting-based firm performance, such as profitability or sales performance. As stakeholders' and firms' interest in CSR increases, its benefits for firms will continue to be debated among academics and practitioners. Hence, it is crucial to explore the channels through which CSR adds value to firms, including contingencies. Future studies could explore other organizational and institutional contingencies that might affect the performance implications of CSR for firms. Prospective studies could be designed around managerial, structural, sectoral, and national contingencies, providing valuable insights for stakeholders. For example, the moderation effects of polluting industries and regulatory environments may yield valuable insights for policymaking.

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Table 1. Distribution of the research sample

Variable	Categories	Freq.	Percent
Year	2002	410	0.69
	2003	657	1.11
	2004	1,097	1.85
	2005	1,533	2.59
	2006	1,640	2.77
	2007	1,776	3.00
	2008	2,061	3.48
	2009	2,480	4.19
	2010	2,892	4.89
	2011	3,284	5.55
	2012	3,454	5.84
	2013	3,590	6.07
	2014	3,786	6.40
	2015	4,469	7.55
	2016	5,383	9.10
	2017	6,120	10.34
	2018	6,838	11.56
	2019	7,702	13.02
	Total	*59,172*	*100.00*
Sector	Basic materials	6,003	10.15
	Utilities	2,490	4.21
	Financial	13,332	22.53
	Energy	4,016	6.79
	Consumer cyclicals	8,680	14.67
	Healthcare	4,184	7.07
	Industrials	9,629	16.27
	Telecommunications services	1,555	2.63
	Consumer non-cyclicals	4,095	6.92
	Technology	5,188	8.77
	Total	*59,172*	*100.00*

Table 2. Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
T'sQ	59,172	1.81	1.41	0.62	9.36
T'sQ-adj	59,172	0.37	1.30	-1.25	7.53
ESG	59,172	40.86	20.43	0.13	95.07
ENV	59,172	31.04	28.66	0.00	99.06
SOC	59,172	41.21	23.36	0.05	98.64
GOV	59,172	48.06	22.69	0.11	99.38
ESG-adj	59,172	1.98	20.25	-44.90	62.91
ENV-adj	59,172	6.40	28.27	-47.20	96.04
SOC-adj	59,172	2.75	23.12	-45.43	69.97
GOV-adj	59,172	-0.14	22.55	-60.58	57.86
FCF	59,172	0.01	0.08	-0.39	0.21
Fvisibility	59,172	0.01	0.03	0.00	0.20
Bsize	59,172	10.18	3.47	4.00	21.00
Fsize	59,172	22.44	1.82	10.65	29.10
ROA	59,172	0.07	0.09	-0.37	0.36
Leverage	59,172	0.24	0.19	0.00	0.83
R&Dintensity	59,172	0.05	0.25	0.00	2.29
Currentratio	59,172	1.92	1.83	0.25	12.90
Freefloat	59,172	77.39	24.72	0.00	100.00
ENV_SOC	59,172	36.12	24.07	0.03	97.46

Table 3. Correlation analysis

Panel A

	Variables	1	2	3	4	5	6	7	8	9	10	11	12
1	T'sQ	1											
2	T'sQ-adj	0.961*	1										
3	ESG	-0.094*	-0.091*	1									
4	FCF	0.079*	0.078*	0.102*	1								
5	Fvisibility	0.152*	0.122*	0.019*	0.068*	1							
6	Bsize	-0.179*	-0.153*	0.254*	0.074*	0.035*	1						
7	Fsize	-0.380*	-0.317*	0.446*	0.133*	0.006	0.514*	1					
8	ROA	0.286*	0.304*	0.086*	0.565*	0.076*	-0.007	-0.012*	1				
9	Leverage	-0.129*	-0.112*	0.045*	-0.093*	-0.027*	0.024*	0.101*	-0.041*	1			
10	R&Dintensity	0.196*	0.124*	-0.072*	-0.330*	0.046*	-0.102*	-0.215*	-0.382*	-0.095*	1		
11	Currentratio	0.219*	0.167*	-0.180*	-0.142*	0.010*	-0.199*	-0.339*	-0.127*	-0.280*	0.298*	1	
12	Freefloat	0.007	-0.011*	0.088*	0.051*	-0.033*	-0.053*	0.002	-0.021*	0.010*	0.036*	0.027*	1

*$p < 0.05$

Panel B

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	T'sQ	1													
2	T'sQ-adj	0.961*	1												
3	ENV	-0.137*	-0.132*	1											
4	SOC	-0.035*	-0.037*	0.709*	1										
5	GOV	-0.089*	-0.084*	0.391*	0.404*	1									
6	FCF	0.079*	0.078*	0.071*	0.068*	0.081*	1								
7	Fvisibility	0.152*	0.122*	0.007	0.022*	-0.007	0.068*	1							
8	Bsize	-0.179*	-0.153*	0.285*	0.215*	0.081*	0.074*	0.035*	1						
9	Fsize	-0.380*	-0.317*	0.421*	0.365*	0.279*	0.133*	0.006	0.514*	1					
10	ROA	0.286*	0.304*	0.077*	0.060*	0.082*	0.565*	0.076*	-0.007	-0.012*	1				
11	Leverage	-0.129*	-0.112*	0.068*	0.059*	0.022*	-0.093*	-0.027*	0.024*	0.101*	-0.041*	1			
12	R&Dintensity	0.196*	0.124*	-0.097*	-0.019*	-0.064*	-0.330*	0.046*	-0.102*	-0.215*	-0.382*	-0.095*	1		
13	Currentratio	0.219*	0.167*	-0.172*	-0.134*	-0.127*	-0.142*	0.010*	-0.199*	-0.339*	-0.127*	-0.280*	0.298*		
14	Freefloat	0.007	-0.011*	0	0.082*	0.142*	0.051*	-0.033*	-0.053*	0.002	-0.021*	0.010*	0.036*	0.027*	1

*$p < 0.05$

Table 4. Fixed-effects panel regression analysis

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
ESG	0.0026***			
	(9.32)			
ENV		0.0015***		
		(7.64)		
SOC			0.0023***	
			(9.84)	
GOV				0.00042*
				(1.95)
Bsize	0.0032*	0.0027	0.0028	0.0027
	(1.75)	(1.48)	(1.51)	(1.43)
Fsize	-0.49***	-0.49***	-0.49***	-0.47***
	(-62.45)	(-62.03)	(-63.17)	(-62.67)
ROA	4.13***	4.12***	4.12***	4.09***
	(66.09)	(65.96)	(66.08)	(65.60)
Leverage	0.19***	0.19***	0.19***	0.19***
	(5.13)	(5.22)	(5.16)	(5.36)
R&Dintensity	0.34***	0.34***	0.34***	0.34***
	(13.35)	(13.39)	(13.35)	(13.34)
Currentratio	-0.0075**	-0.0076**	-0.0076**	-0.0077**
	(-2.35)	(-2.37)	(-2.38)	(-2.41)
Freefloat	0.0016***	0.0017***	0.0016***	0.0016***
	(4.56)	(4.79)	(4.64)	(4.64)
Constant	12.3***	12.2***	12.3***	11.8***
	(71.30)	(70.55)	(71.83)	(71.56)
Firm-year effects	Yes	Yes	Yes	Yes
N	59,172	59,172	59,172	59,172
R^2	0.15	0.15	0.15	0.15
F-stat.	1,161.67***	1,157.47***	1,163.11***	1,149.42***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01

Table 5. Moderating role of firms' visibility

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
Fvisibility	5.92***	6.06***	4.95***	6.30***
	(16.98)	(25.18)	(15.08)	(17.17)
ESG	0.0032***			
	(11.47)			
ENV		-0.00011		
		(-0.58)		
SOC			0.0044***	
			(18.83)	
GOV				-0.00062***
				(-2.62)
ESG x Fvisibility	-0.0097			
	(-1.29)			
ENV x Fvisibility		-0.017***		
		(-3.07)		
SOC x Fvisibility			0.013**	
			(1.99)	
GOV x Fvisibility				-0.017**
				(-2.37)
Bsize	0.0062***	0.0072***	0.0057***	0.0066***
	(3.82)	(4.39)	(3.48)	(4.00)
Fsize	-0.25***	-0.23***	-0.25***	-0.23***
	(-70.49)	(-66.86)	(-74.30)	(-67.78)
ROA	5.67***	5.76***	5.62***	5.77***
	(97.84)	(99.57)	(97.50)	(99.76)
Leverage	-0.26***	-0.26***	-0.27***	-0.26***
	(-9.58)	(-9.52)	(-10.25)	(-9.59)
R&Dintensity	1.35***	1.37***	1.32***	1.37***
	(60.82)	(61.91)	(59.54)	(61.96)
Currentratio	0.066***	0.065***	0.066***	0.065***
	(22.11)	(21.65)	(22.07)	(21.55)
Freefloat	0.00035*	0.00058***	0.00022	0.00067***
	(1.75)	(2.97)	(1.11)	(3.36)
Constant	6.60***	6.32***	6.71***	6.32***
	(88.67)	(84.79)	(91.69)	(87.49)
N	59,172	59,172	59,172	59,172
R^2	0.31	0.31	0.31	0.31
F-stat.	2627.95***	2610.07***	2668.17***	2610.93***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01

Table 6. Moderating role of financial slack

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
FCF	-3.26***	-1.41***	-1.88***	-3.02***
	(-24.49)	(-15.75)	(-15.22)	(-22.02)
ESG	0.0019***			
	(7.12)			
ENV		-0.0012***		
		(-6.25)		
SOC			0.0041***	
			(17.77)	
GOV				-0.0015***
				(-6.64)
ESG x FCF	0.093***			
	(26.98)			
ENV x FCF		0.060***		
		(22.48)		
SOC x FCF			0.047***	
			(16.34)	
GOV x FCF				0.066***
				(23.66)
Bsize	0.0085***	0.0094***	0.0078***	0.0081***
	(5.18)	(5.70)	(4.77)	(4.91)
Fsize	-0.24***	-0.23***	-0.25***	-0.22***
	(-67.74)	(-64.54)	(-72.25)	(-65.28)
ROA	6.03***	6.17***	5.92***	6.16***
	(89.95)	(91.67)	(88.33)	(91.82)
Leverage	-0.27***	-0.27***	-0.29***	-0.27***
	(-9.88)	(-10.13)	(-10.72)	(-10.00)
R&Dintensity	1.34***	1.33***	1.38***	1.36***
	(59.98)	(58.89)	(61.61)	(61.01)
Currentratio	0.062***	0.061***	0.065***	0.061***
	(20.57)	(20.05)	(21.54)	(20.21)
Freefloat	0.000021	0.00028	0.0000053	0.00043**
	(0.11)	(1.41)	(0.03)	(2.17)
Constant	6.50***	6.25***	6.66***	6.25***
	(86.50)	(82.82)	(89.76)	(85.50)
N	59,172	59,172	59,172	59,172
R^2	0.30	0.30	0.30	0.30
F-stat.	2584.06***	2533.71***	2558.40***	2543.00***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01

Table 7. Moderating role of governance

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ
GOV	-0.0066***	-0.0054***	-0.0058***
	(-16.26)	(-15.89)	(-13.15)
ENV_SOC	-0.0043***		
	(-8.01)		
ENV		-0.0079***	
		(-17.45)	
SOC			0.0016***
			(3.01)
ENV_SOC x GOV	0.00013***		
	(14.67)		
ENV x GOV		0.00015***	
		(19.14)	
SOC x GOV			0.000078***
			(8.46)
Bsize	0.0075***	0.010***	0.0060***
	(4.50)	(6.17)	(3.67)
Fsize	-0.24***	-0.23***	-0.25***
	(-68.65)	(-66.18)	(-71.15)
ROA	5.92***	5.99***	5.85***
	(101.99)	(103.30)	(101.10)
Leverage	-0.27***	-0.26***	-0.29***
	(-10.18)	(-9.68)	(-10.74)
R&Dintensity	1.40***	1.41***	1.38***
	(63.27)	(63.57)	(62.12)
Currentratio	0.063***	0.062***	0.064***
	(20.89)	(20.58)	(21.32)
Freefloat	0.00038*	0.00027	0.00026
	(1.90)	(1.32)	(1.31)
Constant	6.86***	6.65***	6.86***
	(88.23)	(86.67)	(88.73)
N	59,172	59,172	59,172
R^2	0.30	0.30	0.30
F-stat.	2509.81***	2513.45***	2546.41***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01
In this moderation analysis, we replaced ESG with ENV_SOC (calculated as the mean of the ENV and SOC pillars) to avoid overlap between GOV and ESG (Ghoul et al., 2017).

Table 8. GMM-based dynamic panel regression analysis

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
$T'sQ_{(t-1)}$	0.21***	0.21***	0.21***	0.20***
	(33.29)	(32.41)	(33.74)	(32.83)
ESG	0.0023***			
	(6.93)			
ENV		0.00094***		
		(3.93)		
SOC			0.0023***	
			(8.47)	
GOV				0.00070***
				(2.98)
Controls	Included	Included	Included	Included
N	44,617	44,617	44,617	44,617
χ^2-stat.	12452.90***	12478.10***	12475.48***	12542.85***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01

Table 9. Alternative sample (excluding US-based firms)

Panel A: Moderating role of firms' visibility

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
Fvisibility	3.35***	4.29***	3.09***	3.16***
	(7.90)	(13.83)	(8.34)	(6.64)
ESG	0.0027***			
	(9.08)			
ENV		0.00015		
		(0.73)		
SOC			0.0025***	
			(10.44)	
GOV				0.00076***
				(2.97)
ESG x Fvisibility	0.019**			
	(2.27)			
ENV x Fvisibility		-0.00099		
		(-0.15)		
SOC x Fvisibility			0.027***	
			(3.66)	
GOV x Fvisibility				0.022**
				(2.48)
Controls	Included	Included	Included	Included
N	40,380	40,380	40,380	40,380
R^2	0.35	0.35	0.35	0.35
F-stat.	2181.45***	2165.31***	2189.08***	2168.34***

Panel B: Moderating role of financial slack

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
FCF	-3.67***	-2.14***	-2.85***	-3.10***
	(-23.91)	(-19.31)	(-20.63)	(-18.37)
ESG	0.0024***			
	(8.39)			
ENV		-0.00015		
		(-0.74)		
SOC			0.0023***	
			(10.01)	
GOV				0.00081***
				(3.28)
ESG x FCF	0.076***			
	(19.61)			
ENV x FCF		0.043***		
		(13.84)		
SOC x FCF			0.052***	
			(15.57)	
GOV x FCF				0.046***
				(13.33)
Controls	Included	Included	Included	Included
N	40,380	40,380	40,380	40,380
R^2	0.35	0.35	0.35	0.35
F-stat.	2198.27***	2151.57***	2181.27***	2152.22***

Panel C: Moderating role of governance

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ
GOV	-0.0037***	-0.0023***	-0.0041***
	(-8.39)	(-5.93)	(-8.70)
ENV_SOC	-0.0044***		
	(-8.00)		
ENV		-0.0051***	
		(-10.66)	
SOC			-0.0023***

			(-4.31)
ENV_SOC x GOV	0.00012***		
	(11.99)		
ENV x GOV		0.000099***	
		(11.81)	
SOC x GOV			0.00010***
			(10.70)
Control variables	Included	Included	Included
N	40,380	40,380	40,380
R^2	0.34	0.34	0.35
F-stat.	2123.79***	2118.35***	2133.70***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01
In Panel C, we replaced ESG with ENV_SOC (calculated as the mean of the ENV and SOC pillars) to avoid overlap between GOV and ESG (Ghoul et al., 2017).

Table 10. Alternative sample based on Entropy balancing using Country-Industry-Year FE regression analysis

	(1)	(2)	(3)	(4)
Independent variables	T'sQ	T'sQ	T'sQ	T'sQ
ESG	0.0015***			
	(5.76)			
ENV		0.00036**		
		(2.03)		
SOC			0.0015***	
			(6.54)	
GOV				0.00030*
				(1.69)
Controls	Included	Included	Included	Included
Country effect	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
N	59,172	59,172	59,172	59,172
R^2	0.54	0.54	0.54	0.54
F-stat.	1296.13***	1170.70***	1145.62***	1160.21***

t statistics are revealed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11. Alternative sample based on Propensity Score Matching (PSM) using Country-Industry-Year FE regression analysis

Panel A: Diagnostic testing

	(1) Pre-Match Treatment	(2) Post-Match Treatment
Bsize	0.020***	-0.0042
	(4.85)	(-0.77)
Fsize	0.88***	0.51
	(3.65)	(1.30)
ROA	4.46***	0.86
	(3.74)	(1.49)
Leverage	-0.024	-0.28
	(-0.34)	(-0.12)
R&Dintensity	0.33***	-0.12
	(3.86)	(-1.14)
R&Dintensity	-0.081***	0.023
	(-7.42)	(1.49)
Freefloat	0.014***	0.010
	(3.99)	(1.26)
Constant	-24.8***	-13.2
	(-59.98)	(-1.23)
Country effect	Yes	Yes
Industry effect	Yes	Yes
Year effect	Yes	Yes
N	59,069	24,644
Pseudo R^2	0.291	0.199

Panel B: PSM

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
ESG	0.0019***			
	(6.59)			
ENV		0.00071***		
		(3.45)		
SOC			0.0018***	
			(7.14)	
GOV				0.00035*
				(1.48)
Controls	Included	Included	Included	Included
Country effect	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
N	24,670	24,670	24,670	24,670
R^2	0.55	0.58	0.58	0.58
F-stat.	310.23***	290.09***	290.64***	289.91***

t statistics are revealed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 12: Sub-group analysis based on time periods (2002-2014 and 2015-2019)

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ	(5) T'sQ	(6) T'sQ	(7) T'sQ	(8) T'sQ
	2002-2014	2002-2014	2002-2014	2002-2014	2015-2019	2015-2019	2015-2019	2015-2019
ESG	0.00093**				0.00058			
	(2.54)				(0.93)			
ENV		0.000061				0.0018***		
		(0.25)				(3.72)		
SOC			0.00074**				0.0010**	
			(2.36)				(2.06)	
GOV				0.00036				0.0013***
				(1.37)				(3.27)
Controls	Included	Included	Included	Included	Included	Included	Included	Included
Firm-year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	28,660	28,660	28,660	28,660	30,512	30,512	30,512	30,512
R^2	0.20	0.20	0.20	0.20	0.09	0.10	0.09	0.10
F-stat.	763.47***	762.48***	763.34***	762.77***	298.20***	300.00***	298.67***	299.56***

t statistics in parentheses, and * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 13. Regression analysis with country, industry, and year fixed effects

Independent variables	(1) T'sQ	(2) T'sQ	(3) T'sQ	(4) T'sQ
ESG	0.0038***			
	(13.19)			
ENV		0.0020***		
		(9.48)		
SOC			0.0042***	
			(16.94)	
GOV				0.00037*
				(1.66)
Controls	Included	Included	Included	Included
Country effect	Yes	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
N	59,172	59,172	59,172	59,172
R^2	0.37	0.37	0.37	0.37
F-stat.	357.15***	355.79***	358.98***	354.38***

t statistics are revealed in parentheses, and * p < 0.10, ** p < 0.05, *** p < 0.01

Appendix

Table A1. List of variables

Variable	Description
T'sQ	Market value of equity plus book value of liabilities deflated by total assets.
T'sQ-adj	Industry-adjusted T'sQ, which is the difference between a firm's T'sQ and the median T'sQ of firms in the same industry in the same year.
ESG	The ESG score indicates companies' composite environmental, social, and governance performance. The score ranges between 0 (the lowest) and 100 (the highest).
ENV	The environmental pillar score indicates a company's effect on living and non-living ecosystems and natural systems. It reflects the extent to which a company leverages environmental opportunities and addresses environmental risks to generate long-lasting shareholder value. The score ranges between 0 (the lowest) and 100 (the highest).
SOC	The social pillar score indicates a company's engagement and capacity to promote trust and loyalty in its employees, customers, and society. This reflects how successful a firm is in addressing social concerns to support the reputation and viability of the firm and generate long-lasting shareholder value via those practices. The score ranges between 0 (the lowest) and 100 (the highest).
GOV	The corporate governance pillar score indicates a firm's corporate governance systems and practices to ensure that its board of directors and executives behave in the best interests of long-term stockholders. The score ranges between 0 (the lowest) and 100 (the highest).
ENV_SOC	The mean of the ENV and SOC pillars for ESG.
ESG-adj	Industry-adjusted ESG, which is the difference between a company's ESG score and the median ESG score of companies in the same sector in the same year.
ENV-adj	Industry-adjusted ENV, which is the difference between a company's ENV score and the median ENV score of companies in the same sector in the same year.
SOC-adj	Industry-adjusted SOC, which is the difference between a company's SOC score and the median SOC score of companies in the same sector in the same year.
GOV-adj	Industry adjusted GOV, which is the difference between a company's GOV score and the median GOV score of companies in the same sector in the same year.
FCF	Free cash flow as a financial slack proxy: cash flow from operations minus dividends and capital expenditure deflated by total assets.
Fvisibility	Firms' visibility: advertising expenditure scaled by net sales.
Bsize	Board size: number of board directors.
Fsize	Firm size: total assets' natural logarithm.
ROA	Return on assets: income before interest and tax over total assets.
Leverage	Total liabilities deflated by total assets.
R&Dintensity	Research and development intensity: research and development expenditure scaled by net sales.
Currentratio	Current ratio: total current assets scaled by total current liabilities.
Freefloat	Free float percentage: the percentage of freely traded shares within an ownership structure.

Table A2. Sample distribution based on unique firms and data points within countries

Country	Unique firm (n)	Percentage (%)	Data points (n)	Percentage (%)
Australia	382	4.96	3,294	5.57
Argentina	56	0.73	136	0.23
Austria	32	0.42	268	0.45
Bahrain	7	0.09	32	0.05
Belgium	50	0.65	417	0.70
Brazil	105	1.36	787	1.33
Canada	301	3.91	2,976	5.03
Chile	42	0.55	281	0.47
China	462	6.00	1,547	2.61
Colombia	23	0.30	133	0.22
Czech Republic	4	0.05	38	0.06
Cyprus	1	0.01	11	0.02
Denmark	46	0.60	451	0.76
Egypt	9	0.12	77	0.13
France	157	2.04	1,497	2.53
Finland	35	0.45	403	0.68
Greece	26	0.34	269	0.45
Germany	188	2.44	1,410	2.38
Hong Kong	259	3.36	2,143	3.62
Hungary	5	0.06	44	0.07
India	150	1.95	986	1.67
Indonesia	43	0.56	344	0.58
Ireland, Republic of	13	0.17	120	0.20
Israel	14	0.18	147	0.25
Italy	99	1.29	752	1.27
Japan	441	5.73	5,974	10.10
Jordan	1	0.01	11	0.02
Kazakhstan	2	0.03	4	0.01
Kenya	1	0.01	5	0.01
Korea, Republic of (S. Korea)	138	1.79	1,092	1.85
Kuwait	11	0.14	75	0.13
Luxembourg	2	0.03	16	0.03
Mexico	52	0.68	355	0.60
Malaysia	62	0.80	529	0.89
Morocco	3	0.04	32	0.05
Netherlands	58	0.75	522	0.88
Nigeria	1	0.01	10	0.02
New Zealand	54	0.70	362	0.61
Norway	69	0.90	438	0.74
Oman	10	0.13	51	0.09
Pakistan	5	0.06	14	0.02
Philippines	25	0.32	221	0.37
Peru	31	0.40	102	0.17
Poland	44	0.57	301	0.51
Portugal	16	0.21	144	0.24
Qatar	17	0.22	92	0.16
Romania	2	0.03	5	0.01
Russia	42	0.55	377	0.64
Singapore	49	0.64	637	1.08
Saudi Arabia	36	0.47	133	0.22
South Africa	128	1.66	1,095	1.85
Slovenia	1	0.01	2	0.00
Spain	74	0.96	667	1.13
Sri Lanka	1	0.01	10	0.02
Sweden	140	1.82	994	1.68
Switzerland	125	1.62	1,028	1.74
Thailand	43	0.56	331	0.56
Taiwan	150	1.95	1,234	2.09
Turkey	58	0.75	298	0.50
Uganda	2	0.03	2	0.00
United Arab Emirates	19	0.25	74	0.13
United States of America	2,805	36.42	18,792	31.76
United Kingdom	473	6.14	4,569	7.72
Vietnam	1	0.01	1	0.00
Zimbabwe	1	0.01	10	0.02
Total	*7,702*	*100.00*	*59,172*	*100.00*