

Catch Up with the Good and Stay Away from the Bad: CEO Decisions on the Appointment of Chief Sustainability Officers

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ABSTRACT Why do some chief executive officers (CEOs) appoint chief sustainability officers (CSOs) for their firms while others do not? We answer this question by examining CEOs' attention allocation to competition for stakeholders' approval, which can be triggered by both industry peers' corporate social responsibility (CSR) and corporate social irresponsibility (CSiR). An increase in peers' CSR triggers CEOs' attention allocation by observing that peers have improved and thus pose a competitive threat to their own firms. An increase in peers' CSiR triggers CEOs' attention allocation by perceiving that stakeholders will demand more for sustainability and thus place higher sanctions on their own firms in the future. CEOs' attention allocated to industry peers' CSR and CSiR, in turn, can increase their perceived importance and urgency of appointing CSOs for their firms to 'catch up with the good' (responsible peers) and to 'stay away from the bad' (irresponsible peers). We also theorize the moderating roles of CEOs' motivational attributes, such that predominantly prevention-focused CEOs are more (less) likely to appoint CSOs as peers increase CSR (CSiR), and future-oriented CEOs are more (less) likely to appoint CSOs as peers increase CSiR (CSR).

Keywords: chief sustainability officer, conjoint experiment, corporate social responsibility, corporate social irresponsibility, regulatory focus, temporal orientation

INTRODUCTION

After DuPont appointed Linda Fisher as its chief sustainability officer (CSO) in 2004, some leading corporations (e.g., AT&T, UPS, and Coca-Cola) designated similar positions

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in their top management teams (TMTs) (Weinreb Group, 2011). CSOs' presence and importance have been increasing (Gupta et al., 2021; Weinreb Group, 2021), as is evidenced by a survey showing that 30 per cent of companies capable of profiting from sustainability practices had appointed CSOs (Kiron et al., 2012). However, not only have most business enterprises still not appointed CSOs (Wiengarten et al., 2017), but also 'many corporate sustainability TMT positions are being removed despite having only relatively recently been introduced' (Strand, 2014, p. 687). This contradiction suggests that firms differ substantially on whether they should appoint CSOs to their TMTs.

Research interest in CSOs, in parallel, has been growing. Since Strand (2013, 2014) identified and traced CSO positions of large corporations, more researchers have joined this scholarly conversation (Dixon-Fowler et al., 2017; Fu et al., 2020; Gupta et al., 2021; Kanashiro and Rivera, 2019; Miller and Serafeim, 2014; Peters et al., 2019; Peters and Romi, 2015; Wiengarten et al., 2017). Drawing mainly on upper echelons theory, researchers have found that CSOs help their firms improve environmental performance when faced with strict regulations (Kanashiro and Rivera, 2019), engage in corporate social responsibility (CSR) and reduce corporate social irresponsibility (CSiR) (Fu et al., 2020), and increase financial performance under certain conditions (Wiengarten et al., 2017).

Three limitations, however, have constrained the development of CSO research. First, the antecedents to CSO appointment are largely unknown. Peters et al. (2019) have shown that only firm age and global operations predict CSO presence among firms in the Standard and Poor's (S&P) 500 index. Although researchers have documented various causes of CSR actions, such as imitation of better-performing peers (Cao et al., 2019; Li et al., 2022), we should not assume that CSO appointment has the same antecedents, because CSO appointment differs from normal CSR actions in important ways. It reflects (1) a structural change in the TMT (Gupta et al., 2021) that involves decision-making by the chief executive officer (CEO) directly (Strand, 2014), and (2) a shift in the TMT's values (giving priority to sustainability over other issues) and capabilities (adding expertise in sustainability management) (Peters et al., 2019). Normal CSR actions, in contrast, are routinized practices in the firm's operations (Klassen and Whybark, 1999; Wang and Bansal, 2012) that do not necessarily involve CEO decisions or reflect changes in the TMT's values and capabilities.

Second, little is known about how CEOs make decisions about CSO appointment. Extant studies on CSOs have relied on secondary data sources (e.g., CSO position descriptions and appointment announcements) and qualitative information about some CSOs (Miller and Serafeim, 2014; Strand, 2013, 2014) but have not examined how CEOs perceive the importance and urgency of appointing CSOs. CEOs are boundedly rational and have limited attention (Cyert and March, 1963; March and Simon, 1958); what triggers them to consider appointing CSOs? CEOs are also heterogeneous in how they make decisions, and the appointment of a functional TMT member can reflect their differing motivations to improve organizational capabilities in the corresponding area (Menz, 2012). CEOs' motivational attributes, such as regulatory focus and temporal orientation, tend to affect their decision-making (Gamache et al., 2015; Nadkarni and Chen, 2014), but researchers have not investigated how these motivational attributes affect CEOs' decisions on CSO appointment.

Third, limited knowledge is generated about CSO appointment in non-US business contexts. Prior CSO research has largely focused on large corporations from the S&P 500 (Dixon-Fowler et al., 2017; Fu et al., 2020; Kanashiro and Rivera, 2019; Peters et al., 2019) and the Fortune 500 indices (Gupta et al., 2021). While these large corporations publicly traded in the USA are pioneers in CSO appointment (Strand, 2013, 2014; Weinreb Group, 2011, 2021), after almost 20 years since DuPont appointed the first CSO, it is surprising that little research has yet been conducted to examine whether and how CEOs in other business contexts have considered CSO appointment for their organizations.

To fill these gaps, we first conceptualize CSO appointment as a CEO decision to make a strategic commitment to sustainability by restructuring the firm's TMT. The composition of functional members in a firm's TMT reflects its values and capabilities in these areas (Cohen and Dean, 2005; Hambrick, 2007; Hambrick and Mason, 1984). CSOs' sustainability expertise and leadership are often needed to address tensions between firm profits and social values, attend to the conflicting demands of various stakeholders, and integrate short- and long-term goals (Fu et al., 2020; Kanashiro and Rivera, 2019; Miller and Serafeim, 2014; Wiengarten et al., 2017).

We then draw on the attention-based view (ABV) (Ocasio, 1997, 2011), arguing that CEOs' attention allocation to competition for stakeholders' approval is triggered by both the CSR and the CSiR of industry peers, but through different mechanisms. An increase in peers' CSR draws their attention to a *comparison effect*: peers' improvement has threatened their own firms. A rise in peers' CSiR draws their attention to an *association effect*: peers' retrogression should intensify stakeholders' demand for sustainability and thus place higher sanctions on their own firms in the future. Either mechanism will increase CEOs' perceived importance and urgency of appointing CSOs, to catch up with the good (responsible peers) or to stay away from the bad (irresponsible peers). Therefore, the decision to add a CSO to the TMT is based on CEOs' comprehensive consideration of both peers' CSR and their CSiR.

Because people pay attention to what they care about (Ocasio, 1997, 2011), attention allocation also depends on their motivations. We extend the ABV by examining the moderating roles of regulatory focus and temporal orientation – two motivational attributes that often affect CEOs' decisions (Gamache et al., 2015; Nadkarni and Chen, 2014). An increase in industry peers' CSR (CSiR) can trigger a perceived loss (non-loss) situation in the short run for the focal firm. Because predominantly prevention-focused CEOs tend to perceive situations in a loss–non-loss framework (Crowe and Higgins, 1997; Higgins, 1997), they are more (less) likely to appoint CSOs as industry peers have increased CSR (CSiR). Furthermore, because the competitive threat of peers' CSR has already occurred while the association effect of peers' CSiR takes time to happen, future-oriented CEOs, who emphasize future situations and consequences over present ones (Nadkarni and Chen, 2014), are more (less) likely to appoint CSOs as peers have increased CSiR (CSR). We analysed 7882 decisions made by 758 Chinese executives in two conjoint experiments, interviewed eight CEOs who decided to appoint a CSO in one conjoint experiment and two CSOs of large corporations, and found evidence for these tenets.

This study makes three key contributions. First, we reveal the comprehensiveness of CEOs' decision-making about CSO appointments by distinguishing their attention

allocation to the *comparison effect* of peer firms' CSR and to the *association effect* of peer firms' CSiR. Although researchers have acknowledged that firms use industry peers as referents for CSO appointment (Gupta et al., 2021), the comparison and association effects revealed in this study offer more nuanced mechanisms regarding how CEOs make decisions on CSO appointment. Second, we advance research on how regulatory focus and temporal orientation shape CEOs' decisions in sustainability commitment. While researchers have extensively examined the effects of CEO attributes on business decisions (Gamache et al., 2015; Nadkarni and Chen, 2014), their broader implications for CEOs' worldviews and values towards sustainability are less known. Third, we report CEOs' decisions on CSO appointment in China through two studies with large executive samples. Although the CSO position was introduced by US corporations (Strand, 2013, 2014; Weinreb Group, 2011, 2021), the diffusion of this sustainability commitment into other business contexts deserves further investigation.

CHIEF SUSTAINABILITY OFFICER

The title CSO generally refers to a TMT member or other executive 'with primary responsibility for sustainability in an organization' (Miller and Serafeim, 2014, p. 6). Firms have also used other titles such as chief environmental officer, chief ethics officer, and chief responsibility officer (Fu et al., 2020; Gupta et al., 2021). We use these terms interchangeably, as they all represent the same functional area in the TMT (Menz, 2012). Table I summarizes major studies on CSOs, excluding practitioner-oriented reports (Kiron et al., 2012; Weinreb Group, 2011, 2021). These studies have examined the emergence and evolution of CSOs regarding their strategic roles (Miller and Serafeim, 2014; Strand, 2013, 2014) and revealed how CSO presence affects firms' social (Dixon-Fowler et al., 2017; Fu et al., 2020), environmental (Kanashiro and Rivera, 2019; Peters et al., 2019; Peters and Romi, 2015; Rossi and Tarquinio, 2017), and financial performance (Kiron et al., 2012; Wiengarten et al., 2017).

More recently, researchers have started to investigate antecedents to CSO appointment. As a 'non-trivial resource commitment' (Gupta et al., 2021, p. 535), the appointment of a CSO marks a significant change in both the structure and the values of the TMT (Miller and Serafeim, 2014; Strand, 2014). Meanwhile, because the CEO is 'ultimately responsible for deciding whether or not to add a position to the TMT' (Strand, 2014, p. 699), CSO appointment is affected by the CEO's cognition and motivation. Extant studies, however, have not studied how CEOs make decisions regarding CSO appointment, probably due to their reliance on secondary data sources of large corporations (see Table I). While some interviews with CSOs have been conducted (Miller and Serafeim, 2014; Strand, 2014), primary information on how CEOs perceive the importance and urgency of appointing CSOs is needed to further this literature.

As Peters et al. (2019, p. 1068) have noted, 'CSO presence likely raises the priority level of sustainability responsiveness on the executive suite agenda', and the pursuit of sustainability must embrace various stakeholders with different or even conflicting interests, visions, and demands for the company (Mitchell et al., 1997). This priority

Table I. Major studies on chief sustainability officers

No.	Authors (Year)	Publications	Samples	Data sources	Key findings and tenets
1	Strand (2013)	Journal of Business Ethics	969 large firms invited by the Dow Jones Sustainability Index (DJSI) to apply for its inclusion in 2010	Executive names and CSR TMT position titles on company websites	Out of the 969 large firms, 46 had CSR TMT positions. Firms with a CSR TMT position were three times more likely to be included in the DJSI than those without such a position.
2	Strand (2014)	Journal of Business Ethics	Changes in CSR TMT positions of 46 firms during 2010–12	Company websites, press releases, and interviews	CSR TMT positions were installed in response to a crisis or proactively to exploit external opportunities.
3	Miller and Srafeim (2014)	Leading Sustainable Change	66 CSOs of firms from 27 industries	Surveys and interviews	The authority of CSOs increased as organizations increased sustainability commitment. There was a decentralization of decision rights from CSOs to different functions.
4	Peters and Romi (2015)	Auditing: A Journal of Practice & Theory	912 sustainability reports issued by US firms during 2002–10	Corporate Register, company websites, Compustat, and Kinder, Lydenberg, Domini (KLD) social screens	CSO presence was positively related to corporate sustainability report assurance services, and this relationship is stronger for CSOs with sustainability expertise.
5	Dixon-Fowler et al. (2017)	Journal of Business Ethics	485 firms in the S&P 500 index in 2004	Company proxies, annual reports, Corporate Library, KLD social screens, Compustat, and Lexis-Nexis	CSO presence had a positive relationship with corporate environmental performance and enhanced the relationship between environmental committee and corporate environmental performance.
6	Rossi and Tarquinio (2017)	Managerial Auditing Journal	143 firms listed in the FTSE Italy All-Share Index during 2008–12	Company websites, sustainability reports, financial reports, and governance reports.	CSO presence did not have a significant association with assurance statements in sustainability reports.

(Continues)

Table I. (Continued)

No.	Authors (Year)	Publications	Samples	Data sources	Key findings and tenets
7	Wiengarten et al. (2017)	Journal of Business Ethics	123 CSO appointment announcements of US public firms during 2004–12	Factiva, Google News, company announcements, SEC filings, CSR business portals, and Compustat	CSR functional background of CSO appointees had a positive effect on return on assets (ROA), female CSO appointees performed better, and outsider appointment for newly created positions had a negative relationship with ROA.
8	Kanashiro and Rivera (2019)	Journal of Business Ethics	123 firms from the S&P 500 index required to report toxic emissions to the Toxic Release Inventory (TRI) during 2006–11	Annual reports, proxy statements, company websites, TRI database, Institutional Shareholder Services, Compustat, and League of Conservation Voters	CSO presence was associated with higher levels of pollution emissions, but had a positive effect on firms' environmental performance when faced with strict environmental regulations.
9	Peters et al. (2019)	Journal of Business Ethics	419 firms in the S&P 500 index during 2002–08	Compustat, KLD social screens, Corporate Library, annual reports, proxy statements, and Lexis-Nexis	No association was found between CSO appointment and subsequent sustainability performance for firms with lower prior performance, but those with higher prior performance improved significantly after three years of CSO appointment.
10	Fu et al. (2020)	Strategic Management Journal	442 firms in the S&P 500 index during 2005–14	BoardEx, ExecuComp, KLD social screens, and Compustat	There was a positive (negative) relationship between CSO presence and firm engagement in CSR (CSIR) activities.
11	Gupta et al. (2021)	Strategic Management Journal	A sample of firms from the Fortune 500 index during 2001–13	Company websites, annual reports, Compustat, political donations, and EthVest	Firms were more likely to appoint CSOs when other firms led by conservative-leaning CEOs had CSOs.

shift by the CSO sharply contrasts with the appointment of other TMT members such as a chief financial officer, a chief information officer, a chief marketing officer, or a chief strategy officer. While all these TMT members possess expertise in certain areas (Menz, 2012), their priority is naturally aligned with the firm's agenda to achieve economic returns by enhancing its competitive advantages in the corresponding areas. A CSO's priority relates to sustainability, which may not be consistent with some organizational members' priority on economic goals. Being a member in the TMT or the board of directors, a CSO can have more power to engage stakeholders than other employees do by working closely with the CEO. Lu Qiao, Executive Secretary-General of the Sustainability Committee at Yili Group, explained this in an interview with us:

We need to align strategic decisions from the headquarters with operational considerations of different business units and functional areas..., but these stakeholders tend to have different motivations and interests in our pursuit of sustainability due to their own KPIs [key performance indicators]. When we encounter major barriers while coordinating with them, we can obtain support from CEO Gang Pan. Without his visionary support, it would be impossible for my committee to coordinate with these stakeholders.

Relatedly, Kiron et al. (2012, p. 70) note that 'most companies are struggling to define sustainability in a way that is relevant to their businesses' due to their lack of sustainability expertise. CSOs play a key role in enabling their firms to develop functional expertise in sustainability, social responsibility, and corporate citizenship (Weinreb Group, 2011, 2021), and only CSOs with such expertise exert a positive effect on their firms' social and financial performance (Peters et al., 2019; Wiengarten et al., 2017). Yue Shen, the CSO of Saint-Gobain Asia Pacific (a global manufacturer of construction materials founded and headquartered in France), emphasized this point in our interview:

One of my key responsibilities is to build up the knowledge of sustainability management in the APAC region through various trainings, workshops, and sharing in the organization. Sustainability management requires specialty knowledge. For example, how to calculate CO₂ emissions in a large-scale manufacturer like Saint-Gobain is a very complex task, involving different stakeholders and their footprints in our supply chain. My department is responsible for training key employees those methods and promoting the sustainability culture.

THE CEO DECISION ON CSO APPOINTMENT

A CEO's decision-making is constrained by demands on his or her time and processing abilities (Cyert and March, 1963; March and Simon, 1958). The ABV proposes that decision-makers cannot respond to all stimuli simultaneously. They must choose

which stimuli to attend to and which to screen out (Ocasio, 1997, 2011), and they must allocate their attention to stimuli they perceive as important and urgent (Joseph and Wilson, 2018). Top management's attention to stimuli from a domain represents the level of cognitive capacity deployed to perceive and interpret the information and stake in the domain (Frankenberger and Sauer, 2019; Li et al., 2013). The more attention the decision-maker has allocated to the domain, the more effort and persistence the decision-maker will exercise to focus on and process the information about the domain.

CEO Attention Allocation to Industry Peers' CSR and CSiR

The decisions and actions of peer firms targeting common customers and possessing similar resources serve as critical reference points for firms' decision-making by triggering decision-makers' attention allocation (Chen, 1996; Chen et al., 2007; Tsai et al., 2011). Although competition research has focused on the business perspective (Livengood and Reger, 2010), it is increasingly crucial to obtain stakeholders' approval by competing in the social domain – that is, 'a firm's engagement in activities that improve other stakeholders' welfare, from investing in environmental protection to increasing workforce diversity and employee welfare' (Cao et al., 2019, p. 4587).

While competing in the social domain, firms demonstrate both CSR and CSiR (Bendell and Huvaj, 2020; Fu et al., 2020; Shea and Hawn, 2019; Strike et al., 2006; Tang et al., 2015; Zhong et al., 2022). CSR and CSiR reflect 'the positive and negative components of corporate social performance', and it is essential to understand that 'a firm can engage in responsible behavior ("good deeds") and irresponsible behavior ("bad deeds") at the same time' (Fu et al., 2020, p. 657). CSR is generally defined as 'the firm's consideration of, and response to, issues beyond the narrow economic, technical, and legal requirements of the firm' (Davis, 1973, p. 312). A firm with a high level of CSR demonstrated by its 'good deeds' is often capable of obtaining stakeholders' approval.

An increase in industry peers' CSR can trigger a *comparison* effect, in which the CEO notices that industry peers have become more socially responsible and environmentally friendly than they were previously – that is, better corporate citizens (McWilliams and Siegel, 2001) – and therefore have gained an advantage over the focal firm in the competition for stakeholders' approval. For example, Li et al. (2022, p. 651) argue that if a peer wins a CSR award, 'the focal firm may experience an instant decrease in public reputation and social prominence compared with the award winner'.

As a CEO allocates attention to competition in the social domain triggered by industry peers' CSR, he or she is likely to recognize that a CSO can help the firm compete there. A CSO can improve the firm's sustainability-related knowledge, skills, and abilities, as well as help the CEO 'visualize goals and professionalize the process of aligning vision with a business strategy from the sustainability perspective' (Wiengarten et al., 2017, p. 481). The more CSR actions industry peers have recently conducted, the more attention the CEO will allocate to competition in the social domain, and the more likely the CEO will appoint a CSO.

Hypothesis 1a: CEOs are likely to appoint CSOs as industry peers increase CSR.

CSiR refers to ‘the set of corporate actions that negatively affects an identifiable social stakeholder’s legitimate claims’ (Strike et al., 2006, p. 852), reflecting the extent to which the firm engages in deliberate actions that harm stakeholders or fails to prevent harm being done (Shea and Hawn, 2019; Zhong et al., 2022). It includes environmental misconduct (Heflin and Wallace, 2017; Kanashiro and Rivera, 2019; Zhang et al., 2022), product failures (Bala et al., 2017; Freedman et al., 2012; Marsh et al., 2004), scandals (Piazza and Jourdan, 2018; Roehm and Tybout, 2006), and corporate illegality (Gao and Yang, 2021; Mishina et al., 2010). A firm with a high level of CSiR, as is demonstrated by its ‘bad deeds’ violating laws, regulations, or social norms (Fu et al., 2020; Strike et al., 2006; Zhong et al., 2022), often finds it difficult to obtain stakeholders’ approval.

Industry peers’ CSiR is also a salient stimulus to the CEO, but through an *association* effect. As industry peers increase CSiR, the focal firm’s CEO is likely to become aware that key stakeholders, perceiving that there is more at risk in the social domain, are demanding more from all firms. For example, after British Petroleum suffered the Deepwater Horizon oil rig explosion in 2010, regulators, customers, and creditors placed higher sanctions on other firms drilling in US waters (Heflin and Wallace, 2017), suspecting that other firms in the industry used technologies and management practices similar to those of British Petroleum. For another example, stakeholders become more critical of product safety for a firm when other firms have recalled major products in the industry (Bala et al., 2017; Cleeren et al., 2013; Freedman et al., 2012). Similarly, Lu Qiao at Yili Group recalled:

In the summer of 2008, it was reported that some suppliers of Sanlu Group [the largest manufacturer of milk powder in China at that time] added melamine, a colorless crystalline compound, to boost the protein readings of their milk, causing thousands of children [to be] hospitalized and numerous deaths. When this scandal was revealed to the public, CEO Gang Pan ordered the communication department of Yili to stop all major ongoing projects. ‘Do nothing else, but open factories to consumers and other stakeholders’ [to demonstrate that Yili was not associated with this scandal].

Attention to industry peers’ CSiR is likely to increase the probability that the CEO will appoint a CSO for his or her firm. Doing so signals to internal and external stakeholders that the firm has made a serious commitment to addressing social and environmental issues, thus cutting the ‘tie’ with the tainted peers (Wiengarten et al., 2017).

Hypothesis 1b: CEOs are likely to appoint CSOs as industry peers increase CSiR.

Not all CEOs will react in the same way to industry peers’ CSR or CSiR. The decision-maker’s ‘eventual perception of the situation combines with his/her values to provide the basis for strategic choice’ (Hambrick and Mason, 1984, p. 195). We argue that CEOs’ regulatory focus and temporal orientation influence how they perceive industry peers’

CSR and CSiR. While these motivational attributes may be correlated (Pennington and Roesch, 2003), they are distinct concepts and shape CEO decisions on CSO appointment in different ways.

The Moderation of CEO Regulatory Focus

Regulatory focus serves as a motivational force mobilizing decisions and actions to achieve the desired results, which can be either on promotion or on prevention (Higgins, 1997, 1998). A promotion focus involves striving towards the ‘ideal self’, or what one ‘could’ do (Higgins et al., 1997); people with a promotion focus aim to maximize hits and perceive situations in a gain–non-gain framework (Crowe and Higgins, 1997; Higgins, 1997). A prevention focus involves striving towards the ‘ought self’ or what one ‘should’ do (Higgins et al., 1997); people with a prevention focus aim to avoid rejections and perceive situations in a loss–non-loss framework (Crowe and Higgins, 1997; Higgins, 1997).

According to an accepted perspective, prevention and promotion foci are two ends of a continuum, with one predominating (Kanze et al., 2018; Mitteness et al., 2012). A person with a predominant promotion focus (the net difference between promotion and prevention) seeks to maximize returns by risking potential losses, while a person with a predominant prevention focus (the net difference between prevention and promotion) seeks to avoid losses by surrendering potential gains (Kanze et al., 2018; Mitteness et al., 2012). Predominantly promotion-focused CEOs tend to initiate action rather than reacting to industry peers, and if they react, they are likely to consider various alternatives rather than being constrained to CSO appointment. Therefore, we examine the role of CEOs’ *predominant prevention focus* in shaping their decisions on CSO appointment based on industry peers’ CSR and CSiR.

Predominantly prevention-focused CEOs are more likely to be motivated by industry peers’ CSR, and therefore to consider appointing CSOs. For predominantly prevention-focused people, a loss situation leads to negative feelings such as desperation and anxiety, motivating them to mitigate the situation as soon as possible (Crowe and Higgins, 1997; Higgins, 1997). A predominantly prevention-focused CEO will perceive an increase in industry peers’ CSR as a comparative shortage in CSR for his or her own firm. However, such a CEO is less likely to be motivated by industry peers’ CSiR, because the relative difference between the focal firm and its peers gives the focal firm at least a temporary ‘buffer’: stakeholders will not penalize the firm before its industry peers. In the absence of a loss situation, the predominantly prevention-focused CEO is likely to feel satisfied and thus unmotivated to make radical changes (Crowe and Higgins, 1997; Higgins, 1997), such as restructuring the TMT by appointing a CSO.

Hypothesis 2a: Predominantly prevention-focused CEOs are more likely to appoint CSOs as industry peers increase CSR.

Hypothesis 2b: Predominantly prevention-focused CEOs are less likely to appoint CSOs as industry peers increase CSiR.

The Moderation of CEO Temporal Orientation

Temporal orientation, also labelled as temporal perspective and temporal focus, exerts a strong effect on people's judgements and decisions (Mohammed and Nadkarni, 2011; Zimbardo and Boyd, 1999). For example, 'CEOs characteristically devote attention to perceptions of the past, present, and future' while making strategic decisions (Nadkarni and Chen, 2014, p. 1810). People with a present orientation pay more attention to stimuli that exert immediate consequences and plan with shorter time frames, while people with a future orientation pay more attention to stimuli that exert results in the long run and plan with longer-term frames (Mohammed and Nadkarni, 2011). Although some people demonstrate a past orientation, CEOs mainly decide between present and future situations and outcomes for their firms (Wang and Bansal, 2012). Therefore, management research has primarily compared decision-makers' present and future orientations (Das, 1987; Mohammed and Nadkarni, 2011). Accordingly, we compare how present and future orientations shape CEOs' attention allocation to competition in the social domain, as this allocation is triggered by industry peers' CSR and CSiR.

The comparison and association effects of industry peers' CSR and CSiR, respectively, differ in temporal terms. An increase in peer firms' CSR is likely to have translated into their advantage already, given that comparison in the social domain has often been facilitated, publicized, and promoted by third-party organizations through eye-catching ranking and competition events (Li et al., 2022). For example, Lu Qiao at Yili Group recalled:

In 2017, the Chinese Academy of Social Sciences initiated a CSR ranking event among major dairy companies based on public information about their CSR actions. Unfortunately, Yili was ranked number six while its direct competitor was ranked number one. CEO Gang Pan, after hearing this news, pounded his desk angrily! This ranking result, although unexpected given that Yili had made tremendous effort in pursuing CSR, helped the CEO notice that industry peers had significantly improved their CSR [and had already gained an advantage].

In contrast, the association effect triggered by industry peers' CSiR takes time to occur, because stakeholders need time to react. For example, environmental pollution has a particularly slow legal consequence (Hart, 1995): it tends to result in the enactment of stricter laws and regulations that raise environmental standards for all firms in the industry, but this process is complex and time-consuming. For example, after the Volkswagen emissions scandal, the European Union took several years to enact stricter laws for automakers (Stearns, 2018).

As discussed above, future-oriented CEOs pay more attention to factors that can lead to significant changes in situations and consequences in the future than to factors causing current situations and consequences (Nadkarni and Chen, 2014). Therefore, future-oriented CEOs are likely to allocate a higher (lower) level of attention to industry peers' CSiR (CSR), resulting in a higher (lower) probability of appointing CSOs.

Hypothesis 3a: Future-oriented CEOs are less likely to appoint CSOs as industry peers increase CSR.

Hypothesis 3b: Future-oriented CEOs are more likely to appoint CSOs as industry peers increase CSiR.

METHODS

We tested these hypotheses using conjoint experiments – a method proved to be suitable for studying executives' decision-making about firm strategies (Mitchell et al., 2011; Priem, 1992), sustainability commitment (Bendell, 2017; Tarnanidis et al., 2019; Weijters et al., 2014), the pursuit of entrepreneurial opportunities (Lohrke et al., 2010; Shepherd and Zacharakis, 1999), and investment under uncertainties (Murnieks et al., 2016; Warnick et al., 2018). In a conjoint experiment, respondents make decisions based on a set of factor attributes, where the effect of one factor can be estimated separately from that of others and the decisions (level 1) are nested in each participant (level 2) (Murnieks et al., 2016; Warnick et al., 2018). Conjoint experiments suit our study by capturing CEOs' decisions 'in use' (Mitchell et al., 2011; Priem, 1992), thus overcoming many limitations of introspection associated with the use of archival data (Wood et al., 2014).

STUDY 1

Sample

Study 1 is based on a sample of executives entering the EMBA program of China Europe International Business School (CEIBS), a major business school in China. All participants in this program must have held executive positions and about half of them are CEOs or presidents in their organizations. We designed and sent a survey via Qualtrics to a total of 732 executives who were just enrolled in the EMBA program before they took any courses (14 sections in the 2019–20 intakes). After two weeks, with individual reminders by 14 class coordinators, we received a total of 691 responses. The decisions of 84 responses did not reach the 0.45 threshold of test–retest reliability between the original and replicated profiles (Kibler et al., 2017; Patzelt and Shepherd, 2008; Shepherd et al., 2013), leaving us with a valid sample of 607 responses (282, 221, and 104 from the school's Beijing, Shanghai, and Shenzhen campuses, respectively).

This sample size surpasses that of most conjoint experiments (Lohrke et al., 2010), and the response rate (83 per cent) is very high (Baruch, 1999; Baruch and Holtom, 2008), mitigating any potential response bias (Dillman, 2007). Given their extensive decision-making experiences and the difficulty in engaging real executives in academic research, our sampled executives are ideal for studying decision-making using conjoint experiments (Grégoire et al., 2019; Hsu et al., 2017; Williams et al., 2019). Our primary data from their decisions

also complement prior studies in the CSO literature that have mainly relied on secondary data of large US corporations.

Research Instrument

Following the most common design in conjoint experiments (Haynie et al., 2009; Mitteness et al., 2012; Shepherd et al., 2013; Warnick et al., 2018; Wood et al., 2014), our research instrument consists of a task introduction, an experiment, and a post-experiment survey. To provide common conditions for the participants, in the introduction section we asked them to make the following assumptions before making decisions: (1) 'As the CEO, you have enough power to make the appointment decision, and your company will act according to the decision'; (2) 'The appointment of a CSO to handle CSR issues will cost a significant amount of resources (i.e., a certain percentage of your company's annual profits)'; (3) 'There are enough capable candidates for the CSO position, either appointed from within or recruited externally'; (4) 'The government encourages firms to be socially responsible'; and (5) 'Each case in the experiment is independent, not related to the others'.

In the experiment section, we asked the respondents to accomplish a decision task by evaluating a series of hypothesized profiles; they needed to judge each profile, which is the combination of factor attributes represented by two levels (i.e., high versus low) (Shepherd et al., 2013). To control for the potential ordering effect, we randomized the order of profiles and randomly assigned participants to one of two experiment versions with different attribute orders. In the post-experiment survey, we adopted established scales and translated them from English to Chinese and then from Chinese to English to ensure language accuracy (Brislin, 1970).

Before large-scale data collection, we conducted interviews and pretests to ensure content validity and instrument clarity. We interviewed four executives, asking whether the decision contexts in the experiment reflected the management reality they had experienced or were likely to face, and whether the attributes represented key factors they considered in sustainability decisions. We also asked them whether the decision task was clear, the explanation of each attribute was understandable, and the two attribute levels were sufficiently different. They answered affirmatively to these questions. We then carried out a pilot pretest with 89 different executives and did not find any issues with our research instrument.

Variable Measures

Probability of appointing a CSO. After describing each set of decision attributes, we asked the respondents to report the probability of appointing a CSO for the focal firm using a Likert scale ranging from 1 (low probability) to 7 (high probability), as other conjoint studies have suggested (Murnieks et al., 2016; Warnick et al., 2018).

Industry peers' CSR and CSiR. We manipulated industry peers' CSR (CSiR) by stating one of the four conditions listed in Table II: industry peers have recently engaged in a high (or low) level of socially beneficial (or harmful) actions.

Predominant prevention focus. We first measured regulatory focus using the 18-item scale developed by Lockwood et al. (2002), which was based on the theorization of Higgins (1997)

Table II. Operationalization of independent variables (decision attributes)

Industry peers' CSR	Engage a lot (high): Recently, you have noticed that your firm's major competitors engage in a lot of socially beneficial actions. They (either) voluntarily protect the environment, (or) donate to local community to solve health issues, (or) care for employees' physical and mental health. Rarely engage (low): Recently, you have noticed that your firm's major competitors rarely engage in any socially beneficial actions.
Industry peers' CSiR	Engage a lot (high): Recently, you have noticed that your firm's major competitors engage in a lot of socially harmful actions. They (either) pollute the environment, (or) snatch health resources that are urgently needed by the community, (or) abuse employees. Rarely engage (low): Recently, you have noticed that your firm's major competitors rarely engage in any socially harmful actions.
Prosocial activism (level 1 covariate, in Study 1 only)	Strong (high): Recently, you have noticed many people and Internet celebrities posting online to show gratitude for firms engaging in socially beneficial activities or condemn firms engaging in socially harmful activities. Weak (low): Recently, you have noticed few people and Internet celebrities posting online about firms' socially beneficial or harmful activities.
Industry peers' CSO presence (in Study 2 only)	Have appointed: Most of your company's industry peers have already appointed CSOs. Have not appointed: Most of your company's industry peers have not appointed CSOs.

and used in other conjoint experiments (Mittness et al., 2012). We amended some of the items to pertain to the executive context instead of the academic context used in the original scale. For example, we changed 'I often worry that I will fail to accomplish my academic goals' to 'I often worry that I will fail to accomplish my goals'. Respondents rated each of the 18 items on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha was 0.73 for the nine promotion items and 0.78 for the nine prevention items. We then followed Mittness et al. (2012) and calculated *predominant prevention focus* by using the net difference between the average score of the prevention items and that of the promotion items. The higher the net difference, the more predominantly prevention-focused the CEO.

Control variables. Social and environmental activists on the Internet have played an influential role in affecting firms' prosocial behaviours (Luo et al., 2016). Because our study examines industry peers rather than these activists, we controlled for the impact of *prosocial activism* as a level 1 covariate (along with industry peers' CSR and CSiR) by telling the respondents that Internet celebrities have recently engaged in a high (or low) level of prosocial activism (see Table II).

At level 2, we controlled for *age* (1 = 30 years old or younger, 2 = 31–40 years old, 3 = 41–50 years old, 4 = 51 years old or older), *gender* (male = 1, female = 0), *education* (1 = high school, 2 = some college, 3 = bachelor's degree, 4 = master's degree, 5 = doctoral degree), and *work experience* (number of years), all of which can influence executives' decision-making (Hambrick and Mason, 1984). Because general and functional

executives tend to consider different issues while making decisions (Menz, 2012), we controlled for *top position* and assigned it a value of 1 for participants who were CEOs or presidents of their real-life firms and 0 otherwise. Multinational enterprises have demonstrated a strong tendency to appoint CSOs (Peters et al., 2019). We thus controlled for *foreign ownership* and assigned it a value of 1 for participants working for foreign-owned enterprises or joint ventures and 0 otherwise.

Analyses and Results

The 607 participants made decisions on eight original and two randomly replicated profiles, resulting in a total of 6070 observations (excluding the replicated profiles would lead to qualitatively identical results). Partial replication, which is widely adopted in conjoint experiments (Drover et al., 2017; Warnick et al., 2018), helps check the test–retest reliability without asking participants to make too many decisions. The means of the dependent variable for the two sets of profiles were 4.80 and 4.82, and their difference was not significant ($t = -0.83$, $p > 0.10$). The test–retest correlation was 0.93 ($p < 0.001$), suggesting that the respondents provided reliable responses and understood our manipulation of the decision attributes (Green and Srinivasan, 1990).

Table III presents descriptive statistics and correlations among the level 2 variables (the level 1 variables had zero correlations). We employed hierarchical linear modelling (HLM) to test our hypotheses, standardizing level 2 predictors to simplify interpretation. Model 1 in Table IV contains control variables only. In Model 2, the coefficient of industry peers' CSR was positive and significant ($\beta = 0.55$, $p < 0.001$), with an effect size of 7 per cent (Cohen's f^2). The coefficient of industry peers' CSiR was also positive and significant ($\beta = 0.57$, $p < 0.001$), with an effect size of 7 per cent (Cohen's f^2). Therefore, CEOs were likely to appoint a CSO when they perceived that industry peers had increased either CSR or CSiR, supporting Hypothesis 1a and Hypothesis 1b.

Model 3 shows that CEOs' predominant prevention focus positively moderates the effect of industry peers' CSR on the probability of appointing a CSO ($\beta = 0.11$, $p < 0.01$), with an effect size of 0.3 per cent (Cohen's f^2). The left side of Figure 1 illustrates that the marginal effect of industry peers' CSR on the probability of appointing a CSO increases as CEO predominant prevention focus increases, supporting Hypothesis 2a. CEOs' predominant prevention focus negatively moderates the effect of industry peers' CSiR on the probability of appointing a CSO ($\beta = -0.10$, $p < 0.001$), with an effect size of 0.3 per cent (Cohen's f^2). The right side of Figure 1 demonstrates that the marginal effect of industry peers' CSiR on the probability of appointing a CSO decreases as CEO predominant prevention focus increases, supporting Hypothesis 2b.

STUDY 2

To test Hypotheses 3a and 3b, we conducted Study 2 by adding a measure of CEOs' future orientation in the post-experiment survey. We also adjusted our research instrument

Table III. Descriptive statistics and correlations of level 2 variables (Study 1)

<i>Variables</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1. Age	2.46	0.54						
2. Gender	0.75	0.43	0.04					
3. Education	3.31	0.65	-0.04	-0.04				
4. Work experience	17.09	4.74	0.76	0.03	-0.22			
5. Top position	0.59	0.49	-0.02	0.08	-0.10	0.02		
6. Foreign ownership	0.16	0.36	0.05	-0.07	0.05	0.05	-0.10	
7. Predominant prevention focus	-0.38	0.64	0.15	-0.07	0.02	0.13	-0.03	0.07

Note: N = 607. Correlations with absolute value larger than 0.08, 0.11, and 0.14 were significant at $p < 0.05$, $p < 0.01$, and $p < 0.001$, respectively, two-tailed tests.

Table IV. HLM on the probability of appointing a CSO (Study 1)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
Intercept	4.18***	3.62***	3.62***
Control variables			
Age	0.10 (0.14)	0.09 (0.16)	0.09 (0.16)
Gender	0.07 (0.16)	0.05 (0.18)	0.05 (0.18)
Education	-0.05 (0.06)	-0.07 (0.06)	-0.07 (0.06)
Work experience	-0.08 (0.15)	-0.04 (0.19)	-0.04 (0.19)
Top position	-0.02 (0.14)	-0.01 (0.16)	-0.01 (0.16)
Foreign ownership	0.40 (0.09)**	0.40 (0.17)*	0.40 (0.17)*
Prosocial activism for CSR	1.04 (0.03)***	1.03 (0.02)***	1.03 (0.02)***
Predominant prevention focus (PPF)		0.01 (0.06)	0.02 (0.06)
Main effects			
Industry peers' CSR		0.55 (0.04)***	0.55 (0.04)***
Industry peers' CSiR		0.57 (0.07)***	0.57 (0.07)***
Interactions			
Industry peers' CSR × PPF			0.11 (0.04)**
Industry peers' CSiR × PPF			-0.10 (0.03)***
Observations	N = 607, n = 6070	N = 607, n = 6070	N = 607, n = 6070
R-squared	17.6%	28.0%	28.4%

Note: Standardized regression coefficients (robust standard errors).

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, two-tailed tests.

to overcome several limitations of Study 1, by (1) including whether industry peers have already appointed CSOs as a level 1 covariate to account for the imitation reaction reported in extant studies (Cao et al., 2019; Li et al., 2022); (2) including additional level 2 covariates (the CSR and CSiR of participants' real-life firms and whether they were founders of these firms); (3) increasing the number of replicated decision profiles (from 25 per cent to 50 per cent) to further emphasize test–retest reliability; (4) removing the assumption that the government encourages CSR (to make participants concentrate on industry peers rather than the government); (5) adding an assumption that prosocial activism is normal and removing it as a level 1 covariate (to avoid doubling the number of decision profiles); and (6) adding an assumption that the focal firm's social performance is average for its industry.

Sample

We designed and sent a survey via Qualtrics to a total of 201 executives enrolled in the 2022 EMBA intake at CEIBS (three sections in a cohort). After two weeks, we received 182 responses with individual reminders by three class coordinators. The decisions of 31 responses did not reach the 0.45 threshold of test–retest reliability between the original

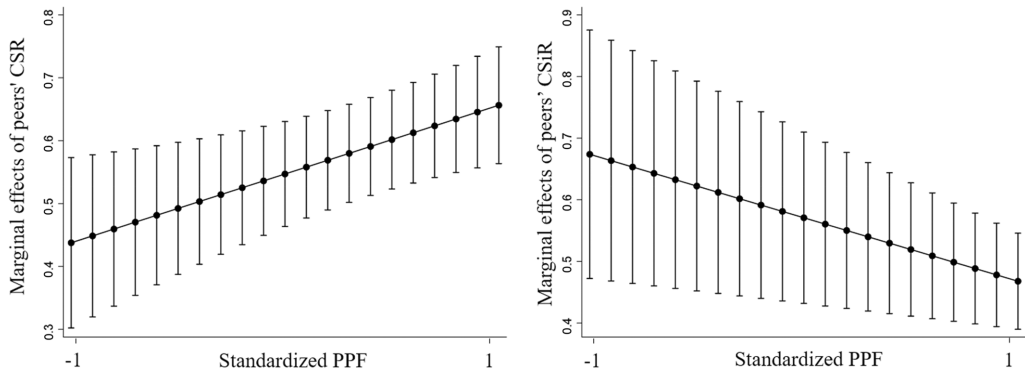


Figure 1. The marginal effects of industry peers' CSR and CSiR on the probability of appointing a CSO across different levels of CEOs' predominant prevention focus (PPF)

and replicated profiles, leaving us with a valid sample of 151 responses (53, 48, and 50 from the school's Beijing, Shanghai, and Shenzhen campuses, respectively) and a response rate of 75 per cent.

Additional Variable Measures

Future orientation. We measured future orientation using the 12-item scale validated in previous studies (Mohammed and Nadkarni, 2011; Strathman et al., 1994). Cronbach's alpha was 0.76, indicating good consistency.

CSR and CSiR of real-life firms. In the post-experiment survey, we asked the participants to evaluate their real-life firms' CSR and CSiR using a Likert scale that ranges from 1 (much lower than the industry average) to 7 (much higher than the industry average).

Founder status. Through interviews, we noticed that entrepreneurs demonstrated greater attention to competition in the economic than in the social domain. Therefore, we controlled for the potential impact of *founder status* and assigned it a value of 1 for participants who reported being founders or cofounders of their real-life firms and 0 otherwise.

Analyses and Results

The 151 participants made decisions on eight original and four randomly replicated profiles, resulting in a total of 1812 observations (excluding the replicated profiles would lead to qualitatively identical results). The means of the dependent variable for the two sets of profiles were 4.75 and 4.72, and their difference was not significant ($t = 0.53$, $p > 0.10$). The test-retest correlation was 0.92 ($p < 0.001$), indicating high reliability.

Table V presents descriptive statistics and correlations among the level 2 variables. We again employed HLM to test our hypotheses, standardizing level 2 predictors to simplify interpretation. As Table VI reports, we first replicated Study 1. The main

Table V. Descriptive statistics and correlations of level 2 variables (Study 2)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Age	2.54	0.54										
2. Gender	0.72	0.45	0.01									
3. Education	3.38	0.71	0.04	-0.07								
4. Work experience	17.93	5.02	0.70	0.00	-0.13							
5. Top position	0.42	0.49	0.12	0.15	-0.17	0.13						
6. Foreign ownership	0.17	0.38	0.16	-0.10	0.12	0.05	-0.10					
7. Predominant prevention focus	-0.70	0.98	0.10	0.06	-0.06	0.19	-0.03	-0.05				
8. Future orientation	4.80	0.65	-0.05	-0.07	-0.04	-0.10	-0.03	0.01	-0.33			
9. CSR of real-life firms	5.58	1.05	-0.06	-0.10	0.01	0.07	-0.11	0.15	0.04	0.12		
10. CSiR of real-life firms	2.85	1.98	-0.04	0.01	0.15	-0.06	-0.04	-0.08	0.12	-0.09	-0.01	
11. Founder status	0.42	0.49	0.09	0.18	-0.06	0.08	0.64	-0.21	-0.16	-0.02	-0.16	0.05

Note: N = 151. Correlations with absolute value larger than 0.16, 0.21, and 0.27 were significant at $p < 0.05$, $p < 0.01$, and $p < 0.001$, respectively; two-tailed tests.

Table VI. HLM on the probability of appointing a CSO (Study 2)

	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>	<i>Model 7</i>
Intercept	2.90*	2.90*	2.90*	2.89*
Control variables				
Age	-0.30 (0.15)*	-0.30 (0.15)*	-0.30 (0.15)*	-0.31 (0.15)*
Gender	0.19 (0.24)	0.18 (0.24)	0.18 (0.24)	0.18 (0.24)
Education	-0.14 (0.17)	-0.14 (0.17)	-0.14 (0.17)	-0.13 (0.17)
Work experience	0.53 (0.20)**	0.53 (0.20)**	0.53 (0.20)**	0.55 (0.21)**
Top position	-0.16 (0.58)	-0.16 (0.58)	-0.16 (0.58)	-0.17 (0.58)
Foreign ownership	0.00 (0.08)	0.00 (0.08)	0.00 (0.08)	0.00 (0.07)
CSR of real-life firms	0.18 (0.20)	0.18 (0.20)	0.18 (0.20)	0.18 (0.20)
CSiR of real-life firms	-0.02 (0.01)*	-0.02 (0.01)*	-0.02 (0.01)*	-0.02 (0.01)*
Founder status	-0.13 (0.04)***	-0.13 (0.04)***	-0.13 (0.04)***	-0.13 (0.04)**
Industry peers' CSO presence	0.74 (0.11)***	0.74 (0.11)***	0.74 (0.11)***	0.81 (0.13)***
Predominant prevention focus (PPF)	0.09 (0.07)	0.08 (0.07)	0.09 (0.07)	0.08 (0.08)
Future orientation (FO)	0.31 (0.14)*	0.31 (0.14)*	0.33 (0.15)*	0.31 (0.15)*
Main effects				
Industry peers' CSR	0.54 (0.07)***	0.54 (0.07)***	0.54 (0.06)***	0.32 (0.11)**
Industry peers' CSiR	0.55 (0.15)***	0.55 (0.14)***	0.55 (0.14)***	0.85 (0.18)***
Interactions				
Industry peers' CSR × PPF		0.08 (0.03)*		
Industry peers' CSiR × PPF		-0.13 (0.04)***		
Industry peers' CSR × FO			-0.15 (0.06)*	
Industry peers' CSiR × FO			0.08 (0.02)***	
Industry peers' CSR × CSO				0.44 (0.11)***
Industry peers' CSiR × CSO				-0.60 (0.07)***
Observations	N = 151, n = 1812	N = 151, n = 1812	N = 151, n = 1812	N = 151, n = 1812
R-squared	15.1%	15.4%	15.4%	16.5%

Note: Standardized regression coefficients (robust standard errors).

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, two-tailed tests.

effects of industry peers' CSR and CSiR (Model 4) and the moderation effects of CEOs' predominant prevention focus (Model 5) were all consistent with the findings of Study 1.

Model 6 shows that CEOs' future orientation negatively moderates the effect of industry peers' CSR on the probability of appointing a CSO ($\beta = -0.15$, $p < 0.05$), with an effect

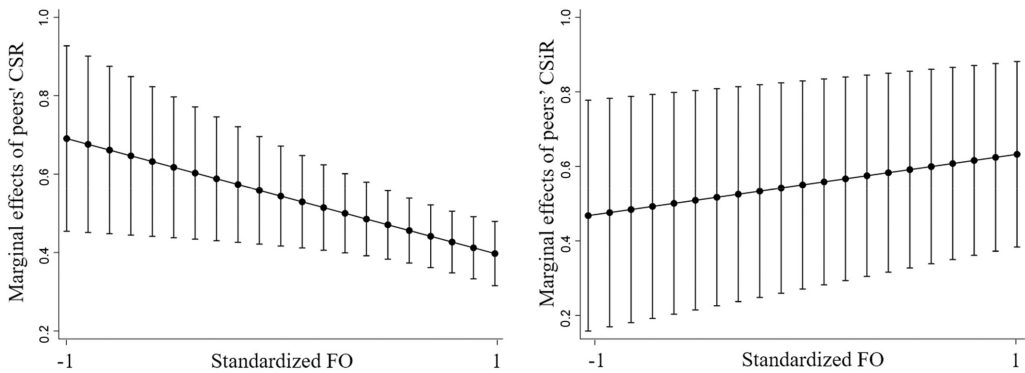


Figure 2. The marginal effects of industry peers' CSR and CSiR on the probability of appointing a CSO across different levels of CEOs' future orientation (FO)

size of 0.3 per cent (Cohen's f^2). The left side of Figure 2 illustrates that the marginal effect of industry peers' CSR on the probability of appointing a CSO decreases as CEOs' future orientation increases, supporting Hypothesis 3a. CEOs' future orientation positively moderates the effect of industry peers' CSiR on the probability of appointing a CSO ($\beta = 0.08$, $p < 0.001$), with an effect size of 0.1 per cent (Cohen's f^2). The right side of Figure 2 demonstrates that the marginal effect of industry peers' CSiR on the probability of appointing a CSO increases as CEOs' future orientation increases, supporting Hypothesis 3b.

Additional Findings

As Models 4 through 7 report, industry peers' CSO presence increases the likelihood of appointing a CSO. This finding suggests that the focal firm's CEO tends to appoint a CSO simply because most industry peers have appointed CSOs, which is consistent with previous findings about imitation reaction in firms' competition for stakeholders' approval (Cao et al., 2019; Li et al., 2022). However, because the main effects of industry peers' CSR and CSiR and the moderation effects of CEOs' predominant prevention focus and future orientation are still significant after industry peers' CSO presence is controlled (Models 4–6), CEOs' decisions on CSO appointment are not merely imitative.

Moreover, our theory implies that a CEO tends to attribute industry peers' social performance to their CSOs. If so, then an increase in CSR (CSiR) by industry peers with CSOs should strengthen (weaken) the CEO's decision to appoint a CSO. As Model 7 reports, the interaction term of peers' CSO presence and CSR produced a positive coefficient ($\beta = 0.44$, $p < 0.001$), suggesting that the CEO is more likely to appoint a CSO when she observes that industry peers with CSOs show increased social performance. In contrast, the interaction term of peers' CSO presence and CSiR produced a negative coefficient ($\beta = -0.60$, $p < 0.001$), indicating that the CEO is less likely to appoint a CSO when she observes that industry peers with CSOs show decreased social performance. Overall, these interaction effects further support our theory that the CEO attributes peers' CSR and CSiR to their CSO presence and then decides whether to appoint a CSO.

DISCUSSION

‘What would it mean for companies to make sustainability part of their DNA?’ (Kiron et al., 2012, p. 74). The composition and structure of a firm’s TMT to a large degree define its DNA, given that the organization is essentially ‘a reflection of its top managers’ (Hambrick and Mason, 1984, p. 193). Therefore, appointing a CSO can make sustainability part of the firm’s DNA. Because this structural change in the TMT can shift the firm’s values towards sustainability and bring in the needed expertise in sustainability (Gupta et al., 2021; Peters et al., 2019), it should affect the firm’s sustainability commitment in the long run.

CEO Attention Allocation to Industry Peers’ CSR and CSiR

By distinguishing CEOs’ attention allocation to industry peers’ CSR and CSiR, we contribute to the CSO literature by revealing CEOs’ comprehensive consideration of CSO appointment. As we note above, previous research on peer effects has examined the imitation reaction to industry peers’ relatively better social performance, such as winning CSR awards (Li et al., 2022) or passing CSR proposals in board meetings (Cao et al., 2019). However, if imitation were the only or primary driver of CSO appointment, appointing a CSO should be less necessary as industry peers have increased their CSiR. In fact, industry peers’ worsened social performance (e.g., scandals) puts them at a comparative disadvantage (Piazza and Jourdan, 2018), so the focal firm does not need to make a strategic change by appointing a CSO to outcompete peers.

Nevertheless, a CEO may consider industry peers’ CSiR an opportunity to adopt a CSR-based competition strategy (i.e., to take advantages of peers in trouble) and appoint a CSO to pursue the strategy effectively. In that case, the CEO’s promotion focus should positively moderate the effect of industry peers’ CSiR on the probability of appointing a CSO. This is because promotion-focused CEOs, other things being equal, are more likely to consider peer firms’ CSiR as one of the many opportunities they seek to exploit. The interaction term between industry peers’ CSiR and CEO promotion focus exerted a positive but non-significant coefficient with the probability of appointing a CSO in both Study 1 and Study 2 (results are available upon request), suggesting that the CEO is likely to appoint a CSO to cut associations with irresponsible peers rather than to outcompete them.

The Broader Impact of CEO Regulatory Focus and Temporal Orientation

Our findings also broaden regulatory focus theory by demonstrating that CEOs’ regulatory focus can affect their decisions in the social domain. Strategy researchers have found that CEOs’ regulatory focus critically affects business strategies (Gamache et al., 2015; Kammerlander et al., 2015; Scoresby et al., 2021), most particularly risk-taking (Mount and Baer, 2022). We extend recent research on the implications of CEO regulatory foci for prosocial decisions (Gamache et al., 2020; Li et al., 2021) by providing evidence that CEOs’ regulatory focus makes them react differently to industry peers’ CSR and CSiR.

Predominantly prevention-focused CEOs are more likely to catch up with responsible peers but less likely to stay away from irresponsible peers, adding novel and nuanced insights into regulatory focus theory.

Researchers have tended to use a long-term orientation at the firm level to investigate firms' CSR actions and the financial returns of those actions (Wang and Bansal, 2012). We find two specific effects of CEOs' future orientation: CEOs with a future orientation are more likely to appoint CSOs in different decision scenarios (see Models 4–7); and they are more likely to appoint CSOs as industry peers increase CSiR (see Model 6). Therefore, future orientation is a particularly unique and valuable attribute in that future-oriented CEOs are less likely to follow irresponsible peers.

CSO Appointment in China

We also contribute to the CSO literature by exploring CSO appointment in China. Our conjoint experiments indicate that executives in China have been increasingly aware of social and environmental issues in management. In addition, we conducted eight post-experiment interviews with CEOs participating in Study 2, focusing on why they would decide to appoint a CSO by linking with their real-life experiences. As summarized in [Appendix 1](#), the comparison and association effects were reflected in these interviews. Furthermore, other rationales such as organizational learning (CEO B), financial constraints (CEO C), organizational mission (CEO G), and configuration of various factors (CEOs A, E, and F) also emerged. Because these rationales have not been reported in extant CSO studies of large US corporations, Chinese CEOs might have unique considerations in their decisions on CSO appointment.

Managerial Implications

Our study offers managerial implications for CEOs, corporate boards, and potential CSO appointees. Our findings suggest that CEOs can use industry peers' CSR and CSiR as cues for their decision-making regarding CSO appointment. When industry peers increase their CSR, appointing a CSO can help the focal firm catch up with the responsible peers. When industry peers increase their CSiR, appointing a CSO can help the focal firm stay away from the irresponsible peers. In either case, reaction to industry peers is a crucial factor that CEOs should consider while deciding to appoint CSOs.

Our findings also suggest that predominantly prevention-focused CEOs are more (less) likely to appoint CSOs as industry peers increase CSR (CSiR), and future-oriented CEOs are more (less) likely to appoint CSOs as industry peers increase CSiR (CSR). Although these CEO attributes provide vital information for self-recognition, they are more valuable for corporate boards to search for appropriate CEO candidates. When industry peers engage in more CSR activities, we suggest that corporate boards consider giving more opportunities to CEO candidates with a predominant prevention focus, who will be more likely to appoint CSOs to catch up with the responsible peers. When industry peers engage in more CSiR activities, we suggest that corporate boards consider giving more opportunities to CEO candidates with a future orientation, who will be more likely to appoint CSOs to stay away from the irresponsible peers. Overall, corporate boards should

consider industry peers and CEO attributes together while recruiting CEOs to compete in the social domain.

Finally, our findings provide valuable information for potential CSO appointees. Given the increasing need for CSOs (Gupta et al., 2021; Weinreb Group, 2011, 2021), we expect more career opportunities to be available for interested executives to become CSOs. Our findings suggest that these opportunities are likely to emerge in industries in which firms demonstrate heterogeneous social performance (e.g., some engage in more CSR and others engage in more CSiR activities). Under such situations, CEOs' perceived importance and urgency of appointing CSOs will increase. Our interviews suggest that CEOs may appoint CSOs by considering other factors such as organizational learning, financial constraints, and organizational mission (see Appendix 1), to which we also suggest potential CSO appointees pay attention when searching for CSO position opportunities.

Limitations and Future Research

This study has two sets of limitations that deserve further discussion. First, conjoint experiments remain an artificial setting. We hypothesize that CEOs' attention allocation is triggered by industry peers' CSR and CSiR through a comparison and an association effect, respectively. In our conjoint experiments, however, we cannot directly test these effects. The small effect sizes for the cross-level moderation effects of CEOs' predominant prevention focus and future orientation may also relate to the method. Our conjoint experiments forced quick decisions, so participants' motivational attributes may not have exerted their full 'normal' effects. We encourage researchers to explore new designs to overcome this limitation – for example, a study that allows CEOs to make CSO appointment decisions over a long period so that the effects of their motivational attributes can be fully surfaced.

Second, our empirical setting requires careful considerations to generalize our findings to other executives and economies. Our sampled executives were familiar with decision-making and understood the decision contexts well, but about half of them were not CEOs or presidents in their real-life firms. While making decisions in the conjoint experiments, they might have also considered unique institutions and stakeholders in China, which are likely to differ from those in other countries and economies. Because institutions and stakeholders in society play essential roles in affecting firms' CSR efforts and consequences (Brower and Dacin, 2020; Doh and Guay, 2006; Risi and Wickert, 2017; Wickert, 2021), our study comes with the caveat that the findings may not be generalizable to all other regions and cultures.

Conclusion

Analysing 7882 decisions made by 758 executives in two conjoint experiments, we find that CEOs are likely to appoint CSOs when industry peers increase either CSR or CSiR. We also find that the effect of industry peers' CSR (CSiR) on the probability of appointing a CSO is stronger (weaker) for CEOs with a predominant prevention focus and is weaker (stronger) for CEOs with a future orientation. Finally, we aim to convey a key message: CSO appointment is an important way to shift a TMT's values towards sustainability and bring in previously absent expertise in sustainability, and thus should be considered by all CEOs.

ACKNOWLEDGMENTS

We thank Tiejing Yu for her great suggestions on the development of this research, and Danyang Fu for her extensive support for our data collection. We deeply appreciate the guidance of General Editor Jonathan Doh, two anonymous reviewers, and an editorial colleague at the Journal of Management Studies during the review process. This article benefited tremendously from their constructive and thoughtful comments.

FUNDING INFORMATION

This article is supported by CEIBS CSR special-purpose fund (AS22CUG).

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare that are relevant to the content of this article.

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APPENDIX 1

CSO appointment rationales

<i>CEOs</i>	<i>Comparison effect</i>	<i>Association effect</i>	<i>Other rationales</i>
A	If industry peers do a good job in CSR, it means that they have paid a lot of attention to social and environmental issues. They have received positive feedback from society in all aspects. If our firm is not doing enough [compared with peers], we must keep up with them, and keep up with them quickly. This is the reason for my decision [to appoint a CSO].	If industry peers have been socially irresponsible, we should also set up this position [CSO]. We need a CSO to avoid the related negative impact.	I think my decision on CSO appointment is a result of considering a combination of various factors.
B		If an industry peer gets worse in social performance, then in my perception, it would cause some negative impact on the whole industry such as an overall negative image.	We will learn from industry peers if they are doing good, and we will also analyse the reasons for them doing bad things. [Appointing a CSO helps us analyse and learn from industry peers].
C	I will pay close attention to my industry peers. If they are doing good things, I want to chase them. But if they are doing bad things, I do not think I need to compare or imitate them.		When my company is doing well, I might be able to spend a large portion of spare funds every year on sustainability, and we are likely to need a CSO to do that. But when my company is not doing well, I could not pay attention to this [CSO appointment].
D	If other companies have done some good things, such as taking good care of their employees or communities, we will thank them but also want to compete with them to show that we can do good as well.	We will pay attention to peers' CSiR because it will have a negative effect on our company indirectly. For example, our competitors had damaged the ocean in the past years, and insurance companies will increase premiums for most firms in the industry.	

(Continued)

APPENDIX 1 (Continued)

<i>CEOs</i>	<i>Comparison effect</i>	<i>Association effect</i>	<i>Other rationales</i>
E			Industry peers' CSR and CSiR will attract my attention, but the most important thing is that I will look at what they want to achieve, how they think, and what has caused their changes in CSR and CSiR. I will then decide whether to appoint a CSO for my own company by considering all these.
F	If industry peers have done good things, we will analyse them. For example, if they participate more in public welfare and have positive impact on society, we will analyse whether this is the cause or the consequence. We want to understand what kind of relationship is between their CSR and competitiveness in the market. If this thing [CSR] can add a competitive edge, I will be inclined to consider appointing a CSO.	Peers' CSiR will certainly have a negative effect on the industry; in fact, this has already occurred in our industry. And I believe that having a CSO should help mitigate this effect.	We cannot follow the trend or just imitate others to appoint a CSO. The source of each firm's competitive advantage is different, the logic of doing things is different, and the business model is also different. Therefore, even if industry peers have appointed CSOs, we may not necessarily do the same. I will consider many factors to see whether we need to do this [appointing a CSO].
G	Those responsible peers are not only my opponents but also positive role models. When I see that they are doing the right thing, I will accelerate the synchronization of the decisions and actions that I have learned from them. Certainly, appointing a CSO will help me do so effectively.	When I see that they [peer firms] are doing the wrong thing [CSiR], I need to establish distance from them [by appointing a CSO].	From a long-term perspective, I believe that any responsible company, or a company that has its own mission and plans to become a sustainable organization, will do it [appointing a CSO].

(Continued)

APPENDIX 1 (Continued)

<i>CEOs</i>	<i>Comparison effect</i>	<i>Association effect</i>	<i>Other rationales</i>
H		Our opponents [private hospitals] have caused a lot of harms on society, and we are deeply concerned with them. Their bad deeds will not do us any good, making it difficult for our business because the public and other stakeholders tend to think that we are similar.	

Note: The participants were CEOs of their real-life firms from various industries (e.g., global shipping, private hospitals, manufacturers, and others). Each interview lasted about 30 minutes, focusing on why they decided to appoint a CSO in Study 2 by linking with their real-life experiences.