ARTICLE

Value relevance of multifaceted corporate social performance: how do country-specific factors matter?

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This study examines the relationship between multidimensional corporate social performance (CSP) and shareholder value, considering the moderating impacts of country-specific factors: economic development, the political system, and culture. Based on a sample of public companies in Asian-Pacific emerging countries over the 2010–2020 period, the findings reveal that the aggregate CSP measure obscures the valuation effect, whereas individual CSP dimensions highlight positive valuation effects. The CSP valuation effect varies across dimensions aimed at different stakeholder groups. Notably, narrowly focused CSP dimensions (community, product responsibility, and workforce) demonstrate more pronounced valuation effects than broadly focused dimensions (human rights). Given CSP's multifaceted nature, directing attention toward the aggregate measure or incorrect dimensions may yield unwarranted conclusions. To enhance shareholder value through CSP, importance-performance analysis suggests prioritized resource allocation to human rights, community, product responsibility, and workforce dimensions. Intriguingly, the positive valuation effect of CSP is amplified in countries with higher income-per-capita and lower corruption, indicative of economic development and a robust political system, respectively. However, humane orientation—a cultural proxy—exerts no moderating impact on the CSP-shareholder value relationship. Comprehending the moderating roles of country-specific factors bears significant implications for bolstering CSP across diverse global regions.

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Introduction

In recent years, there has been a growing interest in socially responsible investment, with a focus on companies that exhibit excellent corporate social performance (CSP). Drawing from stakeholder theory, companies that integrate the demands of a wide range of stakeholders are believed to generate added value for shareholders (Dmytriyev et al. 2021; Harrison and Wicks 2013; Jiao 2010). Despite the extensive literature on the valuation effect of CSP, a consensus regarding its association with value creation, value destruction, or value irrelevance remains inconclusive (Auer and Schuhmacher, 2016; García-Amate et al. 2023; Ghoul et al. 2017; Guo et al. 2020; Jadiyappa et al. 2021; Jing et al. 2023; Servaes and Tamayo 2013; Qiu et al. 2021; Tsang et al. 2022). Supporters of CSP argue that companies engaging in corporate social activities to meet stakeholders' expectations can establish positive public relations, attract more resources, maintain competitive advantages, and consequently enhance shareholder value (Bolibok 2021; Zhang and Jung 2020). On the other hand, opponents of CSP contend that corporate social activities can be detrimental to companies, as responses to social concerns may lead to unnecessary expenses and potentially erode shareholder value (Arli et al. 2019; Armstrong and Kesten 2013; Hopkins and Cowe 2003). Given the conflicting perspectives presented by prior studies, this research endeavors to shed light on whether various types of corporate social activities aimed at different stakeholder groups can be effectively operationalized to create value for shareholders.

The present study contributes to the literature on the value relevance of CSP in a number of ways. Firstly, the utilization of a widely used aggregate measure of CSP may lead to potentially misleading outcomes, as it masks the heterogeneous effects of different dimensions of CSP (Johnson and Greening, 1999; Mattingly and Berman, 2006). Given the multifaceted nature of CSP, which involves various stakeholder groups, it becomes pertinent to investigate whether there are tradeoffs or synergies among its constituent dimensions (Galema et al. 2008; Dumitrescu and Zakriya 2021). To address this concern, our study examines the valuation effect of CSP using a set of disaggregated social performance indicators provided by Refinitiv Eikon, focusing on four dimensions: community, human rights, product responsibility, and workforce. The human rights dimension encompasses corporate social activities broadly aimed at society at large, while activities related to community, product responsibility, and workforce are more narrowly targeted at the company's local stakeholders. It is essential to understand whether different dimensions of CSP have varying implications for shareholder value, depending on whether the social activities predominantly benefit the firm's local stakeholders or the public at large (Harrison et al. 2010; Servaes and Tamayo 2013). As previously documented by Byun and Oh (2018), internally oriented corporate social activities tend to exhibit a robust valuation effect on shareholder value. In this regard, our investigation delves into whether the CSP valuation effect is contingent upon the types of corporate social activities, distinguishing between narrowly focused CSP (community, product responsibility, and workforce) and broadly focused CSP (human rights).

Secondly, the variation in CSP among companies across different countries can be attributed to not only firm-specific but also country-specific factors (Cai et al. 2016; Chen and Liu, 2022; Matthiesen and Salzmann, 2017; Rjiba et al. 2020). However, most studies on CSP valuation overlook the conditions that may alter the relationship between CSP and shareholder value. To address this research gap, we propose that country-specific factors, including economic development, the political system, and culture, play a crucial moderating role in shaping the linkages between CSP and shareholder value. Economic development in a country influences the resources corporations allocate to social commitments (Cai et al. 2016; Zheng et al. 2012). Nations with lower economic development may face constraints in dedicating resources to social endeavors, given that CSP initiatives often target higher-level needs. A country's political system significantly affects the cost of circumventing social commitment activities (Cai et al. 2016; Rjiba et al. 2020). In nations with high corruption levels or limited civil liberties and political rights, firms may find it relatively easier and more cost-effective to engage in activities like lobbying or bribery to evade or dilute the impact of CSP regulations. Moreover, cultural contexts also impact preferences for socially responsible corporations (Luo et al. 2015; Matthiesen and Salzmann 2017; Sun et al. 2023). In certain cultures, prevailing norms and values may lead citizens to prioritize and express a preference for companies exhibiting heightened social responsibility. The interplay of these country factors and firms' decisions regarding CSP standards significantly shapes the landscape of corporate social activities within a given country.

Thirdly, given the finite resources of companies, managers often prioritize specific dimensions of CSP for improvement, rather than allocating equal weight to all dimensions. It is essential to acknowledge the multifaceted nature of CSP and recognize that focusing on the wrong dimension may lead to unreasonable conclusions. To address this concern, our study adopts importance-performance analysis (IPA) to identify improvement priorities among multiple CSP dimensions targeted at different stakeholder groups. IPA has been widely used in various domains to guide resource allocation decisions (Azzopardi and Nash 2013; Bi et al. 2019; Phadermrod et al. 2019). This method contrasts the importance and performance of each CSP dimension, enabling managers to efficiently allocate the company's limited resources by prioritizing dimensions with relatively poor performance but high importance. In other words, the CSP dimension with the lowest (highest) performance-to-importance ratio deserves the first (last) improvement priority, as it offers the highest (lowest) potential for future enhancement. By employing IPA, we aim to offer valuable insights for managers seeking to optimize their CSP efforts and enhance overall social and financial outcomes.

Finally, the lack of consensus regarding the findings of CSP valuation effects in prior studies may be attributed to model misspecifications and a potential misunderstanding of the mechanisms through which corporate social activities influence corporate financial performance (Servaes and Tamayo 2013). Given that CSP encompasses a broad spectrum of corporate social activities, determining which measures precisely represent a company's social performance lacks agreement (Marom 2006). Consequently, the direct association between CSP measures and financial performance, as examined through regression analysis, raises doubts, as their relationships appear to be contingent on other intervening or unobservable factors (Galbreath and Shum 2012). This study contends that the use of regression analysis to investigate CSP valuation effects, prevalent in empirical studies, may be inappropriate due to the correlation between CSP measurement errors and the error term in regression analysis, thereby violating the assumptions of the classical linear regression model. To address this concern, the study employs Structural Equation Modeling (SEM), treating CSP as a latent construct measured by four indicators targeting distinct stakeholder groups, including community, human rights, product responsibility, and workforce. By accounting for CSP measurement errors, SEM is expected to yield more robust estimations than regression analysis, as it effectively separates the CSP measurement errors in the measurement equation from the error term in the construct equation. This methodological approach offers a more comprehensive and

reliable examination of the relationship between CSP and corporate financial performance, contributing to a deeper understanding of the complexities surrounding CSP valuation effects.

Our study yields several noteworthy findings. Our regression analysis indicates that an aggregate measure of CSP lacks relevance to shareholder value. This illusory result arises due to aggregation bias, which masks the heterogeneous effects of different corporate social activities targeting diverse stakeholder groups. However, when considering individual dimensions of CSP simultaneously in the regression analysis, we find that shareholder value is significantly and positively influenced by the workforce dimension, but not by community, human rights, or product responsibility. The lack of solid evidence for the value relevance of CSP may be attributed to the improper treatment of CSP measurement errors in traditional regression approaches. To address this limitation, we adopt SEM to account for CSP measurement errors. Through SEM, we uncover that all dimensions of CSP synergistically exert positive effects on shareholder value. Notably, the narrowly focused CSP (i.e., community, product responsibility, and workforce) demonstrates higher valuation effects than the broadly focused CSP (i.e., human rights). Moreover, we identify that the positive valuation effect of CSP is more pronounced in countries with higher levels of economic development and lower corruption levels. This suggests that the impact of corporate social activities on shareholder value varies across different national contexts. Given the limited resources of companies, our importance-performance analysis indicates that the CSP dimension with low performance but high importance should be prioritized for improvement in corporate social activities. Thus, our study suggests that managers should allocate resources in order of priority to improving human rights, community, product responsibility, and workforce dimensions of CSP, respectively. These insights provide valuable guidance for managers seeking to enhance the effectiveness of their corporate social activities and maximize shareholder value.

The subsequent sections of this paper are organized as follows. In Section "Literature Review", we present a concise review of the existing literature on CSP and shareholder value. Section "Research Hypothesis Development" outlines the development of our hypotheses. The analytical framework is elucidated in Section "Analytical Framework". Moving on, Section "Dataset" provides a description of the dataset used for our study. In Section "Empirical Results", we present and discuss the empirical findings. Lastly, the concluding section offers a summary of the study's key findings and their implications for policymaking.

Literature review
Measures of corporate social performance. In response to the concern regarding aggregation bias, recent studies have adopted a more granular approach to investigate the effects of CSP by examining various CSP indicators relevant to specific stakeholder groups (Baird et al. 2012; Rehbein et al. 2004). For instance, Salama et al. (2011) conduct research to explore the combined effect of two dimensions of CSP, namely community and environment, on firm risk for all rated UK companies. Their findings indicate that CSP, represented by the combined community and environment dimensions, exhibits a negative correlation with the systematic financial risk of companies. Bouslah et al. (2013) undertake a study to analyze the impact of seven distinct CSP dimensions, including community, workforce relations, diversity, environment, product responsibility, corporate governance, and human rights, on total risk and idiosyncratic risk for both S&P500 and non-S&P500 member companies. Their research reveals that for S&P500 members, company risk is positively associated with employee, corporate governance, and diversity

concerns. In contrast, for non-S&P500 members, company risk is positively associated with diversity strengths and workforce concerns.

Furthermore, Boubaker et al. (2020) investigate the influence of multifaceted CSP on the financial distress risk of US-listed companies. Their findings demonstrate that companies with stronger socially responsible programs experience lower financial distress risk, potentially due to improved creditworthiness and reduced financing costs. Notably, the community, workforce relations, diversity, and environmental dimensions of CSP emerge as significant drivers of financial distress risk. These recent studies underscore the importance of adopting a multidimensional approach when examining CSP effects, as it provides valuable insights into the nuanced relationships between specific CSP dimensions and firm-level risk indicators. By considering distinct stakeholder perspectives, researchers can gain a more comprehensive understanding of the impact of corporate social activities on firm performance and risk. This approach enhances the relevance and applicability of research findings to real-world corporate decision-making and stakeholder management.

Measures of shareholder value. Measures of shareholder value encompass a range of financial metrics and indicators used to assess a company's performance and the value it creates for its shareholders. These measures play a critical role in aiding investors and stakeholders in evaluating the company's ability to generate returns and create value. Commonly used metrics include earnings per share, return on equity, return on investment, dividend yield, price-to-earnings ratio, price-to-book ratio, earnings yield, free cash flow, and economic value added (Byun and Oh 2018; Godfrey et al. 2009; Jitmaneeroj 2016). Among these metrics, earnings yield, which is the reciprocal of the price-earnings ratio, stands out as a widely used measure of stock value. Earnings yield serves as a valuation metric, revealing how expensive a company's stock is relative to the earnings it generates. Specifically, earnings yield represents the percentage of each dollar invested that the company earned during the previous twelve months. Stocks with higher earnings yield are deemed undervalued, while those with lower earnings yield are perceived as overvalued.

Earnings yield boasts several advantages over the traditional price-earnings ratio. Notably, the price-earnings ratio tends to approach infinity as earnings approach zero, particularly during financial crises. This characteristic can result in outliers and reduce the effectiveness of tests (Musumeci and Peterson 2011). Conversely, earnings yield generally produces more accurate estimation results than the price-earnings ratio (Eun and Lee 2010; Musumeci and Peterson 2011). Beyond its valuation implications, earnings yield provides valuable insights into the potential rate of return on an investment in the company's stocks. It establishes a link between corporate earnings and stock prices, causing any inflation of earnings to be reflected in decreased stock prices. From a business perspective, earnings yield enhances performance measurement precision and holds an advantage over earnings, which can be subject to intentional manipulation through earnings management.

In conclusion, measures of shareholder value are essential tools in evaluating a company's performance and its attractiveness to investors. Among these measures, earnings yield stands out as a versatile metric, serving both as a valuation tool and as a means to assess the potential return on investment in the company's stocks. Its ability to avoid the pitfalls of the price-earnings ratio and provide insights into earnings inflation makes earnings yield a valuable addition to the arsenal of financial metrics for stakeholders and investors.

The value relevance of corporate social performance. The valuation effect of CSP is influenced by two conflicting theories: stakeholder theory and shareholder theory (Gregory and Whittaker 2013). While stakeholder theory posits that companies should focus on the interests of a broader group of stakeholders, including customers, investors, suppliers, creditors, employees, community, and government, in order to enhance shareholder wealth, shareholder theory emphasizes the primacy of shareholder interests (Freeman, 1984; Harrison and Wicks, 2013). According to stakeholder theory's instrumental aspect, fostering positive relationships between companies and individuals who socially influence them can lead to the achievement of corporate goals such as profitability, growth, firm value, and sustainability (Freeman et al. 2004). Strong corporate social performance that meets stakeholder expectations can enhance business reputation and attract valuable contributions of stakeholders' resources to companies (Preston and O'Bannon 1997). Conversely, shareholder theory contends that engaging in corporate social activities comes at the expense of shareholders and may result in weak financial performance (Cronqvist et al. 2009; Friedman 1998). From the perspective of shareholder theory, expenses incurred in corporate social activities may be seen as a misuse of capital that could otherwise be allocated to other programs aimed at creating shareholder value (McWilliams et al. 2006). The divergent viewpoints of stakeholder theory and shareholder theory contribute to the ongoing debate about the relationship between CSP and shareholder value. Stakeholder theory argues that prioritizing the interests of various stakeholders can lead to positive financial outcomes through stakeholder support and resource contributions. In contrast, shareholder theory posits that corporate social activities might negatively impact financial performance by diverting resources away from shareholder-focused initiatives. The interplay of these theories underscores the complex and multifaceted nature of the CSP and warrants empirical investigation to provide a comprehensive understanding of the CSP valuation effect.

Most empirical studies on CSP primarily focus on examining the impact of corporate social activities on financial performance and enterprise value. However, there is a lack of consensus regarding whether CSP leads to value creation, destruction, or has minimal relevance (Auer and Schuhmacher 2016; Ghoul et al. 2017; Guo et al. 2020). Despite ongoing debates on the advantages and disadvantages of corporate social activities, existing research predominantly supports the benefits of engaging in such practices. Notably, Rjiba et al. (2020) investigate the relationship between corporate social practices and the financial performance of public companies across 36 countries. Their findings suggest that the social capital generated over time through effective corporate social programs neutralizes the adverse effects of policy uncertainty on corporate financial performance. Interestingly, they also observe that corporate social activities in developed markets exhibit stronger positive valuation effects during periods of high business uncertainty. In a related study, Bardos et al. (2020) explore whether corporate social practices impact enterprise value through their positive effects on product market perception. Their research reveals that visible corporate social activities, such as environmental and social involvement, positively influence product market perception, thus enhancing enterprise value. Additionally, corporate social activities indirectly contribute to enterprise value by positively influencing product market perception. Furthermore, in a recent investigation, Gupta and Krishnamurti (2021) examine whether corporate social programs enhance enterprise value in the presence of product market competition. Drawing on international data from 62 countries on corporate social practices, their findings suggest that corporate engagement in social activities positively affects enterprise value, particularly in non-competitive industries.

Due to the lack of consensus regarding the valuation effect of CSP, several studies have proposed plausible explanations, including unreliable CSP measures, sampling errors, mediating roles, omissions of control variables, and model misspecifications (Baird et al. 2012; Garcia-Castro et al. 2010; Lahouel et al. 2019). Among these factors, the endogeneity problem arising from unobserved firm or industry characteristics may lead to spurious CSP valuation effects on financial performance. Garcia-Castro et al. (2010) find that the positive link between CSP and corporate financial performance may be spurious due to unobservable firm characteristics. When addressing the endogeneity issue through fixed effects and instrumental variables, the relationship between CSP and corporate financial performance either disappears or turns negative. Lahouel et al. (2019) employ the dynamic Generalized Method of Moments (GMM) estimator to handle the endogeneity problem and find that CSP has an insignificant impact on corporate financial performance. They, therefore, suggest that results from models that do not control for possible endogeneity issues might yield inflated estimations and lead to misinterpretations about the relationship between CSP and corporate financial performance.

The increasing important role of corporate social activities in business strategies has raised an interesting question, chiefly related to the impact of CSP on stock value. Answers to this question have considerable implications for both corporate managers and investors. In general, CSP can impact stock value by two key channels: the company's expected growth of earnings and the company's risks. Investors may perceive well-managed corporate social activities as companies having better compliance with strict social regulations, being less risky to social crises, and reducing the potential losses of earnings (Harrison and Wicks 2013). While some corporate social activities related to human rights and environmental practices may have minimal effects on real operating earnings, they may broaden investor base and heighten stock prices by increasing investors' awareness (Byun and Oh, 2018). Hence, companies that integrate intense corporate social activities into business strategies can minimize business risks and benefit from earnings growth opportunities, both of which are likely to raise stock value. Extant studies have widely examined the effect of CSP on several measures of financial performance (Auer and Schuhmacher 2016; Ghoul et al. 2017; Servaes and Tamayo 2013; Zhang and Jung 2020). However, there is not much in the research literature that exclusively investigates the influence of CSP on stock value.

While much research explores the value relevance of CSP in developed markets (Bardos et al 2020; Cho et al. 2021; D'Amato and Falivena 2019; Servaes and Tamayo 2013), limited studies focus on the CSP valuation effect from the emerging market perspective (Hickman et al. 2021; Hu et al. 2021). The difference between corporate social practices in emerging and developed markets can be perceived from institutional theory, which posits that organizations respond to social issues dependent on levels of market developments (Osuji et al. 2020). Due to variations between both markets in terms of regulatory, cultural, economic, and social conditions, the best practices in corporate social activities of developed markets might not be effectively applied to emerging markets, as expectations of the stakeholders and shareholders in both markets tend to greatly differ in numerous aspects (Mugerman et al. 2019). Managers and investors therefore require a deep insight into the similarity and dissimilarity between CSP valuation effects in emerging and developed markets.

Research hypothesis development

To formulate our research hypotheses concerning the valuation effect of CSP on stock value, we commence by employing Gordon (1962)'s constant growth model in Eq. (1), which assesses the value of a company's stock through the discounted future dividends:

$$P_t = \frac{D_{t+1}}{k-g} = \frac{E_t d(1+g)}{k-g} \tag{1}$$

where P_t signifies the stock price at time t, D_{t+1} represents the dividends per share at time $t+1$, E_t denotes the earnings per share at time t, d signifies the dividend payout ratio, k signifies the cost of equity, and g signifies the constant growth rate projected for dividends. Upon rearranging Eq. (1), we derive the earnings yield.

$$\frac{E_t}{P_t} = \frac{k-g}{d(1+g)} \tag{2}$$

Equation (2) offers insights into the determinants influencing the earnings yield, encompassing growth prospects, dividend payout, and the cost of equity. Grasping these interrelations holds pivotal significance for investors and financial analysts tasked with appraising a company's stock allure and potential returns. The left-hand side of Eq. (2) represents the earnings yield, denoting the reciprocal of the price-earnings ratio. Calculated as the ratio of a firm's trailing twelve-month earnings per share to the present share price, the earnings yield is expressed as a percentage. Equation (2) underscores that the earnings yield demonstrates an inverse relationship with both the growth rate and the dividend payout ratio. In essence, enterprises with elevated growth prospects often command a more favorable market valuation, culminating in a diminished earnings yield (Musumeci and Peterson, 2011). Additionally, a signaling effect is evident, where a decrease in a company's dividend payout corresponds to a decline in stock price, thereby engendering an upsurge in the earnings yield. Moreover, Eq. (2) signifies a positive linkage between the earnings yield and the cost of equity. The cost of equity can be approximated utilizing the capital asset pricing model, entailing the summation of the equity risk premium and the risk-free rate. Both components are anticipated to exhibit positive associations with the earnings yield.

In addition to the explanatory variables of earnings yield derived from the Gordon growth model, the literature has highlighted various other factors influencing earnings yield (Anderson and Brooks 2006; Huang and Wirjanto 2012; Musumeci and Peterson 2011). In our empirical model, we incorporate the debt-to-asset ratio and market capitalization as control variables, addressing the leverage and size effects, respectively. The inclusion of the debt-to-asset ratio serves to manage the impact of leverage on earnings yield. Higher leverage is commonly perceived by investors as indicative of elevated risk levels within companies. Consequently, stocks of firms with greater leverage may experience downward pressure on prices, contributing to the pursuit of a higher earnings yield. Furthermore, market capitalization is considered as an additional control variable. Companies boasting larger market capitalization often manifest lower earnings yield when juxtaposed with counterparts possessing smaller market capitalization. One plausible rationale is that mutual funds predominantly invest in stocks of larger firms, leading to heightened demand and subsequent escalation of their market prices. Consequently, this augmented demand contributes to a diminished earnings yield for companies characterized by significant market capitalization. The integration of these control variables into our model seeks to isolate the distinct impact of the explanatory variables on earnings yield, thereby furnishing a more comprehensive and accurate comprehension of the facets influencing this pivotal financial metric.

The stakeholder theory posits that companies involved in corporate social programs tend to attract and retain stakeholders who care about or benefit from these activities, ultimately creating value for shareholders. Corporate social activities can impact shareholder value through two main channels: the expected growth of earnings and the company's level of risk (Byun and Oh 2018; Preston and O'Bannon 1997). Positive corporate social practices have been linked to favorable stock price reactions, subsequent improvements in business\ operations, growth opportunities, and enhanced enterprise value (Dimson et al. 2015). Engaging in corporate social programs also generates moral capital and goodwill, providing a buffer against cash flow risk during crises (Godfrey et al. 2009). Empirical studies have shown that companies participating in corporate social activities are more likely to have higher growth opportunities and lower costs of equity financing (Bhuiyan and Nguyen 2020; Ghoul and Mishra 2011). Moreover, according to Eq. (2), earnings yield exhibits a negative correlation with the earnings growth rate but a positive relationship with the cost of equity, which reflects the company's level of risk. As such, it is expected that CSP will have a negative effect on earnings yield. Investors typically use earnings yield to evaluate whether a company's stock is undervalued or overvalued, based on the percentage of the yield compared to other companies. A high (low) earnings yield indicates an undervalued (overvalued) stock. If the stock price rises disproportionately to an increase in corporate earnings, the earnings yield will decrease. Conversely, if the stock price declines while corporate earnings remain unchanged or increase, the earnings yield will rise. From a value investing perspective, investors tend to seek stocks in the latter scenario. This leads to the formulation of the following hypothesis.

> H1: CSP has a significant and positive influence on stock value (i.e., a significant and negative effect on earnings yield).

As CSP is a multifaceted concept, prior studies often employ a composite index, which involves the unweighted or weighted aggregation of several social performance indicators, such as workforce, community, product responsibility, and human rights (Dunbar et al. 2020). However, this approach has raised concerns about aggregation bias, as it masks the heterogeneity of corporate social activities and may lead to misleading inferences when examining the CSP valuation effect (Badia et al. 2020; Johnson and Greening 1999). In response to this concern, researchers have increasingly used multiple social indicators to investigate the CSP valuation effect (Baird et al. 2012; Rehbein et al. 2004; Salama et al. 2011). Recent studies reveal that different types of corporate social activities generate unequal value for shareholders and stakeholders (Boubaker et al., 2020; Bouslah et al. 2013). For instance, Brammer et al. (2006) demonstrate that corporate social programs related to community and environment negatively affect returns of UK stocks, while corporate social activities aimed at improving workforce employment have positive effects. El Ghoul et al. (2011) find that investments in enhancing workforce relationships, product responsibility, and environmental concerns significantly lower the cost of equity. More recently, Dumitrescu and Zakriya (2021) reveal that CSP subcategories targeting community, workforce, and customers tend to mitigate stock price collapses, whereas CSP related to environmental programs and corporate governance have relatively minor impacts on stock prices. Given the varied effects of different dimensions of CSP, it

is essential to investigate them individually to provide precise insights. Accordingly, the following hypothesis is proposed.

> H2: An aggregate measure of multidimensional CSP conceals the heterogeneous effects of individual CSP dimensions on stock value.

One approach to categorize corporate social activities is to assess whether the benefits from such activities are tangible for stakeholders. Byun and Oh (2018) propose that narrowly focused corporate social activities (e.g., employee, customer, and community-related initiatives) directly benefit stakeholders, leading to significant impacts on real operating performance and shareholder value. Activities centered around workforce relations, community engagement, and product responsibility have been shown to enhance shareholder value through increased employee productivity, improved corporate reputation, and heightened customer trustworthiness (Edmans, 2012; Greening and Turban, 2000). Conversely, broadly focused corporate social activities (e.g., those related to human rights and environmental issues) tend to create comparatively less direct benefits for stakeholders, and as a result, they may have limited positive or even negative impact on operating performance (Byun and Oh, 2018; Jacobs et al. 2010; Keele and DeHart, 2011). Consequently, shareholders might place less value on the broadly focused corporate social activities. Following this line of research, we classify CSP dimensions as either narrowly focused corporate social activities (i.e., community, product responsibility, and workforce) or broadly focused corporate social activities (i.e., human rights). This leads to the following hypothesis.

> H3: The narrowly focused corporate social activities related to community, product responsibility, and workforce exhibit stronger valuation effects than the broadly focused corporate social activities aimed at human rights.

Corporate managers engage in a process of selecting CSP strategies, driven by their evaluation of the costs and benefits associated with social impact activities. These costs and benefits vary across countries due to diverse country-specific factors, such as stages of economic development, government regulations, cultural norms, educational attainment, and the prevailing political system (Campbell, 2007; Chen and Liu, 2022; Ioannou and Serafeim, 2012). Consequently, the disparities observed in CSP among firms across different countries arise not solely from firm-specific attributes but also from the influence of country-specific factors (Cai et al. 2016; Matthiesen and Salzmann, 2017; Rjiba et al. 2020). Within the scope of this investigation, we center our attention on three essential country factors: economic development, the political system, and culture, as they serve as moderators in shaping the relationship between CSP and shareholder value. The possible reasons for the moderating roles of these country-specific factors can be described as follows.

Firstly, varying levels of economic development significantly contribute to explaining differences in CSP among countries (Cai et al. 2016). In nations where individuals struggle to meet basic needs, such as food and shelter, their prioritization of higher-level needs, such as maintaining a clean environment, ensuring safe working conditions, and eradicating child labor, diminishes. As CSP predominantly encompasses higher-level needs, the allocation of corporate resources towards CSP initiatives becomes notably restricted in countries with lower levels of economic development (Zheng et al. 2012). In contrast, companies in economically developed countries generally have greater access to financial resources, technology, and expertise. This allows them to invest in CSP initiatives and implement sustainable practices more effectively. Companies in countries with lower levels of economic development may face challenges related to limited resources, weaker regulatory frameworks, and competing priorities in meeting basic needs. Consequently, their attention to CSP initiatives may be relatively lower. As a result of these factors, CSP tends to be low (high) in countries with low (high) levels of economic development.

Secondly, corruption is an aspect of the political system that has garnered increasing concern in numerous countries. Corruption can be defined as the misuse of public power for private gain (Budsaratragoon and Jitmaneeroj, 2020). Corruption manifests in various forms, ranging from companies engaging in political contributions to instances of outright bribery. Despite consistent denials from politicians and donors regarding any connections between these contributions and legislative benefits, such links persist. Existing studies provide substantial empirical evidence supporting the notion that corporations gain advantages from political connections (Cooper et al. 2010; Faccio, 2006). Countries with high levels of corruption and lenient penalties tend to have lower costs associated with engaging in corrupt activities (Cai et al. 2016). Corporations may turn to corrupt practices as a strategy to circumvent the need for adhering to CSP when the costs involved in corruption are less than those required to invest in CSP to meet regulatory obligations. Therefore, CSP tends to be low (high) in countries with high (low) corruption.

Finally, several studies find that culture exerts an impact on corporate financial decisions that have implications for CSP (Ahern et al. 2012; Chen and Liu, 2022; Giannetti and Yafeh, 2012; Guiso et al. 2008). According to the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project, culture is a multifaceted concept defined as shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives and are transmitted across generations (House et al. 2004). Among all dimensions of culture, humane orientation stands out as one of the most extensively acknowledged factors that significantly influence an individual's social behaviors (Ling, 2019). Humane orientation pertains to the extent to which individuals within a society are encouraged to exhibit traits such as fairness, altruism, generosity, care, and kindness towards others (House et al. 2004). In societies with a high level of humane orientation, there exists a mutual expectation of social support, leading companies to display their willingness to act in socially responsible ways (Chen and Liu 2022). Hence, CSP tends to be low (high) in countries with low (high) humane orientation.

Taken as a whole, the examination of the potential moderating roles of country-specific factors, including economic development, the political system, and culture, gives rise to the formulation of the following hypotheses.

> H4A: Economic development moderates the relationship between CSP and stock value, resulting in a stronger relationship in countries marked by higher economic development compared to countries with lower economic development.

> H4B: Corruption moderates the relationship between CSP and stock value, resulting in a stronger relationship in countries marked by lower corruption compared to countries with higher corruption.

> H4C: Humane orientation moderates the relationship between CSP and stock value, resulting in a stronger

relationship in countries marked by higher humane orientation compared to countries with lower humane orientation.

Analytical framework

Regression approach to CSP value relevance. To scrutinize the impact of corporate social activities on shareholder value, we conduct an estimation using a panel regression model as denoted in Eq. (3), incorporating fixed-effect terms and multiple control variables to mitigate potential confounding influences.

$$ENY_{it} = \beta_1 CSP_{it} + \gamma CTL_{it} + F_i + Y_t + \varepsilon_{it} \qquad (3)$$

where i signifies the ith company, t represents the tth year, ENY_{it} denotes earnings yield to measure shareholder value, CSP_{it} signifies corporate social performance, CTL_{it} denotes a vector of control variables, F_i indicates the firm-fixed effects, Y_t indicates the year-fixed effects, ε_{it} represents the error term, β_1 is a parameter of variable of interest, and γ is a coefficient vector associated with control variables.

In this study, CSP_{it} is measured by both the aggregate social pillar score (SOC) and the individual social category scores for community (SOC1), human rights (SOC2), product responsibility (SOC3), and workforce (SOC4). The set of control variables (CTL_{it}) includes the payout ratio (DPO_{it}), earnings growth rate (GRO_{it}), risk-free interest rate (RFR_{it}), equity risk premium (ERP_{it}), market capitalization (MCP_{it}), and debt-to-asset ratio (DAR_{it}). As the preceding discussion elucidates, we anticipate a positive correlation between ENY_{it} and RFR_{it}, ERP_{it}, and DAR_{it}, while negative associations are expected with CSP_{it}, DPO_{it}, GRO_{it}, and MCP_{it}.

The incorporation of firm-fixed effects (F_i) effectively controls for unobservable firm attributes that remain constant over time and could introduce spurious relationships. This adjustment accounts for industry and market-related effects that do not fluctuate within the firm over time (Del Bosco and Misani 2016). Likewise, year-fixed effects (Y_t) control for time-varying factors that remain uniform across firms, such as changing economic conditions and market-wide impacts. These fixed effects terms are essential to prevent potential spurious outcomes and inconsistent CSP valuation effects in the estimation results (Garcia-Castro et al. 2010).

SEM approach to CSP value relevance. While the weighted average of social category scores (SOC1–SOC4) generates a composite social pillar score (SOC) that captures the overall progress in social engagement, it is imperative to explicitly account for potential measurement errors in the individual category scores (i.e., CSP indicators) within the model. Any aggregation methodology employed should effectively capture the interrelationships among various dimensions of CSP and avoid imposing subjective a priori weightings. To address this, we establish CSP as a latent variable encompassing four social indicators (SOC1–SOC4). Utilizing the CSP latent variable, which offers a unidimensional assessment of the holistic performance of corporate social activities, remains valid due to the multifaceted nature of CSP, encompassing diverse aspects relevant to specific stakeholder groups. Moreover, quantifying CSP involves aggregating multiple social indicators, which are inherently subject to some degree of measurement error. Consequently, the CSP latent variable accurately reflects the true social performance while remaining immune to measurement inaccuracies. In this regard, we employ structural equation modeling (SEM) as depicted in Eqs. (4–8) to effectively address the challenges posed by CSP measurement errors. This represents a significant advantage of SEM over the

regression model outlined in Eq. (3).

$$ENY_{it} = \beta_1 CSP_{it} + \gamma CTL_{it} + F_i + Y_t + \varepsilon_{it} \qquad (4)$$

$$SOC1_{it} = \theta_1 + \omega_1 CSP_{it} + \mu_{1it} \qquad (5)$$

$$SOC2_{it} = \theta_2 + \omega_2 CSP_{it} + \mu_{2it} \qquad (6)$$

$$SOC3_{it} = \theta_3 + \omega_3 CSP_{it} + \mu_{3it} \qquad (7)$$

$$SOC4_{it} = \theta_4 + \omega_4 CSP_{it} + \mu_{4it} \qquad (8)$$

where θ_1 to θ_4 denote the constant terms, ω_1 to ω_4 represent the factor loadings that convey the associations between the CSP latent variable and the observed social category scores (SOC1–SOC4), and μ_{1it} to μ_{4it} denote the measurement errors associated with the social category scores. The equation reflects that all factor loadings should possess positive signs, considering that high (low) social category scores indicate good (poor) CSP performance. The construct equation in Eq. (4) demonstrates that the earnings yield can be explained by the CSP latent variable along with the control variables. The measurement equations presented in Eqs. (5–8) amalgamate the collective impacts of the four social category scores into the CSP latent variable. Analogous to a common factor analysis, SOC1–SOC4 exhibit interrelations and are perceived as "the effects" of CSP. The system equation within SEM, encompassing Eqs. (4–8), offers distinct advantages over regression analysis in Eq. (3). The potential correlation of measurement errors in SOC1–SOC4 indicators with the error term in regression analysis could lead to biased CSP valuation effects. To address this measurement error issue, SEM compartmentalizes the measurement errors within Eqs. (5–8) and the error term within Eq. (4). While SOC1–SOC4 indicators possess their individual variances, they share variance in the CSP latent variable. This separation of shared and unique variances within SEM engenders a more reliable CSP valuation effect (Jitmaneeroj 2023).

The moderating role of country factors on CSP value relevance. To empirically examine the moderating role of country factors (i.e., economic development, the political system, and culture) on the relationship between CSP and shareholder value, we extend SEM in Eqs. (4–8) by incorporating each of these moderating variables (MOD) and its interaction term with the CSP, as shown in Eqs. (9–13).

$$ENY_{it} = \beta_1 CSP_{it} + \beta_2 MOD_{it} + \beta_3 CSP_{it} \times MOD_{it} \\ + \gamma CTL_{it} + F_i + Y_t + \varepsilon_{it} \qquad (9)$$

$$SOC1_{it} = \theta_1 + \omega_1 CSP_{it} + \mu_{1it} \qquad (10)$$

$$SOC2_{it} = \theta_2 + \omega_2 CSP_{it} + \mu_{2it} \qquad (11)$$

$$SOC3_{it} = \theta_3 + \omega_3 CSP_{it} + \mu_{3it} \qquad (12)$$

$$SOC4_{it} = \theta_4 + \omega_4 CSP_{it} + \mu_{4it} \qquad (13)$$

The country-level moderating variables include economic development, the political system, and culture. Building upon existing research, we utilize the natural logarithm of income-per-capita (IPC) as an indicator of economic development. Within the context of resource allocation to CSP, it becomes evident that countries characterized by lower income-per-capita levels often face constraints in dedicating substantial resources to such initiatives (Zheng et al. 2012). Consequently, a discernible trend emerges: CSP tends to exhibit lower levels in countries where income-per-capita is at the lower end of the spectrum, whereas

countries with higher income-per-capita tend to manifest higher levels of CSP engagement. This pattern underscores the intricate interplay between economic prosperity and the capacity for socially responsible endeavors within a given nation.

We employ the corruption perception index (CPI) provided by Transparency International as a proxy for assessing the political landscape of a given country (Budsaratragoon and Jitmaneeroj 2020). Serving as an indicator of corruption levels, the CPI offers insights into the extent to which corruption is perceived to exist within a nation's political and administrative systems. Functioning as an instrument to measure the absence of corruption, the CPI facilitates a nuanced comprehension of the regulatory and governance framework that underpins CSP. The intricate relationship between corruption levels and the allocation of CSP resources becomes evident: in countries marked by higher corruption levels, the relative cost of evading CSP tends to be lower than in countries exhibiting lower corruption levels (Cai et al. 2016). This dichotomy gives rise to a distinct pattern, wherein CSP tends to exhibit lower (higher) levels in countries where the CPI is rated low (high).

To capture variations in culture among different countries, we reference the multifaceted concept of culture as defined by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project (House et al. 2004). Our focus lies on the humane orientation dimension within GLOBE's cultural framework, which categorizes our sampled countries into two distinct clusters: Southern Asia, characterized by high humane orientation scores (including India, Indonesia, Malaysia, the Philippines, and Thailand), and Confucian Asia, with mid-range humane orientation scores (including China, Hong Kong, and Taiwan). In countries with elevated levels of humane orientation, companies have shared expectations of social support, thereby exhibiting their willingness to engage in socially responsible behaviors (Chen and Liu 2022). We introduce a binary variable denoted as humane orientation (HUM), taking the value of one for countries with higher humane orientation (Southern Asia), and zero for countries with lower humane orientation (Confucian Asia).

Taken as a whole, the country-level moderating variables (IPC, CPI, and HUM) are expected to positively moderate the relationship between CSP and stock value. It is important to note that, due to changes in Transparency International's methodology in 2012, direct comparisons between CPI values from the 2012 edition onwards and previous editions should be avoided. To enable a comparative analysis of the moderating effects across country factors, Eqs. (9–13) are estimated using a reduced sample covering the years 2012 to 2020. In this study, we employ earnings yield (ENY) as a metric for stock value. A high (low) earnings yield indicates an undervalued (overvalued) stock. Consequently, we anticipate that the moderating variables (IPC, CPI, and HUM) will negatively influence the ENY-CSP relationship. In other words, β_3 is expected to be negative and significant.

Dataset

Our measures of CSP are derived from the ESG dataset of Refinitiv Eikon, which has gained widespread acceptance in scholarly literature. Refinitiv Eikon encompasses a vast array of financial information, including but not limited to real-time market data, historical data, news, analytics, and trading tools. One of the key features of Refinitiv Eikon is its ESG data. This ESG dataset is particularly relevant for analyzing CSP. It provides detailed insights into a company's operations in ESG activities. The ESG dataset from Refinitiv Eikon is particularly valued in academic and professional circles for its comprehensive coverage, depth of information, and the methodology used in data collection and processing. This dataset is considered to have reduced

susceptibility to selection bias and is capable of providing a nuanced understanding of a company's performance in ESG areas, which makes it a valuable tool for investors, researchers, and policymakers interested in the intersection of corporate performance, sustainability, and ethical governance (Budsaratragoon and Jitmaneeroj 2021; Ioannou and Serafeim 2012).

Encompassing a coverage of 80% of global market capitalization, The ESG scores from Refinitiv Eikon leverage data sourced from the public domain, including annual reports, NGO websites, and news sources, to facilitate assessment (Habermann and Fischer 2023). A multidisciplinary approach involving both ESG experts and algorithmic analyses scrutinizes over 400 metrics during the evaluation process. For the scope of this study, our focus rests upon the social pillar score and its constituent category scores (namely workforce, human rights, community, and product responsibility) as our chosen proxies for CSP. Each category incorporates several subcategories, each endowed with industry-specific weighting. The social pillar score is computed using 62 metrics gathered from four main categories: workforce (30 metrics), human rights (8 metrics), community (14 metrics), and product responsibility (10 metrics). The weights assigned to these categories are as follows: 0.28 for workforce, 0.17 for human rights, 0.13 for community, and 0.43 for product responsibility. In sum, we are confident in the robustness of our CSP measurement, augmented by the substantial density of ESG data present within our sample.

The social pillar score (SOC), with its equal weighting, encapsulates the scope of corporate social activities, as gauged through the category scores encompassing community (SOC1), human rights (SOC2), product responsibility (SOC3), and workforce (SOC4). In our analytical framework, we consider both the overarching pillar score and its constituent category scores as robust proxies for Corporate Social Performance (CSP). SOC endeavors to quantify a company's capacity to foster trust and commitment among a wide spectrum of stakeholders, including customers, the workforce, and society at large. SOC1 gauges the company's dedication to upholding its reputation and sustaining its operational legitimacy by safeguarding public health, embodying good citizenship, and adhering to ethical business practices. SOC2 captures the company's pledge to uphold human rights, demonstrating a capacity to secure its operational legitimacy through the assurance of freedom of association and the proactive avoidance of child or involuntary labor practices. SOC3 assesses the company's dedication to creating value-enhancing products and services while prioritizing customer safety, thereby ensuring its continued operational legitimacy through a commitment to customer health and safety, as well as the provision of accurate product information and labeling. SOC4 delves into the company's commitment to upholding workforce diversity and equality, fostering workforce loyalty and productivity through the promotion of a family-friendly work environment and the facilitation of a harmonious work-life balance.

Refinitiv Eikon normalizes the social performance scores by z-scoring for benchmarking the company against other companies in the Refinitiv Eikon's ESG universe. The median social scores are moderated to be close to 50. The pillar and category scores range from 0 to 100 with high (low) pillar and category scores indicating good (poor) CSP. Companies with scores above (below) 50 mean outperforming (underperforming) social performance relative to the entire Refinitiv Eikon's ESG company universe. Following the classification by Refinitiv Eikon, our sample includes firms in 8 Asian-Pacific emerging markets (i.e., China, Hong Kong, India, Indonesia, Malaysia, Philippines, Taiwan, and Thailand) where comprehensive ESG data are available. During the period under consideration, data of some companies are occasionally unavailable and then available after a

period of absence, causing some random gaps in data of individual companies. Due to limited availability of Refinitiv Eikon's ESG data of Asian-Emerging markets prior to 2010, our sample period starts from 2010 to 2020, with 668 companies and 5626 firm-year observations.

In addition to social performance data, firm-specific financial data used in our empirical models are obtained from Refinitiv Eikon with the following definitions. Earnings yield (ENY) is the company's earnings per share over the last twelve months relative to its current share price. The dividend payout ratio (DPO) is the trailing twelve-month gross dividends divided by net income. The treasury-bill rate with three-month maturity is employed as the proxy for the risk-free rate (RFR). The earnings growth rate (GRO) is the compound long-term growth rate of earnings per share based on analysts' forecast over the next five years. The stock beta over the last five years is used as the proxy for the equity risk premium (ERP). Market capitalization (MCP) is the product of the market price and the number of outstanding shares. The debt to asset ratio (DAR) is the ratio of the net debt relative to the total asset.

In this study, we focus on three country-specific factors, namely economic development, the political system, and culture, as the moderating variable in the nexus between CSP and shareholder value. Drawing upon prior research, we adopt the natural logarithm of income-per-capita (IPC) as an indicator of the level of economic development (Cai et al. 2016; Zheng et al. 2012). To this end, we download the income-per-capita data for various countries from Refinitiv Eikon. For assessing the political system, we utilize the corruption perception index (CPI) sourced from Transparency International. The CPI serves as a proxy for the political landscape, measuring the absence of corruption and thereby offering insights into the extent to which corrupt practices are perceived within a nation's political and administrative realms. To encapsulate the spectrum of cultural distinctions across different countries, we draw upon the multifaceted cultural framework delineated by the Global Leadership and Organizational Behavior Effectiveness (GLOBE) project (House et al. 2004). Our specific focus within the GLOBE framework is on the humane orientation dimension. Based on humane orientation, GLOBE classifies countries into three cultural clusters: high-score cluster (Southern Asia, Sub-Saharan Africa), mid-score cluster (Middle East, Anglo, Nordic Europe, Latin America, Confucian Asia, Eastern Europe), and low-score cluster (Latin Europe, Germanic Europe). With reference to GLOBE cultural clusters, humane orientation stratifies our sampled countries into two distinct clusters: Southern Asia, marked by elevated humane orientation scores (India, Indonesia, Malaysia, the Philippines, and Thailand), and Confucian Asia, characterized by intermediate humane orientation scores (China, Hong Kong, and Taiwan).

Empirical results

Summary statistics. We present the summary statistics for CSP proxies based on the social pillar score (SOC) and the social category scores (SOC1–SOC4) in Table 1. Among all Asian-Pacific emerging markets, Thailand showcases the most robust aggregate CSP performance, registering a median social pillar score of 63.39, trailed by India (51.33), Malaysia (45.97), Indonesia (45.40), Philippines (38.81), Taiwan (34.96), Hong Kong (26.83), and China (22.06).[1] As outlined in the dataset section, Refinitiv Eikon normalizes and benchmarks the company's social performance score against the complete Refinitiv Eikon's ESG company universe, assigning scores within the range of 0 to 100, with a median score of 50. Consequently, we can deduce that, on average, companies in Asian-Pacific emerging markets, excluding

Thailand and India, fall short of the overall Refinitiv Eikon's ESG company universe. This observation regarding the CSP laggard in Asian-Pacific emerging markets suggests that there exists substantial potential for future enhancement in corporate social activities.

At the level of social category scores, 20 out of the 32 (62.5%) reported in Table 1 have median scores below 50. This suggests that companies in Asian-Pacific emerging markets not only underperform the entire Refinitiv Eikon's ESG company universe in terms of the social pillar score, but also across the individual social category scores. Among all markets, Thailand demonstrates the highest social performance across all category scores. Conversely, the lowest category scores are observed in Hong Kong for the community category and in China for the dimensions of human rights, product responsibility, and workforce. While each market tends to progress in different dimensions of CSP at varying rates, a consistent pattern across all markets is the relative weakness of the human rights category score, with a median score below 50. A plausible explanation for the comparatively lower attention given to human rights by companies is that broadly focused corporate social activities, such as those related to human rights, may have limited positive or even potentially negative impacts on operating performance, providing relatively fewer tangible benefits for stakeholders (Jacobs et al. 2010; Keele and DeHart 2011).

From the summary statistics of variables presented in Table 2, encompassing firm-year observations pooled across all firms in Asian-Pacific emerging markets over the period from 2010 to 2020, several noteworthy observations emerge. First, it is evident that, except for the workforce category score, the median values are lower than the corresponding means for all financial and CSP variables. This discrepancy suggests potentially skewed distributions within these variables. Second, the earnings yield of stocks surpasses the risk-free rate, which is a logical outcome. Investors typically demand an additional risk premium above the risk-free rate in the earnings yield to compensate for the heightened risk associated with stock investments compared to bonds. Lastly, the medians of the social category scores reveal the priority companies in Asian-Pacific emerging markets assign to various corporate social activities. Specifically, the workforce category (54.385) garners the most attention, followed by product responsibility (43.420), community (32.425), and human rights (10.880). This pattern implies that, on average, firms in these markets exhibit suboptimal CSP relative to the entire Refinitiv Eikon's ESG company universe across all social category scores, except for workforce. Notably, companies appear to emphasize narrowly focused CSP initiatives, particularly in workforce-related areas. This emphasis aligns with the potential benefits of strong workforce relations, which can foster economic goodwill through enhanced trust and coordination between companies and their workforce, thereby potentially mitigating the risk of financial distress during unfavorable economic conditions (Godfrey et al. 2009; Kane et al. 2005). Furthermore, companies that effectively maintain a skilled workforce can enhance their real operating performance and subsequently contribute to shareholder value (Byun and Oh 2018).

The estimation of CSP valuation effects by panel regression. Before proceeding with the estimation of the panel regression model presented in Eq. (3), we conduct a validation to ensure the stationarity of all variables included in the model.[2] We present the outcomes of the unit root tests in Table 2. Both test statistics, namely the modified inverse chi-squared (Pm) and the inverse normal (Z), indicate the stationarity of all variables, warranting their inclusion in our model. The estimations of various nested

Table 1 Summary statistics of corporate social performance.

Market	No. of firms (Percentage)	Descriptive statistics	Social pillar score (SOC)	Social category score			
				Community (SOC1)	Human rights (SOC2)	Product responsibility (SOC3)	Workforce (SOC4)
China	234 (35.0%)	Mean	25.51	19.25	8.48	32.21	45.56
		Median	22.06	16.03	5.54	22.83	42.63
		Min	0.60	0.00	0.00	0.00	1.38
		Max	92.07	98.57	95.25	99.94	99.64
		Std	17.04	15.62	17.50	33.22	24.96
Hong Kong	44 (6.6%)	Mean	28.47	21.11	10.76	38.93	47.69
		Median	26.83	15.52	8.03	34.56	46.76
		Min	1.01	0.00	0.00	0.00	0.40
		Max	72.24	91.61	83.61	99.85	99.13
		Std	16.74	20.68	15.48	35.00	25.53
India	102 (15.3%)	Mean	52.06	62.44	34.25	55.89	58.75
		Median	51.33	66.72	26.60	58.93	58.87
		Min	3.73	1.24	0.00	0.00	1.70
		Max	96.66	99.84	99.00	99.93	99.90
		Std	22.02	26.64	33.79	30.90	24.07
Indonesia	29 (4.3%)	Mean	46.92	60.63	24.41	43.31	58.59
		Median	45.40	64.60	8.39	39.40	63.15
		Min	4.44	10.54	0.00	0.00	1.27
		Max	97.15	99.18	96.15	99.73	99.15
		Std	24.67	28.21	30.26	34.98	25.30
Malaysia	56 (8.4%)	Mean	45.09	51.98	23.95	48.65	60.30
		Median	45.97	53.52	20.17	47.69	63.33
		Min	2.44	0.00	0.00	0.00	1.00
		Max	97.24	99.11	95.89	99.90	99.79
		Std	22.36	28.08	32.18	30.98	25.96
Philippines	25 (3.7%)	Mean	39.60	60.49	10.70	43.03	46.71
		Median	38.81	65.89	5.14	42.08	44.41
		Min	3.36	1.32	0.00	0.00	1.52
		Max	92.39	99.12	98.08	96.51	99.79
		Std	22.46	27.77	21.86	33.49	27.54
Taiwan	139 (20.8%)	Mean	38.11	36.07	29.64	42.67	50.78
		Median	34.96	25.00	8.62	39.79	53.25
		Min	0.15	0.00	0.00	0.00	0.30
		Max	96.75	99.86	99.01	99.73	99.80
		Std	28.34	31.53	34.38	34.43	32.64
Thailand	39 (5.8%)	Mean	59.07	66.05	39.29	60.53	74.27
		Median	63.39	73.79	40.79	72.11	81.60
		Min	5.87	2.43	0.00	0.00	11.51
		Max	95.31	99.71	97.07	99.93	99.88
		Std	21.76	26.76	32.59	31.54	24.05

This table presents summary statistics of Refinitiv Eikon's social performance for 668 companies across 8 Asian-Pacific emerging markets over the period of 2010 to 2020, comprising 5626 firm-year observations. The social pillar score is a weighted aggregation of the four social category scores (community, human rights, product responsibility, and workforce). Both pillar and category scores range from 0 to 100. Refinitiv Eikon normalizes the social score of each company against all companies in the Refinitiv Eikon's ESG universe, with a median score of 50. A score above (below) 50 indicates outperformance (underperformance) relative to the entire Refinitiv Eikon's ESG company universe.

models within Eq. (3) are detailed in Table 3. The baseline model (Model 1) illustrates the impact of all control variables on earnings yield, serving as a proxy for shareholder value. The sign of the estimated coefficient for each control variable aligns with findings from previous studies (Anderson and Brooks 2006; Huang and Wirjanto 2012; Musumeci and Peterson 2011).

To investigate the impact of CSP on stock value, we enhance the baseline model by incorporating the aggregate social pillar score (SOC) as a proxy for CSP in Model 2. The estimation results indicate that while the coefficient on SOC displays the expected negative sign, its explanatory significance does not reach conventional levels. This finding contrasts with certain studies that suggest financial markets value aggregate CSP (e.g., Deng et al. 2013). Nonetheless, it would be overly assertive to conclude that corporate social activities hold no influence over share value. An important consideration associated with Model 2 is that the aggregate social pillar score (SOC) might mask the variability present in individual category scores (SOC1–SOC4) (Madanoglu et al. 2018; Mattingly and Berman 2006). Given that CSP encompasses multiple facets, the potential effects on stock value are likely contingent upon specific corporate social activities targeting distinct stakeholder groups. Focusing on characterizing CSP through individual social category scores (SOC1–SOC4) rather than the aggregate social pillar score (SOC) may offer a more lucid understanding of the conceivable impact of CSP on stock value.

To investigate the potential dependence of the value relevance of CSP on various types of corporate social activities directed towards distinct stakeholder groups, we introduce each social category score (SOC1 – SOC4) into the baseline model. The outcomes of Models 3 to 6, presented in Table 3, reveal that the estimated coefficients for each social category score (SOC1 – SOC4) exhibit a negative sign. This suggests that an increase in each social category score corresponds to a decrease in earnings

Table 2 Summary statistics and panel unit root tests of variables in the models.

Variable	Descriptive statistics			Unit root tests	
	Mean	Median	Std	Inverse normal	Modified inverse Chi-squared
Earnings yield (ENY)	0.060	0.055	0.048	−15.71***	34.26***
Dividend payout ratio (DPO)	0.378	0.333	0.262	−14.29***	19.05***
Growth rate of earnings (GRO)	0.223	0.066	0.610	−14.72***	20.76***
Risk-free rate (RFR)	0.032	0.029	0.024	−15.60***	17.58***
Equity risk premium (ERP)	1.120	1.086	0.424	−22.26***	24.63***
Market capitalization (MCP)	7.704	4.387	8.379	−12.32***	14.81***
Debt to asset ratio (DAR)	0.257	0.246	0.180	−20.71***	13.68***
Social pillar score (SOC)	40.012	38.080	25.127	−12.21***	13.17***
Community score (SOC1)	41.894	32.425	31.383	−21.53***	23.39***
Human rights score (SOC2)	23.035	10.880	30.737	−20.81***	18.16***
Product responsibility score (SOC3)	44.470	43.420	34.285	−14.31***	16.37***
Workforce score (SOC4)	53.618	54.385	28.181	−16.97***	30.69***
Natural logarithm of income-per-capita (Ln(IPC))	8.887	8.728	1.025	−18.23***	27.39***
Corruption perception index (CPI)	46.750	40.000	14.283	−20.15***	15.63***
Humane orientation (HUM)	0.376	0.000	0.485	−17.48***	29.14***

This table reports summary statistics and panel unit root tests of all variables in the models. The Augmented Dickey-Fuller (ADF) test with the null hypothesis of unit root existence. *, **, *** indicate significance at the 10, 5 and 1 percent level, respectively.

yield, implying an enhancement in stock value. The underlying reason for the negative association between CSP proxies and earnings yield (i.e., the positive association between CSP proxies and stock value) could be attributed to the likelihood that companies involved in corporate social activities tend to experience higher earnings growth and reduced financing costs, leading to a lower earnings yield (i.e., a higher stock value) (Bhuiyan and Nguyen 2020; Ghoul and Mishra 2011). As anticipated, the impacts of distinct dimensions of CSP, aimed at diverse stakeholder groups, exhibit considerable variation. Notably, the estimates for community in Model 3 and workforce in Model 6 are both negative and significant at the 10 and 5% levels of significance, respectively. However, the estimates do not significantly deviate from zero when CSP is approximated by human rights in Model 4 and product responsibility in Model 5. Consistent with prior studies utilizing regression analysis, our findings indicate that not all dimensions of CSP hold relevance for stock value, and individual CSP dimensions yield inconclusive evidence of value relevance (Byun and Oh 2018; Jensen 2001). Taken together, the results derived from the regression analysis of Models 3 to 6 provide partial support for hypothesis H1, indicating that CSP positively influences stock value (i.e., negatively influences earnings yield).

Furthermore, the results derived from Models 3 to 6 suggest that employing the aggregate social pillar score (SOC) in Model 2 could potentially obscure the distinct impacts of individual social category scores (SOC1 – SOC4). This finding lends support to hypothesis H2, which posits that the comprehensive measure of multidimensional CSP masks the varied effects of individual CSP dimensions on stock value. While the aggregate social pillar score is conventionally used as a transparent proxy for CSP, the potential influence of social category scores may cancel each other out when aggregated. Our findings align with previous research on CSP, which also indicates that the distinct dimensions of CSP should be studied separately rather than being combined, due to their divergent effects (Johnson and Greening 1999; Mattingly and Berman 2006).

In terms of the types of corporate social activities, the findings from Models 3 to 6 indicate that the category scores related to community and workforce significantly and positively influence stock value, whereas human rights and product responsibility exhibit no significant effects. This suggests that narrowly focused corporate social activities targeting community and workforce yield direct advantages for a company's primary stakeholders, who have a direct impact on its cash flows and risks. These results partially support hypothesis H3, which posits that narrowly focused CSP dimensions (i.e., community, product responsibility, and workforce) yield greater valuation effects than broadly focused CSP dimensions (i.e., human rights). Our findings are consistent with prior research on the influence of CSP on distinct stakeholder groups (Byun and Oh 2018; Jacobs et al. 2010; Keele and DeHart, 2011). Narrowly focused corporate social activities that center on specific groups (e.g., communities, customers, and employees) appear to exhibit stronger relationships between CSP and shareholder value. Conversely, broadly focused corporate social activities (e.g., human rights, environmental concerns) tend to offer relatively less tangible benefit to key stakeholders, potentially resulting in limited positive or even negative impacts on operating performance.

In practical scenarios, companies are often involved in multiple dimensions of CSP rather than focusing solely on a single dimension. Consequently, in Model 7, we simultaneously incorporate all social category scores (SOC1–SOC4) as proxies for multidimensional CSP. It is evident that the coefficient on each control variable remains qualitatively consistent. Regarding the impact of CSP proxies, the coefficients on all social category scores remain negative, but their levels of significance decrease. This suggests that individual dimensions of CSP are unequally valued by financial markets, reflecting their varying contributions to stock value. Among the CSP proxies included in Model 7, only the workforce category significantly and negatively influences earnings yield (i.e., positively impacts stock value). This result is grounded in the notion that positive workforce relations signal the company's dedication to its employees, fostering workforce loyalty and productivity. This, in turn, facilitates access to human capital, minimizes costly litigations, and promotes cooperation between management and the workforce. Positive employee relations not only bolster anticipated future cash flows but also mitigate the risks associated with litigation and reputational damage stemming from unfavorable workplace dynamics (Kane et al. 2005). Ultimately, the combination of higher cash flows and reduced risk contributes to the enhancement of stock value.

Table 3 The estimation of CSP valuation effect by regression analysis.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
SOC (Social pillar)		−0.026 (−0.85)					
SOC1 (Community)			−0.033* (−1.84)				−0.029 (−1.55)
SOC2 (Human rights)				−0.003 (−0.15)			−0.017 (−0.67)
SOC3 (Product responsibility)					−0.022 (−1.05)		−0.015 (−0.62)
SOC4 (Workforce)						−0.041** (−2.45)	−0.038* (−1.93)
DPO (Dividend payout ratio)	−0.235* (−1.82)	−0.263* (−1.91)	−0.266* (−1.93)	−0.239* (−1.83)	−0.265* (−1.92)	−0.254* (−1.89)	−0.270* (−1.93)
GRO (Growth rate of earnings)	−0.019*** (−2.67)	−0.018*** (−2.62)	−0.017*** (−2.62)	−0.019*** (−2.66)	−0.018*** (−2.63)	−0.018*** (−2.64)	−0.017*** (−2.61)
RFR (Risk-free rate)	21.724*** (4.83)	22.481*** (4.90)	22.664*** (4.97)	21.848*** (4.77)	22.384*** (4.93)	22.219*** (4.90)	22.567*** (4.90)
ERP (Equity risk premium)	0.318** (2.14)	0.320** (2.15)	0.320** (2.15)	0.318** (2.14)	0.322** (2.17)	0.322** (2.17)	0.323** (2.17)
MCP (Market capitalization)	−0.829*** (−8.40)	−0.824*** (−8.33)	−0.822*** (−8.31)	−0.829*** (−8.40)	−0.826*** (−8.36)	−0.822*** (−8.29)	−0.817*** (−8.22)
DAR (Debt-to-asset ratio)	3.579*** (6.41)	3.628*** (6.46)	3.630*** (6.49)	3.584*** (6.40)	3.619*** (6.47)	3.618*** (6.46)	3.638*** (6.49)
Firm-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R²	0.4620	0.4622	0.4653	0.4620	0.4624	0.4694	0.4695

This table presents the estimation results of panel regression analysis in Eq. (3). The dependent variable for all models is stock value measured by earnings yield. The robust t-statistics are provided in parentheses. *, **, *** show the significance level of 10, 5 and 1 percent level, respectively.

The estimation of CSP valuation effects by structural equation modeling. Given the diverse effects observed across multiple dimensions of CSP in Models 2 to 7, arriving at a clear conclusion regarding the positive or negative impact of CSP on stock value is challenging. A questionable assumption underlying the regression analyses in Models 2 to 7 is that both the aggregate social pillar score (SOC) and the individual social category scores (SOC1 – SOC4) serve as perfect proxies for CSP, without any measurement errors. However, in reality, these social pillar and category scores are likely to be incomplete representations of CSP. Relying solely on a single indicator to proxy CSP introduces the potential for correlation between the measurement errors of CSP and the error term in the regression analysis (Baird et al. 2012). This plausible endogeneity can lead to bias in the ordinary least squares (OLS) estimation. Due to the presence of measurement errors in CSP proxies, the suitability of the regression model for exploring the impact of CSP on stock value is called into question. This consideration underscores the rationale for adopting structural equation modeling (SEM) if measurement errors in CSP proxies are indeed present.

In the estimation of SEM, the latent variable should have its unit of measurement or scale determined (Acock, 2013). One approach to meet this requirement is to set the factor loading of one indicator in the measurement equations equal to unity. In this context, we utilize the indicators for community (SOC1), human rights (SOC2), product responsibility (SOC3), and workforce (SOC4) to identify the scaling of the CSP latent variable in Models 8 to 11, respectively. The results of the maximum likelihood (ML) estimations of SEM in Eqs. (4–8) are presented in Table 4. [3] The specific choice of indicator for scaling purposes determines the scale of the CSP latent variable and, consequently, impacts the estimated coefficient of CSP in Eq. (4) as well as the three remaining factor loadings that are allowed to vary in Eqs. (5–8). Other than the CSP latent variable, the estimated coefficients of all explanatory variables in Eq. (4) remain unchanged regardless of the chosen indicator for scaling. This explains why the results presented for Eq. (4) in Models 8 to 11 are consistent, with the exception of the estimated coefficient of the CSP latent variable.

We first examine the estimation results of measurement equations. In Panel A of Table 4, the estimations from Models 8 to 11 reveal that the unstandardized factor loadings for all CSP indicators (SOC1–SOC4) are positive and highly significant at the 1% level of significance. Consistent with our hypothesis, the factor loadings for all CSP indicators exhibit a positive direction. This indicates that higher social category scores correspond to better social performance. Given the variations in the strengths of these associations with the CSP latent variable across CSP indicators, we present the standardized factor loadings to determine the most influential indicator of the CSP latent variable. Based on the findings presented in Table 5, the social category score with the highest standardized factor loading is workforce (0.962), followed by community (0.900), product responsibility (0.896), and human rights (0.782). In other words, the workforce indicator provides the most effective measurement of the CSP latent variable, followed by community, product responsibility, and human rights. In conclusion, the collective results of Models 8 to 11 provide robust support for hypothesis H3, indicating that narrowly focused CSP dimensions (community, product responsibility, and workforce) exhibit stronger valuation effects compared to broadly focused CSP dimensions (human rights).

We now proceed to analyze the maximum likelihood (ML) estimation results of the construct equation. As illustrated in Panel B of Table 4, the sign of each estimated coefficient for the control variables remains consistent with the ordinary least squares (OLS) estimations presented in Table 3. Furthermore, the effects of all control variables exhibit statistical significance at conventional levels. Notably, while the ML estimates of SEM parameters largely align with the OLS estimates, there is a significant discrepancy between the two sets of results. The estimated coefficient for the CSP latent variable in all models presented in Table 4 is negative and highly statistically significant. This finding provides robust support for hypothesis H1, affirming that CSP, measured concurrently by indicators related to community, human rights, product responsibility, and workforce, exerts a notable positive influence on stock value (i.e., negative influence on earnings yield).

The inconclusive outcomes of the regression analysis in Eq. (3) could arise from various factors, including the utilization of the

Table 4 The estimation of CSP valuation effect by structural equation modeling.

Variable	Model 8	Model 9	Model 10	Model 11
Panel A: Measurement equation				
SOC1 (Community)	1	1.570*** (78.52)	0.938*** (104.22)	0.810*** (123.54)
SOC2 (Human rights)	0.637*** (78.52)	1	0.597*** (77.57)	0.515*** (84.50)
SOC3 (Product responsibility)	1.067*** (104.22)	1.675*** (77.57)	1	0.863*** (122.65)
SOC4 (Workforce)	1.235*** (123.54)	1.940*** (84.50)	1.158*** (122.65)	1
Panel B: Construct equation				
CSP (Corporate social performance)	−0.319*** (−3.37)	−0.376*** (−3.27)	−0.225*** (−3.26)	−0.194*** (−3.17)
DPO (Dividend payout ratio)	−0.238* (−1.83)	−0.238* (−1.83)	−0.238* (−1.83)	−0.238* (−1.83)
GRO (Growth rate of earnings)	−0.019*** (−2.67)	−0.019*** (−2.67)	−0.019*** (−2.67)	−0.019*** (−2.67)
RFR (Risk-free rate)	21.785*** (4.84)	21.785*** (4.84)	21.785*** (4.84)	21.785*** (4.84)
ERP (Equity risk premium)	0.318** (2.14)	0.318** (2.14)	0.318** (2.14)	0.318** (2.14)
MCP (Market capitalization)	−0.828*** (−8.40)	−0.828*** (−8.40)	−0.828*** (−8.40)	−0.828*** (−8.40)
DAR (Debt-to-asset ratio)	3.583*** (6.42)	3.583*** (6.42)	3.583*** (6.42)	3.583*** (6.42)
Firm-fixed effects	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes
Panel C: Goodness-of-fit				
Adjusted R^2	0.558	0.558	0.558	0.558
CFI	0.968	0.968	0.968	0.968
RMSEA	0.042	0.042	0.042	0.042

This table presents SEM estimations in Eqs. (4–8). The robust z-statistics are provided in parentheses. The goodness-of-fit statistics include the adjusted R-squared, comparative fit index (CFI), and root mean squared error of approximation (RMSEA). In Models 8 to 11, the CSP latent variable is identified using the community (SOC1), human rights (SOC2), product responsibility (SOC3), and workforce (SOC4) indicators, respectively. *, **, *** show the significance level of 10, 5 and 1 percent level, respectively.

Table 5 Standardized factor loadings of CSP indicators.

Description	SOC1 (Community)	SOC2 (Human rights)	SOC3 (Product responsibility)	SOC4 (Workforce)
Unstandardized factor loading	1.000	0.637	1.067	1.235
Variance of CSP latent variable	2221.090	2221.090	2221.090	2221.090
Model-implied variance of indicators	518.557	571.216	624.062	274.738
Standardized factor loading	0.900	0.782	0.896	0.962

This table presents the standardized factor loadings of CSP indicators in Model 8, where the community factor (SOC1) is used to identify the CSP latent variable. Models 8 to 11 yield identical standardized factor loadings of CSP indicators. The standardized factor loading is calculated by multiplying the unstandardized factor loading by the model-implied standard deviation of the indicator and then dividing by the standard deviation of the CSP latent variable, following the methodology of Acock (2013). The standardized factor loadings of SOC1 is $\frac{1.000 \times \sqrt{2221.090}}{\sqrt{(1.000^2 \times 2221.090)+518.557}} = 0.900$, SOC2 is $\frac{0.637 \times \sqrt{2221.090}}{\sqrt{(0.637^2 \times 2221.090)+571.216}} = 0.782$, SOC2 is $\frac{1.067 \times \sqrt{2221.090}}{\sqrt{(1.067^2 \times 2221.090)+624.062}} = 0.896$, and SOC4 is $\frac{1.235 \times \sqrt{2221.090}}{\sqrt{(1.235^2 \times 2221.090)+274.738}} = 0.962$.

OLS estimator to explore the relationship between CSP and earnings yield, the selection of the CSP indicator, and the direct inclusion of the CSP indicator as a regressor in the earnings yield equation. These factors may contribute independently or collectively to the observed results. Furthermore, the coefficients estimated by SEM for the CSP latent variable in Models 8 to 11, ranging from −0.194 to −0.376, are notably larger than the estimated coefficient for workforce (identified as the most influential factor driving earnings yield) in Model 7 (−0.038). This indicates that while workforce holds a prominent role in the connection between CSP and stock value, the valuation impact of CSP is substantially influenced by the positive interaction among all CSP indicators, encompassing workforce, community, product responsibility, and human rights. Therefore, despite the workforce being the primary conduit through which CSP affects stock value, the collective effect of all CSP dimensions holds greater sway. The synergistic interplay among multiple CSP indicators carries significant implications for companies when crafting effective corporate social initiatives. To leverage CSP as a strategy for enhancing shareholder value, companies should not solely concentrate on improving workforce relations in isolation from other socially oriented endeavors involving community, human rights, and product responsibility. Accordingly, strategic corporate social activities should encompass all facets of CSP to harness the benefits arising from the synergy among diverse social initiatives.

In Panel C of Table 4, we present the goodness-of-fit statistics to assess the degree to which SEM estimations in Models 8 to 11 align with the dataset. Our model's comparative fit index (CFI) is 0.968, surpassing the minimum acceptable threshold of 0.950 (Acock 2013). Furthermore, the root mean squared error of approximation (RMSEA) stands at 0.042, which falls below the maximum acceptable value of 0.050 (Browne and Cudeck 1993). Notably, SEM estimations in Models 8 to 11 yield a higher adjusted R-squared value (55.8%) compared to the OLS estimations in Models 1 to 7 (ranging from 46.20 to 46.95%). A plausible rationale for this outcome is that SEM segregates CSP measurement errors into Eqs. (5–8) and the error term into Eq. (4). By mitigating the influence of noise resulting from CSP measurement errors, we achieve a more accurate gauge of CSP and a more robust CSP valuation effect. In summary, all goodness-of-fit tests affirm that SEM effectively captures the data's characteristics.

Importance-performance analysis for prioritizing CSP indicators. As individual dimensions of CSP exhibit varying levels of performance and distinct degrees of importance to stock value, we recommend that managers adopt a strategy of prioritizing CSP indicators when allocating the company's limited resources toward strategic social initiatives aimed at specific stakeholder groups. To achieve this, the application of importance-performance analysis (IPA) can prove highly effective in

determining the order of priority for CSP indicators. In Fig. 1, we depict IPA as a two-dimensional graph, portraying the importance of social category scores along the horizontal axis and their corresponding performance along the vertical axis. Importance, in this context, is defined by the standardized factor loading of the social category scores as reported in Table 5. Performance, on the other hand, is represented by the medians of the category scores, as detailed in Table 2. An efficient allotment of the company's limited resources can be accomplished by giving the highest priority to the social category score whose importance is relatively high, but performance is relatively low. In other words, the initial focus should be on improving the social category score that demonstrates the lowest performance-to-importance ratio, given its critical role as a value driver. Comprehensive information regarding the performance-to-importance ratio and the recommended order of improvement priorities is provided in Table 6.

Among all the dimensions of CSP, the human rights dimension exhibits the lowest performance-to-importance ratio of 13.913. This underscores the paramount importance of prioritizing improvement efforts in corporate social activities related to human rights. While the significance of the community and product responsibility dimensions is quite similar, with standardized factor loadings of 0.900 and 0.896 respectively, it is noteworthy that the community dimension offers more potential for enhancement. This is substantiated by its median score of 32.425, which is below that of product responsibility (43.420). As a result, the performance-to-importance ratios for community and product responsibility stand at 36.028 and 48.460, respectively. Despite the workforce dimension holding the highest level of importance, as indicated by its factor loading of 0.962, its capacity for future improvement is relatively limited with a median score of 54.385. Consequently, its performance-to-importance ratio of 56.533 is comparably higher than that of the other CSP dimensions. The comparative analysis of performance-to-importance ratios across all CSP dimensions points to the need for managers to allocate the company's constrained resources primarily to human rights, followed by community, product responsibility, and workforce.

The moderating role of country factors on the CSP valuation effect. In this subsection, we delve into the potential moderating impact of country-specific factors—namely, economic development, political system, and culture—on the relationship between CSP and shareholder value. We adopt income per capita (IPC), the corruption perception index (CPI), and humane orientation (HUM) as proxies to represent economic development, political system, and culture, respectively. Notably, it's essential to acknowledge that changes in Transparency International's methodology after 2012 necessitate caution when directly comparing the CPI from the 2012 edition onwards with previous editions. To enable a consistent assessment of the moderating effect across these country factors, we undertake
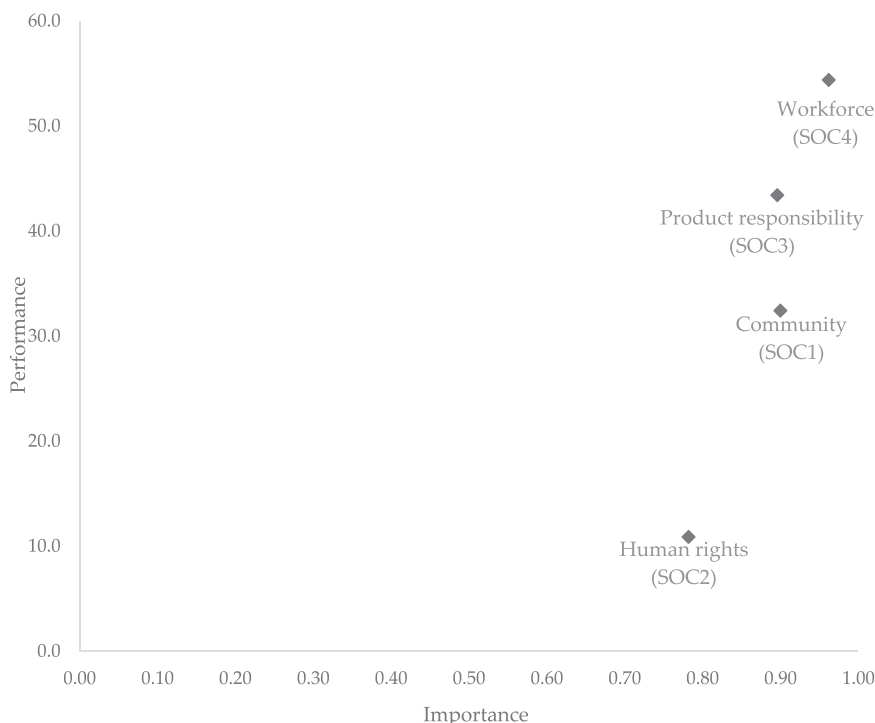
Fig. 1 Importance-performance analysis. This figure illustrates the importance and performance of social category scores. Importance is represented on the horizontal axis, while performance is depicted on the vertical axis. Importance is determined by the standardized factor loading of each social category score, as indicated in Table 5. Performance is based on the median of social category scores, as shown in Table 2. The social category score with the lowest performance-to-importance ratio should be given the highest priority for improvement.

Table 6 Importance-performance analysis.				
Description	**SOC1 (Community)**	**SOC2 (Human rights)**	**SOC3 (Product responsibility)**	**SOC4 (Workforce)**
Performance (Median category score)	32.425	10.880	43.420	54.385
Importance (Standardized factor loading)	0.900	0.782	0.896	0.962
Performance-to-importance ratio	36.028	13.913	48.460	56.533
Improvement priority	2nd	1st	3rd	4th

This table presents the results of the importance-performance analysis of the social category scores. Importance is defined as the standardized factor loading of the category score as shown in Table 5. Performance is measured by the median of the category score, as indicated in Table 2. The social category score with the lowest performance-to-importance ratio is deemed to have the highest priority for improvement.

estimations of Eqs. (9–13) utilizing a restricted sample encompassing the years 2012 to 2020.

Table 7 summarizes the estimation results of SEM with country factors as moderating variables. The results of the measurement equation, structural equation, and goodness-of-fit analysis incorporating these country factors in Table 7 exhibit a substantial degree of alignment with those obtained without country factors, as delineated in Table 4. The estimated coefficient on the CSP latent variable of Models 12 to 15 is negative and statistically significant, corroborating our findings that corporate social performance has a significant positive effect on stock value (i.e., a significant negative effect on earnings yield). The effects of all control variables are statistically significant with expected signs. It is worth noting that a marginal reduction in the strength of the estimated coefficients and goodness-of-fit statistics could potentially be attributed to the observed decrease in sample size.

Hypothesis H4A posits that economic development moderates the connection between CSP and stock value, leading to a more pronounced relationship in countries exhibiting higher economic development in contrast to those with lower economic advancement. Our findings from Model 12 duly align with this

hypothesis. The coefficient of the interaction term CSP x Ln(IPC) is negative and statistically significant at the 5% level. Turning to Hypothesis H4B, it suggests that corruption moderates the linkage between CSP and stock value, resulting in a more robust relationship in countries characterized by lower corruption levels as opposed to countries where corruption is more rampant. Our Model 13 outcomes provide reinforcement for this hypothesis. The coefficient of the interaction term CSP x CPI is negative and statistically significant at the 10% level. Notably, it is essential to emphasize that the corruption perception index (CPI) gauges the absence of corruption. Moving on, Hypothesis H4C asserts that humane orientation moderates the correlation between CSP and stock value, contributing to a more potent relationship in countries marked by higher humane orientation relative to those displaying lower humane orientation. However, our findings stemming from Model 14 do not corroborate this hypothesis. Although the coefficient pertaining to the interaction term CSP x HUM is as expected negative, it fails to attain statistical significance at any conventional thresholds.

In a comprehensive step, we proceed to include all country-specific factors concurrently into Model 15. It is noteworthy that

Table 7 The moderating role of country factors on the CSP valuation effect.

Variable	Model 12	Model 13	Model 14	Model 15
Panel A: Measurement equation				
SOC1 (Community)	1	1	1	1
SOC2 (Human rights)	0.514*** (60.27)	0.514*** (60.27)	0.514*** (60.27)	0.514*** (60.27)
SOC3 (Product responsibility)	0.978*** (92.13)	0.978*** (92.13)	0.978*** (92.13)	0.978*** (92.13)
SOC4 (Workforce)	1.072*** (97.48)	1.072*** (97.48)	1.072*** (97.48)	1.072*** (97.48)
Panel B: Construct equation				
CSP (Corporate social performance)	−0.227** (−2.35)	−0.231** (−2.28)	−0.196** (−2.06)	−0.215** (−2.17)
Ln(IPC) (Income per capita)	0.004 (0.28)			0.003 (0.26)
CSP x Ln(IPC) (CSP-Ln(IPC) interaction term)	−0.021** (−2.07)			−0.019** (−2.03)
CPI (Corruption perception index)		−0.007 (−0.33)		−0.005 (−0.29)
CSP x CPI (CSP-CPI interaction term)		−0.010* (−1.91)		−0.009* (−1.87)
HUM (Humane orientation)			−0.005 (−0.76)	−0.003 (−0.61)
CSP x HUM (CSP-HUM interaction term)			−0.003 (−1.32)	−0.002 (−1.28)
DPO (Dividend payout ratio)	−0.214** (−2.19)	−0.207* (−1.86)	−0.193* (−1.91)	−0.207** (−2.01)
GRO (Growth rate of earnings)	−0.016** (−2.31)	−0.014** (−2.03)	−0.011* (−1.84)	−0.013** (−2.11)
RFR (Risk-free rate)	12.503*** (3.89)	12.305*** (3.64)	12.412*** (3.79)	12.374*** (3.68)
ERP (Equity risk premium)	0.276** (2.09)	0.248* (1.92)	0.255** (2.11)	0.261** (2.02)
MCP (Market capitalization)	−0.683** (−2.43)	−0.631** (−2.14)	−0.627** (−2.02)	−0.647** (−2.10)
DAR (Debt-to-asset ratio)	2.362** (2.29)	2.331** (2.18)	2.258* (1.95)	2.344** (2.06)
Firm-fixed effects	Yes	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes	Yes
Panel C: Goodness-of-fit				
Adjusted R^2	0.425	0.403	0.398	0.446
CFI	0.961	0.957	0.953	0.965
RMSEA	0.039	0.044	0.048	0.040

This table presents SEM estimations in Eqs. (9–13), incorporating country factors as moderating variables. The country factors encompass income per capita (IPC), the corruption perception index (CPI), and humane orientation (HUM). Due to changes in Transparency International's methodology in 2012, the CPI from the 2012 edition onwards should not be directly compared with previous editions. To facilitate a comparison of the moderating effect across country factors, Models 12 to 15 are estimated using a reduced sample spanning the years 2012 to 2020. The community variable (SOC1) is utilized to identify the CSP latent variable. Regardless of the chosen dimension of CSP for identifying the latent variable, the estimated results exhibit qualitative similarity and lead to the same conclusion. The robust z-statistics are enclosed within parentheses. The goodness-of-fit statistics include the adjusted R-squared, comparative fit index (CFI), and root mean squared error of approximation (RMSEA). *, **, *** show the significance level of 10, 5 and 1 percent level, respectively.

the sign and level of significance observed for the interaction term between CSP and country factors persist in congruence with the patterns established in Models 12 to 14. All in all, our analysis furnishes evidence substantiating the moderating influence of economic development and the political system, whereas culture does not exhibit a discernible role in moderating the CSP-stock value relationship.

Discussion of key empirical findings. Our empirical analysis has shed light on the intricate interplay between CSP and shareholder value. The results provide intriguing insights into the potential effects of CSP initiatives on shareholder value, uncovering both the direct and moderating influences of various factors. The multidimensional nature of CSP, encompassing community, human rights, product responsibility, and workforce, introduces a layer of complexity in assessing its impact on shareholder value. Within this framework, it becomes evident that the composite measure of CSP may mask the distinct valuation implications attributed to corporate social endeavors targeting discrete cohorts of stakeholders. In consonance with precedent studies, our empirical outcomes align with the recommendation that an aggregate approach to CSP assessment may obscure the heterogeneous effects inherent in its individual dimensions (Johnson and Greening 1999; Mattingly and Berman 2006). This theoretical perspective advocates for a nuanced dissection of CSP facets, enabling a granular exploration of their distinct ramifications.

Upon examining the relationship between CSP and shareholder value, our findings reveal a statistically significant and positive association between the two variables. This suggests that companies that exhibit higher levels of CSP tend to experience enhanced shareholder value. A plausible reason for the positive valuation effect of CSP on shareholder value is that companies engaging in corporate social activities are likely to have higher earnings growth and lower financing costs, which in turn lead to higher shareholder value (Bhuiyan and Nguyen 2020; Ghoul and Mishra 2011). This aligns with the stakeholder theory, which postulates that catering to the interests of multiple stakeholders, including customers, employees, and communities, can ultimately contribute to long-term value creation for shareholders (Dmytriyev et al. 2021; Harrison and Wicks 2013; Jiao 2010).

Additionally, our findings indicate that the more narrowly focused dimensions of CSP, namely community involvement, product responsibility, and workforce dynamics, exhibit more pronounced valuation effects when compared to the broader-focused CSP dimension of human rights. These outcomes corroborate earlier research that underscores the differentiated impact of CSP across diverse stakeholder groups (Byun and Oh 2018; Jacobs et al. 2010; Keele and DeHart 2011). The robust valuation effects observed in the domains of community and workforce align coherently with prior investigations in the realm of CSP. For instance, the observations of Waddock and Graves (1997) suggest that robust community ties may engender corporate benefits through avenues like tax advantages, regulatory leniency, and an enhanced caliber of the workforce over the long term. Elaborating on this theme, Kane et al. (2005) highlight that a robust rapport with the workforce contributes to economic goodwill by fostering trust and facilitating coordination between companies and their employees. This, in turn, serves as a safeguard against financial distress risks, as periods of economic adversity can prompt concessions from the workforce, such as reduced wages and adjusted welfare benefits. In similar vein, the

findings of Godfrey et al. (2009) underscore the role of community and workforce diversity in shielding companies from cash flow volatility during crises.

The comparatively modest valuation effects observed in human rights warrant contextual consideration in light of the insights offered by Byun and Oh (2018). CSP can be categorically delineated into two focal points: narrow and broad, each signifying social endeavors targeting specific local stakeholders or broader public benefit, respectively. This dichotomy yields divergent valuation effects contingent upon whether corporate social actions distinctly advantage the general public, encompassing elements like the environment and human rights, or instead cater to the interests of local stakeholders such as the community, customers, and employees. On one end of the spectrum, the pursuit of remedies for human rights challenges might not yield direct benefits to a company's primary stakeholders, who wield a direct influence over the company's cash flows and associated risks. Contrarily, active engagement in initiatives aimed at enhancing employee well-being, creating customer-friendly products, and cultivating strong community relationships empowers companies to nurture skilled personnel, retain valuable customers, and foster positive local affiliations. This, in turn, lays the groundwork for heightened shareholder value, influenced by market expectations of augmented future cash flows and attenuated risks.

Interestingly, our empirical exploration yields compelling evidence that underscores the moderating influence of economic development and corruption, while revealing limited support for the role of humane orientation in shaping the relationship between CSP and shareholder value. Our findings are in line with recent studies on the role of country factors, such as economic development, political system, and culture, in moderating the CSP valuation effect (Chen and Liu 2022; Matthiesen and Salzmann 2017; Rjiba et al. 2020). In nations where basic needs are a struggle, such as food and shelter, the focus on higher-level needs like maintaining a clean environment, safe working conditions, and eradicating child labor diminishes. Nations with low economic development curtail resource allocation to CSP initiatives. Conversely, economically advanced countries possess more resources, technology, and expertise, enabling effective investment in CSP and sustainable practices (Zheng et al. 2012). Countries with rampant corruption and lax penalties have lower costs for corrupt activities. When such costs are lower than investing in CSP for regulatory compliance, corporations might resort to corruption to bypass CSP obligations (Cai et al. 2016). Our findings of the moderating role of country factors provide a nuanced understanding of how diverse country-specific attributes interact with CSP initiatives to impact shareholder value, offering valuable insights for businesses striving to navigate the intricate nexus of corporate social performance and shareholder value.

Concluding remarks
The current study sheds new light on the value relevance of multiple dimensions of CSP aimed at distinct stakeholder groups – namely, community, human rights, product responsibility, and workforce – in relation to stock value. In contrast to the extensive body of research utilizing regression analysis to scrutinize the impact of CSP on valuation, this study adopts structural equation modeling (SEM), which explicitly addresses the influence of CSP measurement errors that may erroneously suggest a lack of value relevance in traditional regression-based analyses. Based on data from Asian-Pacific emerging markets spanning the period 2010 to 2020, this study yields a range of intriguing findings, as outlined below.

With the exception of Thailand and India, companies within Asian-Pacific emerging markets exhibit inferior CSP compared to the broader company universe. Notably, the human rights dimension consistently emerges as the weakest aspect across all markets. When employing regression analysis utilizing an aggregate CSP measure, there appears to be deceptive backing for the insignificance of CSP in relation to stock value. This could be attributed to an aggregation bias that obscures the diverse impacts of corporate social activities directed at distinct stakeholder groups. However, when examining individual CSP dimensions concurrently in the regression analysis, it becomes evident that only the workforce dimension significantly and positively influences stock value. Conversely, corporate social initiatives linked to community, product responsibility, and human rights show no effect on stock value. The absence of conclusive support for the value relevance of CSP is likely a result of the inadequate treatment of CSP measurement errors within the confines of a conventional regression approach.

Taking into consideration CSP measurement errors, SEM estimations uncover that all CSP dimensions collectively generate positive synergy on stock value, with individual CSP dimensions exerting varying effects. The more narrowly focused CSP aspects (community, product responsibility, and workforce) exhibit a more pronounced valuation impact than the broader-focused CSP aspect (human rights). Furthermore, we ascertain that the positive valuation effect of CSP is more prominent in countries characterized by higher levels of economic development and lower levels of corruption. This implies that the influence of corporate social activities on stock value exhibits variability across distinct national contexts.

The synergy observed among multiple CSP indicators underscores the necessity for corporate social programs to encompass all CSP dimensions, thereby harnessing their combined advantages. However, this discovery does not imply that managers should uniformly allocate weight to each individual CSP dimension when implementing corporate social strategies. Given companies' finite resources, importance-performance analysis suggests that the CSP dimension with the lowest performance-to-importance ratio should be prioritized for enhancement. In light of this, managers should allocate the company's limited resources to enhance CSP related to human rights, followed by community, product responsibility, and workforce, respectively, in order of priority.

While the present study offers enhanced insights into the valuation effect of CSP on shareholder value, its findings also point towards prospective directions for empirical inquiry. Notably, this investigation confines its focus to the influence of social pillar scores, neglecting the environmental and governance dimensions inherent in the Refinitiv Eikon's ESG dataset. The latter comprises scores for both the environmental pillar, encompassing aspects like resource utilization, emissions, and innovation, as well as the governance pillar, encompassing facets such as management, shareholder engagement, and corporate social responsibility strategy. In light of this, an intriguing avenue for further analysis emerges, involving the recalibration of analytical models to encompass the category scores of the aforementioned environmental and governance pillars. This endeavor seeks to ascertain whether a positive synergistic interplay exists amongst the constituent category scores, thereby contributing to a more comprehensive comprehension of the complex ESG valuation paradigm.

In addition, the study primarily focuses on country-specific factors, including economic development, the political system, and culture, in exploring the dynamics between CSP and shareholder value. Recognizing the complexity of this relationship, it is

important to acknowledge potential limitations in our analysis. Specifically, the study does not consider other significant moderating variables that could influence this linkage. For instance, political uncertainty, as highlighted in Gong et al. (2022), can play a crucial role. In politically unstable environments, CSP activities may be perceived differently by stakeholders, thus altering their impact on shareholder value. Similarly, the degree of multinationality of a company, as discussed in Chowdhury et al. (2021), is another important factor. Companies with a higher degree of multinationality might experience varied CSP expectations across different markets, affecting the uniformity and effectiveness of their CSP strategies, and consequently, their perceived value to shareholders. Future research could benefit from incorporating these dimensions to provide a more holistic understanding of the relationship between CSP initiatives and shareholder value in different global contexts.

Furthermore, it is prudent to acknowledge the escalating imperative placed upon emerging economies to cultivate competitiveness and cost-efficiency, often achieved through the curbing of labor expenses. This drive, in turn, tends to be buttressed by diminished legal strictures surrounding labor statutes and relaxed regulatory frameworks pertaining to environmental obligations. Consequently, an engrossing sphere for subsequent investigation resides in the potential association between research outcomes and the degree of regulatory stringency within each member nation. Such an inquiry stands poised to offer nuanced insights into the intricate interplay between regulatory landscapes, labor dynamics, and CSP valuation effects on shareholder value.

Data availability

The data that support the findings of this study are available from Refinitiv Eikon but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of Refinitiv Eikon.

Notes

1 To compare CSP across markets, we use the median score because it is less impacted by outliers and hence more appropriate than the mean score.

2 We employ the Augmented Dickey–Fuller (ADF) test due to its capability to test unit roots of the unbalanced panel. As the means of all variables deviate from zero, we include the drift term in the ADF test. We use two lags to remove autoregressive components of the variables. As a robustness check, we conduct the ADF test with several specifications and find the unchanged conclusion.

3 The information provided in Table 2 suggests that the normality assumption of observable variables seems not satisfied. One approach to dealing with this nonnormality is to apply the method of maximum likelihood (ML) to estimate the model.

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Author contributions

BJ is the sole contributor to this article and is responsible for all aspects of the manuscript.

Competing interests

The author declares no competing interests.

Additional information