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Essays on corporate social (ir)responsiblity, alliance formation and stock market reaction

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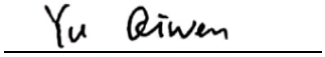
I hereby declare that this PhD dissertation is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in this dissertation.

This PhD dissertation has also not been submitted for any degree in any university previously.



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ABSTRACT

This dissertation consists of two essays related to corporate social (ir) responsibility (CSR/ CSI), alliance formation, and stock market reaction. The first essay examines how a potential partner's performances in CSR and CSI may play distinct signaling roles in influencing alliance formation. I argue that partner CSR primarily serves as a signal of the partner's trustworthiness, increasing a focal firm's willingness to collaborate with a high-CSR partner. In contrast, partner CSI primarily signals the risks of negative spillover of a partner's reputation for social irresponsibility to a focal firm, reducing the focal firm's propensity to ally with a high-CSI partner. I further identify two boundary conditions, namely, proximity and media coverage, that help verify the distinct signaling roles of partner CSR and CSI. Overall, the findings suggest that the dominant signaling mechanisms underlying partner CSR and CSI are different. The second essay examines the influence of firm foreignness on the investors' negative reactions to firms' CSI. Building on social identity theory and attribution theory, I propose that firm foreignness forms a critical part of firm identity that helps investors distinguish firms between localness and foreignness. The higher identification with local firms, in turn, forms investors' self-attributions in the context of CSI coverage, motivating them to react more negatively to foreign firms' CSI than that of local firms. In addition, I argue that the relationship between firm foreignness and negative investors' reaction to CSI is weakened when the firm has been listed for a longer time or has more local ownership. I find support for these arguments using a sample of 2,283 CSI coverage by firms listed in the U.S. stock market from 2007 to 2018.

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CHAPTER 1: GENERAL INTRODUCTION

Research on corporate social responsibility (CSR) has primarily focused on the role of firms' CSR and highlighted its positive role in firms' reputation, stakeholder relationships, and financial performance (Godfrey, Merrill, & Hansen, 2009; McWilliams & Siegel, 2001; Wang, Tong, Takeuchi, & George, 2016). While management scholars have recently taken some initial steps to explore and contrast the role of the negative aspect of social performance, namely firms' performance in corporate social irresponsibility (CSI), they often assume that the role of CSI is the simple opposite of that of CSI or consider their difference in terms of the strength of their effects (Fu, Tang, & Chen, 2020; Kölbel, Busch, & Jancso, 2017; Tang, Qian, Chen, & Shen, 2015). However, the distinct role exhibited by firm CSR has yet received its due attention, given that general management studies have highlighted that positivity and negativity (e.g., information, behaviors) are distinct constructs associated with different stakeholders' evaluation and reactions (Connelly, Certo, Ireland, & Reutzel, 2011; Fischer & Reuber, 2007; Lange & Washburn, 2012; Taylor, 1991). Driven by this, my dissertation seeks to advance research on CSI by theorizing about how firm CSI can exhibit a different role in affecting firm outcomes and stakeholder relationships.

In Chapter 2, I focus on the context of alliance and investigate how potential partners' CSR and CSI play different signaling roles in affecting the likelihood of alliance formation. Drawing on signaling theory and research on CSR, I argue that potential partners' CSR and CSI affect the likelihood of alliance formation through different dominant signaling mechanisms. I argue

that partner CSR and CSI separately serve as positive and negative signals of a potential partner's moral character (Flammer, 2018; Godfrey et al., 2009; Jones, Willness, & Madey, 2014). Both of them can affect alliance formation through two different signaling mechanisms. First, I propose a *trust mechanism* that partner CSR and CSI signal the moral character and trustworthiness associated with alliance outcome. Second, I propose a *spillover mechanism*: by signaling a potential partner's moral character to external stakeholders and shaping their evaluation so the focal firm, partner CSR and CSI can influence the focal firm's assessment of potential positive and negative spillover. Built upon these two mechanisms, I develop the baseline hypotheses that partner CSR is positively associated with alliance formation whereas partner CSI is negatively associated with alliance formation. More importantly, I argue that while both mechanisms exist, their dominance will vary with the signal valence, which will affect 1) the significance of the benefits or risks associated with a mechanism, and 2) the extent that a focal firm perceives to have control over the outcome associated with the mechanism. Therefore, I argue that partner CSR, as a positive signal, primarily affects alliance formation through the *trust mechanism*, while the negative signal of partner CSI primarily has an impact through the *spillover mechanism*. To contrast and verify the proposed different dominant mechanisms, I carefully select two sets of moderators – proximity (between potential alliance partners) and media coverage of (potential partners), which will moderate the trust and spillover mechanisms in opposite directions. Using a sample of alliances formed by high-tech firms in the United States between 1995 and 2016, I find consistent results that partner CSR and CSI affect alliance formation through different signaling mechanisms. In particular, the results

show that partner CSR and CSI play competing effects on alliance formation. Moreover, both moderators weaken the positive relationship between partner CSR and alliance formation and strengthen the negative relationship between partner CSI and alliance formation.

In Chapter 3, I shift attention to the context of international business and aim to explore the impact of firm foreignness on investors' negative reactions to firms' CSI. Research on CSI has widely agreed on the negative impact of firms' CSI on the stakeholders' perceptions, evaluations, and reactions of stakeholders. While prior studies have recognized that stakeholders' reactions to firms' CSI could be shaped by their subject perceptions and evaluations, our understanding of when and why they do not penalize firms in a consistent way is still not systematic. For instance, extant work either primarily focused on local firms or implicitly assume that foreign and local firms are not significantly different (Barnett, 2014; Lange & Washburn, 2012; Zavyalova, Pfarrer, Reger, & Shapiro, 2012). However, such difference is critical because the information of whether or not a firm engaging in CSI is from a foreign country determines the level of identification between stakeholders and culpable firms and thus affects their reaction to firm CSI. To address it, this chapter tackles the research question of whether and how a firm being foreign or not will influence how stakeholders, particularly investors in this study, respond to firms' CSI. Extending attribution theory and social identity theory, I propose that investors' reaction to firms' CSI is more negative when a firm is foreign than local. In particular, because of the common country of origin, investors are more identified with local firms as in-group members whereas foreign firms as out-group members. The high identification with local firms will trigger investors'

self-serving attribution bias by attributing CSI by local firms to external factors and that by foreign firms to internal factors. Moreover, I argue that investors' different reactions to local and foreign firms are contingent on the extent to which they link foreign firms with foreignness identity. This could be influenced by two moderators, firms' listing age and the firm ownership held by local investors. That is, as a foreign firm has been listed for a longer period or obtained greater shares from local investors, it will have more chances to interact with local investors, accumulate more local knowledge, and exhibit greater local embeddedness. Accordingly, investors are more likely to treat it as a local firm rather than shift attention to its foreignness identity. As a result, the negative impact of firm foreignness on investors' negative reactions to CSI is predicted to be weaker in such contingencies. Based on a sample of 2,283 media CSI disclosure by 704 firms listed in the U.S. market from 2007 to 2020. I find consistent results that investors react more negatively to CSI by non-U.S. firms than U.S. firms. In addition, investors' negative reaction to foreign firms' CSI becomes weaker when firms have been listed longer or have more local ownership.

CHAPTER 2: A TALE OF TWO SIGNALS: PARTNER CSR VERSUS CSI AND ALLIANCE FORMATION

ABSTRACT

This study examines how a potential partner's corporate social responsibility (CSR) and corporate social irresponsibility (CSI) influence alliance formation through distinct signaling mechanisms. We argue that CSR signals the moral character of a potential partner, which is used by the focal firm to infer the partner's trustworthiness. We refer to this as the trust mechanism in our theoretical framework. In contrast, CSI negatively affects alliance formation primarily through a spillover mechanism: CSI signals a potential partner's moral character to a firm's external stakeholders. Stakeholders' negative assessment based on this signal might then spill over to the focal firm if it forms an alliance with that partner. We further identify two sets of contingency factors, namely, proximity and media coverage, that help verify the distinct signaling roles of partner CSR and CSI. Using a sample of alliances formed by high-tech firms in the United States between 1995 and 2016, we find a positive (negative) relationship between partner CSR (CSI) and the likelihood of alliance formation. Moreover, we find that the presence of two contingency factors weakens the positive relationship between partner CSR and alliance formation but strengthens the negative relationship between partner CSI and alliance formation.

INTRODUCTION

The formation of alliances is critical for firms to tap into external resources and maintain competitiveness (Lavie, 2006; Mowery, Oxley, & Silverman, 1998; Sampson, 2007). One critical decision firms have to make when it comes to their alliances is the choice of partners, which can significantly impact firm performance in at least two ways (Diestre & Rajagopalan, 2012; Reuer & Lahiri, 2014; Ryu, Reuer, & Brush, 2020). First, the partner's attributes have a direct impact on the alliance outcomes. For instance, transacting with a trustworthy partner can smoothen coordination, reduce opportunism concerns, and enhance cooperation efficiency (Cuypers, Hennart, Silverman, & Ertug, 2021; Dyer & Chu, 2003; Zaheer, McEvily, & Perrone, 1998). Second, the focal firm may be subject to potential spillover from the partner in that external stakeholders' perceptions of the focal firm are likely to be influenced by its partner's behaviors and characters (Boone & Ivanov, 2012; Bourdeau, Cronin Jr, & Voorhees, 2007; Gulati & Higgins, 2003; Stuart, Hoang, & Hybels, 1999).

One of the key challenges firms face in forming alliances is that they typically have imperfect information regarding potential partners' quality and character (Ozmel, Reuer, & Gulati, 2013; Pollock & Gulati, 2007; Reuer & Ragozzino, 2014). Thus, firms seeking to form alliances are motivated to look for the information cues or signals that help reduce such information asymmetries (Connelly, Certo, Ireland, & Reutzel, 2011; Spence, 1973, 2002). Extant alliance literature has identified a variety of characteristics of potential partners that may function as effective signals, including patent activities (Caner, Bruyaka, & Prescott, 2018), the presence of scientists (Luo, Koput, & Powell, 2009), corporate and technological diversification (Krammer, 2016),

board interlock (Ni Sullivan & Tang, 2013), network structure (Ozmel et al., 2013), public funding (Bianchi, Murtinu, & Scalera, 2019), initial public offerings (Pollock & Gulati, 2007) and prominence of affiliation (Pollock & Gulati, 2007; Reuer & Ragozzino, 2014). But this literature has mainly focused on signals with positive valence. Negative signals, in contrast, have been typically implied or explicitly considered as the flip side of positive signals, i.e., a lack of positive information on a firm's quality would send signals of poor quality of a potential partner to the focal firm (e.g., Folta & Janney, 2004; Sanders & Boivie, 2004; Stern, Dukerich, & Zajac, 2014).

A limited but growing body of work in the broader management literature has started to consider positive and negative signals as distinct concepts (Connelly et al., 2011), which are not simply opposite ends of a single continuum (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Kahneman & Tversky, 1979; Rozin & Royzman, 2001). It suggests that positive and negative signals receive distinct attention, interpretations and could lead to different outcomes (e.g., Baumeister et al., 2001; Kahneman & Tversky, 1979; Rozin & Royzman, 2001; Weiner, 1985). Hence, it is important to further develop an in-depth understanding of how positive and negative signals conceptually differ and under what conditions they might differently drive critical strategic choices such as alliance formation.

This study aims to advance this line of inquiry by examining one feature of prospective alliance partners that has substantial information value – their corporate social activities. Building on a rapidly growing body of work that has looked at the signaling role of corporate social activities (e.g., Flammer, 2018; Godfrey, Merrill, & Hansen, 2009; Jones, Willness, & Madey, 2014; Su, Peng,

Tan, & Cheung, 2016), we examine their unique signaling effects in the context of alliance formation. The role of corporate social activities is increasingly taken into consideration in strategic alliances. For instance, in response to Western Digital's intensive CSR practices, the vice president of Marketing of its partner, DataDirect Networks, remarked, "*... trust is paramount to any relationship with business partners, and DDN is pleased to see Western Digital recognized for their integrity ... having strategic partners like Western Digital is key to accomplishing our mission*" (Western Digital, 2022). Similarly, Apple has also highlighted that CSR is an important consideration when selecting an alliance partner (Wall Street Journal, 2021). Furthermore and of particular importance for our purpose, corporate social activities can be decomposed into two clear dimensions, namely corporate social responsibility (CSR) and corporate social irresponsibility (CSI) (Campbell, 2007; Shea & Hawn, 2019; Strike, Gao, & Bansal, 2006; Tang, Qian, Chen, & Shen, 2015), which offer us a suitable opportunity to conceptually contrast and investigate how positive and negative signals affect alliance formation in distinct ways.

Extending the signaling literature and work on CSR (CSI), we argue that, conceptually, partner CSR and CSI may affect alliance formation through two distinct signaling mechanisms. First, we propose a *trust mechanism* as partner CSR and CSI signal the moral character of a potential partner, which will be used by the focal firm to infer the partner's trustworthiness. Second, we propose a *spillover mechanism* as partner CSR and CSI signal a potential partner's moral character to a firm's external stakeholders. This signal can then provide information to the focal firm on whether stakeholders' assessment might spill over from the potential partner when an alliance is formed. Based on these two

mechanisms, we derive two baseline predictions. Namely, we expect partner CSR to be positively associated with the likelihood of alliance formation, and we expect a negative association for partner CSI.

More importantly, we posit that while either partner CSR or CSI may affect alliance formation through both signaling mechanisms, the dominant mechanism will differ depending on the signal's valence, which will affect (1) the significance of the benefits or risks associated with a mechanism, and (2) the extent that a focal firm perceives to have control over the outcome associated with the mechanism. Specifically, in the case of partner CSR, which has positive valence as a signal, the *trust mechanism* is likely to dominate the *spillover mechanism*. This is because the benefits of positive spillover are less apparent, and the focal firm perceives a greater sense of control over the alliance outcomes, which are influenced by partner trustworthiness. In contrast, in the case of CSI, a signal with negative valence, the *spillover mechanism* is likely to dominate the *trust mechanism* due to a heightened risk of negative spillover, over which the focal firm has a lower sense of control.

To further contrast and to empirically establish that the effects of partner CSR and CSI are driven by different dominant mechanisms, we identify two sets of moderators – *proximity* (i.e., whether the alliance partners are in the *same industry* and *same location*) and *media coverage (*i.e., the extent to which potential partners are covered in the media*)* – as contingencies. These contingency factors theoretically speak to both the trust and spillover mechanisms and are chosen because they are expected to moderate these two signaling mechanisms in opposite directions. In particular, in the case of CSR, for which the *trust mechanism* dominates, we expect that proximity and media

coverage serve as substitutes for CSR in conveying information about partner trustworthiness, which would weaken the positive relationship between partner CSR and alliance formation. In contrast, in the case of CSI, for which the *spillover mechanism* dominates, we predict that proximity and media coverage increase a firm's concern about potential negative spillover, either through reinforcing their perceptions of similarity between alliance partners, or through intensifying stakeholders' attention on the partner. Accordingly, we expect the spillover effect to strengthen in these two contingencies.

We test our hypotheses using a sample of alliances formed by high-tech firms in the United States during 1995-2016. Our findings provide support for our baseline predictions: Partner CSR is positively associated with the likelihood of alliance formation, while partner CSI is negatively associated with the likelihood of alliance formation. We also find that our two contingency factors, i.e., proximity and media coverage, moderate these two baseline predictions in opposite directions.

Our study contributes to two streams of research. First, we respond to Connelly and his coauthors' (2011) call for more theoretical and empirical work on the impact of negative signals and how they conceptually differ from other signals. By examining the different roles of partner CSR and CSI, we contribute to the signaling literature by adding more nuances to how positive and negative signals conceptually differ and how the distinctions influence critical strategic decisions such as alliance formation. Second, by integrating CSR literature into alliance studies, we examine a novel antecedent – partners' social activities – of the propensity of alliance formation. In addition, the distinction between partner CSR and CSI further advances the alliance formation literature by

showing whether and how the two considerations of partner selection, i.e., partner trustworthiness and potential spillover, are contingent on the valence of information potential partners convey.

THEORY AND HYPOTHESES

Positive Signals versus Negative Signals in Alliance Formation

Firms looking to form alliances face considerable information asymmetry regarding their potential partners. Accordingly, alliance scholars have examined various signals that provide information about potential partners' unobserved quality and character, and how these signals influence the formation of alliances (e.g., Bianchi et al., 2019; Krammer, 2016; Luo et al., 2009; Ozmel et al., 2013; Pollock & Gulati, 2007). For example, Krammer (2016) looks at the role of corporate and technological diversification in signaling firms' superior capabilities and resources, and how these signals facilitate the formation of technological alliances. Luo, Koput, and Powell (2009) find that a firm with a greater number of scientists is more likely to form alliances because having more scientific staff serves as a credible signal of its competence.

Although extant studies have examined the critical roles various signals play in alliance formation, they have primarily focused on positive signals but generally overlooked the unique effects of negative signals (e.g., Ozmel et al., 2013; Pollock & Gulati, 2007; Reuer & Ragozzino, 2014). Moreover, even when negative signals are considered, they are often thought of as having effects that are simply opposite to those of positive signals (e.g., Folta & Janney, 2004; Sanders & Boivie, 2004; Stern et al., 2014). However, some work started to highlight that negative and positive signals might not be conceptually the same (Connelly et al., 2011), and that they should be empirically examined as

separate constructs (Fischer & Reuber, 2007; Tetlock, Saar-Tsechansky, & Macskassy, 2008).

In line with these arguments, related work in psychology (e.g., Baumeister et al., 2001; Rozin & Royzman, 2001; Weiner, 1985) and economics (e.g., Kahneman & Tversky, 1979) has also suggested that a signal with negative information is more than the opposite of a signal with corresponding positive information in several important ways: First, negative information is remembered and recalled more by individuals than positive information because it is more uncommon or unexpected and therefore is more likely to result in salient, consequential, and long-lasting outcomes (e.g., Baumeister et al., 2001; Kahneman & Tversky, 1979). For the same reason, a negative signal is more effective at attracting public attention (e.g., Rozin & Royzman, 2001). Second, negative signals are more likely to elicit thorough information processing and intensified attributional thinking because they are typically linked with events with adverse or unpleasant consequences (Rozin & Royzman, 2001; Weiner, 1985). Thus, the valence of signals often offers recipient firms different reference points to evaluate the significance or urgency of the issues they face and, consequently, motivates them to take different actions (e.g., Chattopadhyay, Glick, & Huber, 2001; Dutton & Jackson, 1987).

In sum, existing work highlights a need to consider negative and positive signals as conceptually distinct rather than simply seeing them as opposites. Building on and further extending this line of work, we examine the distinct roles that CSR and CSI play as signals in the specific context of alliance formation. Previous work has established that a firm's social activities play an important signaling role (e.g., Flammer, 2018; Godfrey et al., 2009; Jones et al.,

2014; Su et al., 2016). As we will elaborate below, due to the fact that social activities can clearly be separated into socially responsible activities (CSR) and socially irresponsible activities (CSI), it provides a particularly suitable context to contrast the effects of positive and negative signals.

CSR as a Positive Signal and CSI as a Negative Signal

Before we outline how CSR and CSI act differently as signals, it is important to first define these two concepts. To do so, we build on the works of Shea and Hawn (2019) and Campbell (2007), which explicitly contrast both concepts. We define CSR as engaging in voluntary corporate actions that have a positive impact on stakeholders (e.g., customers, employees, investors, and local communities), and that are in line with the going social expectations so that they are considered moral. In contrast, we define CSI as engaging in corporate actions that cause harm to shareholders (without appropriate actions to rectify this harm), and that are considered immoral as they fall below the threshold of what is socially expected.

A growing body of research highlights that both CSR and CSI convey information about a firm's moral character (e.g., Flammer, 2018; Godfrey et al., 2009; Jones et al., 2014).[1] CSR can be considered as a reliable signal of a firm's

[1] In line with a considerable body of work that has conceptualized CSR as a reliable signal (e.g., Flammer, 2018; Godfrey et al., 2009; Jones et al., 2014), we focus on the signaling role of CSR and CSI. However, we acknowledge that several studies highlight that CSR is closely related to the concept of reputation and that CSR might affect firm outcomes through reputation (e.g., Orlitzky, Schmidt, & Rynes, 2003). Although these studies typically do not directly conceptualize CSR/CSI as reputation, they see CSR/CSI as an antecedent of reputation that provides information to an audience that allows for an attribute-specific assessment by that audience (Ertug & Castellucci, 2013). We believe that seeing CSR/CSI as an antecedent of reputation is not inconsistent with our theory. Namely, the firm's CSR/CSI provides information (i.e., it acts as a signal which is in line with the mechanisms we outline) that influences how audiences (i.e., in our case the focal firm or external stakeholders) evaluate a firm on a specific attribute (i.e., this refers to a firm's reputation as how it is typically conceptualized [Pollock, Lashley, Rindova, & Han, 2019]), which in turn affects their behaviors (i.e., how firms select partners). In this case, reputation might act as an intermediate/latent construct between CSR/CSI and the outcome we study, but it seems still necessary to rely on CSR/CSI being a signal to establish the link with the outcome. Meanwhile, several other studies

unobserved positive moral character (Godfrey et al., 2009) because it generally requires costly resource commitments (Delmas & Toffel, 2008; Durand, Hawn, & Ioannou, 2019) and takes time for its benefits to materialize (Barnett & Salomon, 2012) (for a review, see Zerbini, 2017). Similarly, CSI serves as a negative signal that provides information about a firm's negative moral character. For example, prior studies have examined the roles of various irresponsible firm behaviors, such as financial restatements, unfavorable information concealments, or accounting malpractice (e.g., Connelly, Ketchen, Gangloff, & Shook, 2016; Connelly, Shi, Walker, & Hersel, 2022; Marcel & Cowen, 2014; Paruchuri, Han, & Prakash, 2021), in signaling a firm's negative moral character and ill intentions.

In line with the broader signaling literature, several studies have started to point to some different signaling effects of CSR and CSI. For example, Kölbel and his coauthors (2017) find that stakeholders' attention is biased towards the negative information that CSI provides at the expense of the positive information conveyed by CSR. CSI information is also more likely to evoke attributional thinking and intensive causal search among stakeholders, which results in more extreme evaluations and responses to the information provided by CSI than to that provided by CSR (Lange & Washburn, 2012). Further highlighting differences between CSR and CSI, Hawn (2021) finds that CSI news is associated with worsening cross-border acquisition outcomes while CSR news has no significant positive impact.

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argue that CSR/CSI and reputation are two different theoretical constructs and that CSR influences firms' strategic choices without through reputation (e.g., Flammer, 2018). This view highlights that we can also develop our arguments without having reputation as an intermediate/latent construct in our theory. Hence, given that there is no consensus in the literature, and it does not seem necessary to introduce the concept of reputation in our theory, we focus on the signaling aspect of CSR and CSI, which is well-established in the literature.

This body of work has improved our understanding of the different signaling effects of CSR and CSI. However, it still largely considers CSR and CSI as opposites, and they only differ in terms of the strength of their signaling effects. Going beyond this body of work, we will posit in this study that CSR as a positive signal and CSI as a negative signal might work through different dominant signaling mechanisms altogether, rather than through the same mechanism at varying strengths.

Two Signaling Roles of Partner CSR and CSI

It is important to first highlight that, as a basis of our theoretical framework, both partner CSR and CSI might affect alliance formation through two signaling mechanisms: one we refer to as the *trust mechanism* and the other as the *spillover mechanism.* In the sections below, we will first outline these two mechanisms and formulate our baseline predictions (Hypotheses 1 and 2) accordingly. We then identify two sets of boundary conditions, namely, proximity and media coverage, that help us tease out the effects of the two mechanisms and thereby establish the key argument that partner CSR and CSI influence alliance formation through theoretically distinct dominant mechanisms.

Trust mechanism. Firms looking to form an alliance will face information asymmetry regarding whether a potential partner might behave opportunistically or in a trustworthy manner (e.g., Diestre & Rajagopalan, 2012; Reuer & Lahiri, 2014; Ryu et al., 2020). Both CSR and CSI of a potential partner can help reduce such information asymmetry by serving as signals of a potential partner's positive or negative moral character (Godfrey, 2005; Godfrey et al., 2009), which we refer to this as the *trust mechanism*.

We begin with the role of partner CSR. Instead of solely focusing on profit maximization, a high-CSR firm is also perceived as caring about the welfare of its stakeholders and broader society (Godfrey et al., 2009; Luo & Kaul, 2019; McWilliams & Siegel, 2001). Therefore, by observing a potential partner's CSR activities, the focal firm might infer that the partner has a positive moral character (Godfrey et al., 2009; Jones et al., 2014; Norheim-Hansen, 2018; Shea & Hawn, 2019) and thus would act in a trustworthy and responsible way in an alliance relationship. Given that collaborating with a trustworthy partner could result in a number of positive alliance outcomes, ranging from lower transaction costs to more cooperative behaviors (Dyer & Chu, 2003; Zaheer et al., 1998), the *trust mechanism* suggests that the CSR of a potential partner will increase the likelihood of alliance formation.

In contrast, a potential partner's CSI provides information about its negative moral character and lack of trustworthiness to a focal firm that seeks to form an alliance. In the case of partner CSI, the focal firm might be particularly concerned about the considerable risks (e.g., knowledge appropriation risks) and costs (e.g., the cost to deter opportunistic behaviors) associated with collaborating with a partner that might behave opportunistically (Das & Teng, 1998; Parkhe, 1993). Thus, the *trust mechanism* suggests that the CSI of a potential partner will decrease the likelihood of alliance formation.

Spillover mechanism. Besides trust considerations, a focal firm is likely to also evaluate the spillover potential from the prospective partner based on the latter's CSR and CSI. We refer to this as the *spillover mechanism*. In addition to signaling a partner's moral character to the focal firm, CSR/CSI may also convey such information to the public and the focal firm's external stakeholders,

who further use this information to shape their perceptions of the focal firm, resulting in spillover potential from the alliance partner to the focal firm.

In the case of CSR, we expect a positive spillover effect. CSR signals a potential partner's positive moral character to a focal firm's stakeholders, further leading to stakeholders' positive evaluation of the focal firm's moral character through affiliation (Madsen & Rodgers, 2015; Norheim-Hansen, 2018). Accordingly, based on the *spillover mechanism*, we expect that partner CSR is positively associated with a focal firm's willingness to form an alliance.

Partner CSI, on the contrary, might pose a substantial negative spillover risk to a focal firm. Previous studies have shown that a firm's deviant behaviors are likely to adversely affect stakeholders' perceptions of its partners (Boone & Ivanov, 2012; Bourdeau et al., 2007; Bruyaka, Philippe, & Castañer, 2018). For example, firms may experience negative market reactions when their partners have filed for bankruptcy (Boone & Ivanov, 2012). Similarly, such a spillover effect can occur in the case of partner CSI, which provides a negative signal to stakeholders about the partner's moral character. In evaluating a potential alliance partner, a focal firm might be concerned that stakeholders' negative perceptions of the partner could adversely affect their perceptions of the focal firm through affiliation with the partner. Hence, the focal firm's concern about the potential negative spillover from an alliance partner is likely to be heightened when partner CSI negatively signals the partner's moral character to stakeholders. As such, we expect that partner CSI will reduce the likelihood of alliance formation through the *spillover mechanism* by heightening a focal firm's concern about negative spillover.

In sum, both the *trust mechanism* and *spillover mechanism* suggest a positive relationship between partner CSR and the likelihood of alliance formation. Accordingly, we predict the following baseline hypothesis:

> *Hypothesis 1. Partner CSR is positively related to the likelihood of alliance formation between two partners.*

In contrast, these same two mechanisms suggest a negative relationship between partner CSI and the likelihood of alliance formation. Thus, we also propose the following baseline hypothesis:

> *Hypothesis 2. Partner CSI is negatively related to the likelihood of alliance formation between two partners.*

Unpacking the Different Signaling Roles of Partner CSR and CSI

While both signaling mechanisms predict the effects of CSR/CSI on partner formation in the same direction, these mechanisms may show different levels of dominance depending on the valence of a signal (i.e., CSR or CSI). Our key argument is that the two signaling mechanisms present potential issues that are of different types of concern to the focal firm when considering whether to form an alliance: while the *trust mechanism* is more relevant in assessing whether a potential partner might behave opportunistically in an alliance relationship, the *spillover mechanism* plays a more important role when the firm evaluates the risk of potential spillovers from its potential partner. The thrust of the argument is that the dominance of either mechanism will depend on (1) the significance of the benefits or risks associated with a mechanism and (2) the extent of a focal firm's perceived control over the value or risks.

In particular, in the case of partner CSR, it potentially signals both the trustworthiness of the potential partner (*trust mechanism*) and positive spillover

of stakeholder perceptions from the partner to the focal firm (*spillover mechanism*). However, we expect a focal firm to pay more attention to the trustworthiness of a potential partner that is signaled by CSR than to the positive spillover potential that is also signaled by CSR for two reasons: First, as we argued earlier, positive spillover effects are likely to be less significant than that of negative spillover, as the former is less effective in drawing public attention and inducing attributional thinking (Baumeister et al., 2001; Rozin & Royzman, 2001). Further, partner CSR tends to add limited inherent value through positive spillovers, as stakeholders are able to directly infer a focal firm's moral attributes through the firm's own CSR (Flammer, 2018; Godfrey et al., 2009; Shea & Hawn, 2019), rather than through that of its alliance partner. Relative to the low perceived benefits associated with positive spillover effect of partner CSR, the trustworthiness of a potential partner signaled by CSR is likely to be perceived to add higher value due to its direct positive impacts on alliance outcomes (Cuypers et al., 2021; Dyer & Chu, 2003; Krishnan, Martin, & Noorderhaven, 2006). Furthermore, the focal firm's perceived controllability over a certain behavior or outcome is increased by its ability to leverage internal resources and capabilities to affect it (Sharma, 2000; Thomas, Clark, & Gioia, 1993). When working with a high-CSR partner, a focal firm is likely to have a better sense of control over partner behaviors and outcomes, given that it is directly involved and able to exercise its knowledge and capabilities to further influence the alliance relationship (Sharma, 2000; Thomas et al., 1993), in order to achieve desired alliance performance. Together, this implies that in the case of partner CSR, the positive effect of a trustworthy partner is likely to become

more salient than the positive spillover effect from a partner. Hence, we expect the *trust mechanism* to dominate the *spillover mechanism* in the case of CSR.

In contrast, in the case of partner CSI, we expect that the opposite is likely to be true. First, as we argued earlier, negative information is inherently more effective in drawing public and stakeholder attention (Baumeister et al., 2001; Rozin & Royzman, 2001), negative spillover is likely to cause much greater damage to a focal firm than positive spillover. Second, despite that firms might be able to take some preventive actions against negative spillover risks, such risks are primarily derived from external stakeholders' adverse perceptions and reactions, making them harder to predict and control. A low level of perceived controllability exacerbates the concern over likely risks, making negative spillover risks more prominent and appear more threatening to a focal firm. In contrast, the focal firm might pay relatively less attention to the concern associated with the lack of trustworthiness of a partner with high CSI, for which they are likely to have a higher sense of control. Prior research has highlighted that firms can use several safeguards, such as appointing directors, adding specific contractual clauses, and introducing monitoring mechanisms, to prevent the opportunistic behaviors of a partner (Cuypers et al., 2021; Das & Teng, 1998; Lioukas & Reuer, 2020). Therefore, we expect that the firm's attention focus is likely to be more directed toward the risk of negative spillover than toward the risk of a partner behaving opportunistically. In sum, in the case of partner CSI, the negative spillover effect is likely to be more salient than the negative effect of a partner's lack of trustworthiness. Accordingly, we expect the *spillover mechanism* to dominate the *trust mechanism* in the case of CSI.

Although we have proposed in Hypotheses 1 and 2 that partner CSR as a positive signal and CSI as a negative signal both have the potential to affect the likelihood of alliance formation in the same direction, we argue here that one mechanism will dominate for partner CSR (*trust mechanism*) and another for partner CSI (*spillover mechanism*). Since testing Hypotheses 1 and 2 does not allow us to distinguish the two mechanisms (i.e., they might potentially both be at play), we carefully select contingency factors – proximity between alliance partners (i.e., same industry or same location) and media coverage (of potential partners) – that are expected to moderate the two different signaling mechanisms but in opposite directions. This allows us to theoretically establish under what contingencies the proposed mechanisms dominate and empirically test if this indeed is the case. Before we proceed to these moderating predictions, it is important to note that we will develop these hypotheses based on the mechanisms we expect to be dominant. If the alternative mechanism was at work, the predictions would go in opposite directions. Thus, empirical support for these hypotheses would provide support for the proposed mechanisms. We do not formally present the arguments based on alternative mechanisms to avoid the unnecessary use of competing hypotheses. Instead, at the end of our hypotheses, we briefly touch upon what the predictions would look like if the other mechanism was dominant to further contrast our predictions.

The Moderating Effect of Proximity Between Potential Alliance Partners

We first examine the role of proximity between the focal firm and a potential partner. Proximity is a composite concept that can be defined based on multiple dimensions (Sorenson & Stuart, 2008; Zhelyazkov & Tatarynowicz, 2021). In this study, we focus on two key dimensions of proximity – industry

and location – that have been well explored in prior alliance work (e.g., Reuer & Lahiri, 2014; Ryu, McCann, & Reuer, 2018). And more importantly, these two dimensions have been theoretically linked to the availability of information on opportunistic behavior (e.g., Ragozzino & Reuer, 2011; Reuer & Lahiri, 2014) and the potential of spillovers (e.g., Barnett & King, 2008; Diestre & Rajagopalan, 2014; Paruchuri & Misangyi, 2015). The industry dimension relates to whether or not a potential alliance partner operates in the same product market as the focal firm (i.e., *same industry*) (Balakrishnan & Koza, 1993; Hennart & Reddy, 1997; Reuer & Lahiri, 2014). The second dimension, location, is related to whether or not a potential partner is located in the same geographical area as the focal firm (i.e., *same location*) (Rosenkopf & Almeida, 2003; Ryu et al., 2018). We will now proceed by discussing how proximity moderates the trust and spillover mechanisms in opposite directions:

Proximity between potential alliance partners and the trust mechanism. We proposed earlier that the *trust mechanism* will be the dominant mechanism that underlies Hypothesis 1. While a firm generally has incomplete information regarding a potential partner's trustworthiness, such information asymmetry is likely to be less extensive when the focal firm is able to acquire information about the partner from other sources (Ertug, Cuypers, Noorderhaven, & Bensaou, 2013; Reuer & Lahiri, 2014). As we will elaborate below, existing work proposes that a focal firm is more likely to have such information when the firm is in the same industry or location as its potential alliance partner. As a result, we expect in such instances that CSR as a signal of a potential partner's moral character and trustworthiness will be less salient in the focal firm's decision-making.

In particular, firms from the same industry often share a pool of commons ranging from their inputs and outputs to shared stakeholders and operational practices (Balakrishnan & Koza, 1993; Hennart & Reddy, 1997). Thus, they can more easily access and predict the behavioral tendencies of potential partners from the same industry than of those from different industries (Reuer & Lahiri, 2014). In addition, industrial peers have more opportunities for direct or indirect interactions, such as through common membership in industrial associations or joint participation in industrial activities (Rosenkopf, Metiu, & George, 2001). Through these linkages, information asymmetry regarding industry peers' moral character and trustworthiness is significantly reduced (Gulati, 1995; Gulati, Lavie, & Singh, 2009).

Similarly, firms also face less information asymmetry if they are from the same location. By conforming to similar region-level policies, regulations, or social pressures, same-location firms often exhibit shared features and practices (Diestre & Rajagopalan, 2014; Stuart & Sorenson, 2003), making it easier to understand and assess the attributes of any potential partners. Moreover, similar to those in the same industry, firms in the same location are also more likely to learn about potential partners through community organizations, activities, employee mobility, or common stakeholders (Diestre & Rajagopalan, 2014; Husted, Jamali, & Saffar, 2016) than firms that are not co-located. Hence, co-location provides the firm with more fine-grained information about a potential partner, which will put it in a better position to evaluate the trustworthiness of its potential partners (Ragozzino & Reuer, 2011; Reuer & Lahiri, 2014).

In sum, compared to a firm that is not proximate to a potential partner, a firm in the same industry or location as a potential partner is likely to face less

information asymmetry regarding whether the partner might behave opportunistically or in a trustworthy manner. In this case, the firm would rely less on CSR as signals of moral character and trustworthiness in making alliance formation decisions. Accordingly, based on the *trust mechanism* being dominant for partner CSR, we predict:[2]

> *Hypothesis 3a. The positive relationship between partner CSR and the likelihood of alliance formation becomes weaker when partners are from the same industry.*
>
> *Hypothesis 4a. The positive relationship between partner CSR and the likelihood of alliance formation becomes weaker when partners are from the same location.*

Proximity between potential alliance partners and the spillover mechanism. We argued above that the *spillover mechanism* will be the dominant mechanism that underlies Hypothesis 2 (i.e., a negative relationship between partner CSI and the likelihood of alliance formation). While there is potential for spillover between most partners that form an alliance, the spillover effect is expected to be stronger between more proximate alliance partners (e.g., Bruyaka et al., 2018; Diestre & Rajagopalan, 2014). Prior studies have suggested that stakeholders often evaluate firms based on certain categorical features and that firms with greater proximity are perceived to exhibit similar features and behaviors (Barnett & King, 2008; Diestre & Rajagopalan, 2014; Paruchuri & Misangyi, 2015).

Specifically, industry has been perceived as a highly visible factor that is commonly used to distinguish and categorize firms as firms in the same industry

[2] We note that if the spillover mechanism rather than the trust mechanism would be dominant for CSR, we would expect the baseline relationship between CSR and alliance formation to become stronger rather than weaker. We will clarify in our arguments leading up to hypotheses 3b and 4b why that would be the case.

often manifest a set of "industry commons" (Barnett & King, 2008; Paruchuri & Misangyi, 2015). Adhering to industry standards and regulations further results in firms from the same industry having more similar internal practices and stakeholder management strategies (DiMaggio & Powell, 1983; Lieberman & Asaba, 2006). Accordingly, stakeholders are likely to perceive partners from the same industry as more similar, and therefore, they are more likely to extend their negative evaluation of an intra-industry partner's moral character to the focal firm than when a partner is from outside of the industry. For instance, Barnett and King (2008) find that stakeholders impose collective sanctions on all firms in the same industry when a single firm engages in harmful behavior. Paruchuri and Misangyi (2015) also find that investors are prone to generalizing a firm's financial misconduct to industry peers by presuming that they are likely to participate in similar misconduct.

Similarly, location is another critical factor often used in categorizing firms into related groups. In particular, with exposure to similar institutional environments and local cultures, firms that are co-located have more similar social practices and values (DiMaggio & Powell, 1983; Lieberman & Asaba, 2006). In line with this argument, Marquis et al. (2007) put forward the concept of community isomorphism, suggesting that a firm's social practices will resemble those of other firms in the same geographic community. Accordingly, stakeholders are likely to perceive co-located partners as more similar and thereby extend negative evaluations of a partner to a co-located focal firm. The importance of location for spillovers has also been documented specifically in the context of CSI. For instance, Huang and Li (2009) find that after Anderson shredded its Enron-related documents, clients of the Big Five accounting firms

that are located closer to Andersen's Houston office were penalized more by investors than those in more distant locations. Diestre and Rajagopalan (2014) also find that following a chemical accident at one firm, investors also penalize other firms that use the same toxic chemical input, especially if they are geographically proximate to the focal firm.

In sum, compared to a firm that is not proximate to a potential partner, a firm that is in the same industry as or co-located with a potential partner is more likely to experience negative spillovers from a potential partner. Accordingly, based on the *spillover mechanism* being dominant for CSI, we propose:[3]

> *Hypothesis 3b. The negative relationship between partner CSI and the likelihood of alliance formation becomes stronger when partners are from the same industry.*
>
> *Hypothesis 4b. The negative relationship between partner CSI and the likelihood of alliance formation becomes stronger when partners are from the same location.*

The Moderating Effect of Media Coverage

Media coverage (of potential partners) is another factor that helps us to distinguish the two different signaling mechanisms. Media is often described as a key external intermediary by disseminating information, framing issues, and helping stakeholders understand firm actions (Bednar, 2012; Graf-Vlachy, Oliver, Banfield, König, & Bundy, 2020; Zavyalova, Pfarrer, Reger, & Shapiro, 2012). It also has been shown to play an important role in facilitating spillovers (e.g., Naumovska & Zajac, 2022; Shi, Wajda, & Aguilera, 2022). We will

[3] Again, we would like to note that if the trust instead of the spillover mechanism would be dominant for CSI, we would expect based on the logic we provided in hypotheses 3a and 4a that the baseline relationship between CSI and alliance formation to become weaker rather than stronger.

discuss next how media coverage moderates the trust and spillover mechanisms in opposite directions.

Media coverage and the trust mechanism. As argued earlier, the dominant mechanism underlying partner CSR's positive effect on alliance formation is that partner CSR reduces the focal firm's information asymmetry about the partner's moral character and trustworthiness. However, media also serves a similar role in disseminating information about a potential partner to the public and stakeholders, including the focal firm (Bednar, 2012; Graf-Vlachy et al., 2020). Furthermore, previous studies have recognized that the media actively evaluates the appropriateness of firm practices and highlights those that fall short of stakeholders' expectations (Desai, 2011, 2014; Zavyalova et al., 2012). By scrutinizing a potential partner's practices and behaviors as such, media provides further information that can serve as a basis for evaluating its moral character.

Accordingly, as the media coverage of a potential partner increases, a focal firm learns more about the partner's moral character and opportunistic tendencies. It would then rely less on CSR as a signal of the potential partner's trustworthiness. We thus predict:

> *Hypothesis 5a. The positive relationship between partner CSR and the likelihood of alliance formation becomes weaker when partners have greater media coverage.*

Media coverage and the spillover mechanism. Our starting point again is that the spillover mechanism will be the dominant mechanism that underlies Hypothesis 2. Building on work on spillovers, we expect media coverage to facilitate the spillover effect (e.g., Naumovska & Zajac, 2022; Shi et al., 2022)

and thereby augment a focal firm's concerns about potential negative spillovers from its partner.

Specifically, stakeholders have limited attention, and the extent to which they make a link between a partner's (im)moral character with that of a focal firm is contingent on how much attention they place on that partner (Shi et al., 2022). Because media is one of the most legitimate sources of information about a firm's behaviors and practices (Deephouse, 2000), stakeholders would be more aware of a potential partner and its CSI when the partner receives more media coverage. Furthermore, frequent media exposure likely renders the alliance relationship more transparent and visible to stakeholders, making it harder for a focal firm to disassociate from its partner and to avoid the potential negative spillover from the partner (Durand & Vergne, 2015).

As such, media coverage will make stakeholders more attentive to the potential partner's CSI as well as its alliances. This would augment the potential negative spillover to the focal firms. Accordingly, we propose:

> *Hypothesis 5b. The negative relationship between partner CSI and the likelihood of alliance formation becomes stronger when partners have greater media coverage.*

We have developed the above moderating hypotheses based on the premise that the positive relationship between partner CSR and alliance formation is primarily driven by the *trust mechanism*, whereas the negative relationship between partner CSI and alliance formation is primarily driven by the *spillover mechanism*. As highlighted in the logic of our moderating predictions, we have carefully selected moderators that moderate these two alternative mechanisms in opposite directions. More specifically, if we would instead assume that the positive relationship between partner CSR and alliance

formation was driven by the *spillover mechanism*, we would expect that for each of the two contingency factors (proximity and media coverage), the positive relationship between CSR and alliance formation to be stronger, which would lead to opposite predictions than those we outline in hypotheses 3a, 4a, and 5a. The reason for this is that partner firms under these conditions are more likely to be perceived as similar or draw stakeholders' attention, which would increase the potential for spillover. Similarly, if the negative relationship between partner CSI and alliance formation was instead driven by the *trust mechanism*, the negative relationship between partner CSI and alliance formation should become weaker in the presence of our two contingencies, which would lead to opposite predictions than those we outlined in hypotheses 3b, 4b, and 5b. The reason for this is that the focal firm would have alternative sources of information to predict the partner's negative moral character and trustworthiness, which would decrease their reliance on CSI as a signal.

Hence, given that our contingency factors moderate our baseline mechanisms in opposite directions, we are able to empirically distinguish and identify the dominant mechanisms that underlie each of our baseline predictions.

METHODS

Sample

Testing our hypotheses requires a sample of alliances that were formed and alliances that were at "risk" of being formed but did not materialize. We construct such a sample by combining data from the Refinitiv's (formerly Thomson Financial) Securities Data Corporation (SDC) Platinum, COMPUSTAT, Kinder, Lydenberg, and Domini (KLD), and Dow Jones Factiva databases.

We construct our sample in several steps: *First,* we use Loughran and Ritter's (2004) definition[4] of high-tech industries to retrieve all listed high-tech firms available from COMPUSTAT. *Second,* we identify high-tech firms with available records of their social activities by matching the firms identified in the first step with the KLD database. KLD database provides reliable data on a firm's CSR and CSI (Fu, Tang, & Chen, 2020; Tang et al., 2015; Wang & Choi, 2013) and has been widely used by prior studies to investigate the impact of CSR and CSI (DesJardine, Marti, & Durand, 2021; Flammer, 2018; Godfrey et al., 2009). This leaves us with a sample of high-tech firms with the necessary information to construct our explanatory variables. For these firms, we also obtain media coverage and other firm-level information from the Factiva and COMPUSTAT databases. *Third,* following common practice in the alliance formation literature (e.g., Reuer & Devarakonda, 2017; Rothaermel & Boeker, 2008; Ryu et al., 2020), we use the firms we identified in the previous step to construct a risk set of all possible dyads between any two firms in each year. *Finally,* we use the SDC database that offers detailed information on firms' alliance activities (e.g., Schilling, 2009) to identify which alliances in the risk set were actually realized. In line with previous work (e.g., Ahuja, 2000; Ryu et al., 2020; Yayavaram, Srivastava, & Sarkar, 2018), we decompose multilateral alliances among partners into a set of bilateral alliances between those partners. To ensure that the information provided in SDC was accurate, we verify the occurrence of announced alliances using the Factiva database.

After deleting observations with missing values for any of the key

[4] Following the work of Loughran and Ritter (2004), we include firms from the following high-tech industries at the four-digit SIC level: 2833, 2834, 2835, 2836, 3571, 3572, 3575, 3577, 3578, 3661, 3663, 3669, 3674, 3812, 3823, 3825, 3826, 3827, 3829, 3841, 3845, 4812, 4813, 4899, 7370, 7371, 7372, 7373, 7374, 7375, 7377, 7378, and 7379.

explanatory variables, the final sample contains 740 realized and 2,672,756 non-realized alliances formed by 1,564 distinct firms from 28 high-tech industries during the period from 1995 until 2016. Of the realized alliances, we noticed that 46 dyads re-occurred more than once, i.e., the same pair of partners (e.g., Microsoft and Intel, Compaq and Intel, and IBM and Sun Microsystem) formed subsequent alliances with each other.

Our focus on firms in high-tech industries is particularly suitable to study the effects of CSR and CSI on alliance formation for several reasons. First, firms in high-tech industries are prone to using alliances (Rothaermel & Boeker, 2008; Ryu et al., 2018; Stuart, 2000), which ensures sufficient variance in our dependent variable, *alliance formation*. Second, there is considerable variation in the CSR and CSI activities that the high-tech firms in our sample engage in, which largely parallel the variation we see in the broader population of firms covered by the KLD database (e.g., Shin, Lee, & Bansal, 2022; Tang et al., 2015).[5] Third, firms in high-tech industries face considerable information asymmetry, which makes it a suitable context to study the impact of signals (e.g., Ramchander, Schwebach, & Staking, 2012). Overall, a sample of high-tech firms taps into an important population with appropriate variance and

[5] This is not surprising given that our sample covers firms from 28 different high-tech industries. To explore any potential differences we compared the average CSR and CSI scores and their standard deviations of firms in our sample with those of the non-high-tech firms covered in the KLD database. This revealed that the average CSR of high-tech firms (average = 1.471) is slightly higher than that of non-high-tech firms (average = 1.312). Similarly, we see slightly more variance in high-tech firms' CSR (s.d. = 2.475) than in non-high-tech firms' CSR (s.d. = 2.095). Overall, these differences seem to be small, compared with those we see across studies that use similar measures but different samples and time periods (e.g., Tang, Qian, Chen, Shen, 2015; Shin, Lee & Bansal, 2021). When we compare the average CSI scores (0.995 for high-tech firms and 1.254 for non-high-tech firms) and variance (s.d. = 1.135 for high-tech firms and 1.506 for non-high-tech firms) we see somewhat more pronounced differences. These differences seem to be primarily driven by high-tech firms engaging in less environmental CSI, which is not surprising given that high-tech firms generally engage in fewer activities that affect the environment than firms in other industries (e.g., mining). Besides these small and expected differences, the social activities of firms in our sample seem to be largely comparable with those of firms in non-high-tech industries.

generalizability.

Dependent variable: Alliance formation

We are theoretically interested in whether an alliance between two firms was realized or not. Accordingly, we operationalize our dependent variable, *alliance formation*, as a dichotomous variable that takes the value of 1 if an alliance is realized in a given year, and 0 otherwise. Following prior studies (Oxley, 1997; Reuer & Ragozzino, 2014; Sampson, 2007), we focus on contractual alliances and equity joint ventures, which involve substantive information asymmetry and interactions between partners (e.g., marketing, manufacturing, R&D, technology transfer). In contrast, unilateral alliances (e.g., simple cash-for-technology licensing deals) are excluded because they primarily involve the one-way transfer of technology in return for cash payment and present distinct collaborative issues than those we focus on in our study (Mowery, Oxley, & Silverman, 1996; Sampson, 2004).

Independent variables: Partner CSR and CSI

Following existing work (Flammer, 2013; Kim, Kim, & Qian, 2018; Tang et al., 2015), we use the KLD database to construct our *partner CSR* and *partner CSI* measures. The KLD database provides a binary score for different dimensions of CSR strengths and concerns. We focus on five dimensions: community, diversity, employee relations, environment, and product to construct our measures.[6] Specifically, we operationalize CSR as the sum of the standardized strength scores on these five dimensions. Similarly, we operationalize CSI as the sum of the standardized concern scores on these five

[6] Our focus on these five dimensions is in line with work that has looked at CSR/CSI in general (e.g., Fu et al., 2020; Tang et al., 2015), as well as with work that has looked at CSR/CSI in the specific context of high-tech firms (e.g., Kim, Kim, & Qian, 2018).

dimensions.

Because the decision to form an alliance is a joint decision made by both partners, we construct a combined *partner CSR* measure by taking arithmetic means of two partners' CSR. Similarly, we construct a combined *partner CSI* measure. Using a dyad-level measure for a firm-level construct is common practice in alliance and social network research (Ertug, Cuypers, Dow, & Edman, 2023; Mitsuhashi & Greve, 2009; Vasudeva, Zaheer, & Hernandez, 2013; Wang & Zajac, 2007) and done based on empirical considerations. Namely, the alternatives to this approach are to either focus on one-side of the dyad or to use two separate measures for each partner, which are both deemed problematic.[7] Instead, the dyadic measure approach has two advantages: it avoids having to (randomly) allocate the firms as the focal and the other partner, and the coefficient of the dyadic measure approximates the average of the *true betas* if two separate measures were used.[8] Later, we will nevertheless demonstrate the robustness of our results by using separate firm-level CSR and CSR measures using a random allocation of the firms.

[7] Using one-side of the dyad, i.e., only including a variable for one partner, has been heavily criticized for being likely to create omitted variable bias (e.g., McEvily, Zaheer, Kamal, 2017; Wang & Zajac, 2007) (the other omitted partner's variables are likely to be related to the dependent variable and the focal partner's values). The latter approach of using two separate measures avoids this omitted variable issues problem. However, this approach requires allocating the firms in an alliance either as "partner 1" or "partner 2". Importantly, the way in which this allocation is done can substantially influence the findings. As often is the case, including in our context, there might not be any clear conceptual or practical criteria to guide this allocation. Hence, that would leave the option of randomly allocating which firm as "partner 1" or "partner 2". The problem with a random allocation is that it prevents the results from being replicated (every random allocation will yield different coefficients and p-values) and it is impossible to know if the allocation is truly random in practice (a random allocation might still end up being extreme).

[8] This becomes apparent when one looks at the distribution of all *betas* obtained by running a large enough number of models with separate firm-level measures and randomly allocated partners. This way, the separate firm-level coefficients will become free of any potential bias due to the idiosyncrasy of a random allocation and the average of the two separate coefficients will converge towards each other and the dyadic measure, which highlights that the dyadic measure provides unbiased estimates of the effect of *partner CSR* and *partner CSI*.

Moderating variables

Proximity between potential alliance partners. In Hypotheses 3a, 3b, and 4a, 4b, we look at how the proximity between the focal firm and the potential partner firm moderates our baseline predictions. The first dimension of proximity we focus on is whether both firms in a potential dyad operate in the *same industry*. In line with existing work (e.g., Joshi & Lahiri, 2015; Reuer & Lahiri, 2014), we rely on the Standard Industrial Classification (SIC) system and construct a dichotomous variable that is coded as 1 if two firms have the same four-digit primary SIC code, and 0 otherwise. As an alternative, we also construct a variable that captures whether any of the partners' primary or secondary four-digit SIC codes overlap, which yields robust results as we detail below.

The second dimension of proximity we focus on is whether the focal firm and the potential partner are from the *same location*. To determine whether two firms are in the same location, we use core-based statistical areas (CBSAs), which have been frequently used as the unit-of-analysis in agglomeration studies (e.g., McCann, Reuer, & Lahiri, 2016) and work on local communities (e.g., Lewis & Carlos, 2022; Marquis & Lee, 2013) as well as to calculate distance (e.g., Catalini, Fons-Rosen, & Gaulé, 2020; Singh & Marx, 2013). Specifically, we construct a dichotomous variable which is coded as 1 if the headquarters of two firms are located in the same CBSA, and 0 otherwise.

Partners' Media coverage. In Hypotheses 5a and 5b, we examine how the partners' media coverage moderates our baseline predictions. In line with prior work (e.g., Bednar, 2012; Flammer, 2013; Park & Rogan, 2019), we search the Factiva database for articles published in the most widely read news

outlets (e.g., Financial Times, New York Times, USA Today, Washington Post, Wall Street Journal, Forbes, Fortune) and measure *media coverage* by counting the number of unique articles in which a firm is mentioned in a given year. We focus on major news outlets because they are more likely to draw stakeholders' attention and influence their perceptions and decisions. Similar to our *partner CSR* and *partner CSI* measures, we create a dyad-level measure by averaging the media coverage of two firms and for ease of interpretation, we scale this variable by dividing it by ten.

Control variables

In our estimations, we account for other factors that have been shown in the alliance literature to influence the likelihood of alliance formation. We start by controlling for a number of firm-level factors. First, as larger firms are more likely to form alliances (e.g., Diestre & Rajagopalan, 2012; Reuer & Lahiri, 2014), we control for *firm size* using the natural logarithm of a firm's total sales. Second, a firm's performance might affect the resources it can deploy to form alliances (e.g., Ahuja, 2000; Ahuja, Polidoro, & Mitchell, 2009; Reuer & Ragozzino, 2014). We thus control for this using both an account-based measure, i.e., *return on assets (ROA)*, and a market-based measure, i.e., *Tobin's Q* (measured as the sum market value of the sum of a firm's common stock and the book value of its preferred stock and debt, divided by its total assets). Third, we also control for a firm's technological capability (Lavie, 2007; Lavie, Lunnan, & Truong, 2022) using *R&D intensity*. Fourth, to control for a firm's alliance capability (e.g., Hoang & Rothaermel, 2005) and its general propensity to form alliances, we include a variable labeled *general alliance experience*, which is a count of the number of alliances a firm has engaged in the past five

years. Fifth, consistent with prior literature (e.g., Pfarrer, Pollock, & Rindova, 2010; Pollock, Lashley, Rindova, & Han, 2019), we control for *firm reputation* using a dichotomous variable which captures whether a firm was listed in Fortune's annual survey of "America's Most Admired Companies" in a given year. Since these factors are at the firm level and any potential dyad involves two firms, we include these control variables for both partners.

We also control for a number of dyad-level factors. First, it is well-established that prior alliances between two firms affect the likelihood that they establish new alliances with each other (e.g., Gulati et al., 2009; Hoang & Rothaermel, 2005; Reuer & Lahiri, 2014). Therefore, we control for *partner-specific alliance experience* by measuring whether two partners in a potential dyad have collaborated in the past five years. Second, relative differences in two firms' CSR and CSI might also affect the likelihood that they form a tie. Therefore, we control for *relative partner CSR* and *relative partner CSI* using the absolute value of the differences between, respectively, the two firms' CSR and CSI.

Finally, to control for heterogeneity across years, we include year fixed effects. In line with common practice in accounting and finance research (e.g., Bochkay, Markov, Subasi, & Weisbrod, 2022; Griffin, Hirschey, & Kruger, 2023; Roy, Rao, & Zhu, 2022), we winsorize all continuous measures at the 1% and 99% levels.[9]

Estimation Approach

Because the dependent variable is dichotomous, we use logistic

[9] As a robustness check, we only winsorize those variables that potentially raise outlier concerns (i.e., partner CSR, partner CSI, media coverage, and general alliance experience) and our hypotheses remain supported at $p < 0.038$.

regression to estimate our main models. To account for potential heteroscedasticity, we estimate these models with robust standard errors clustered at the dyad level (Hoang & Rothaermel, 2005; Joshi & Lahiri, 2015; Reuer & Lahiri, 2014).

After our main results, we demonstrate the robustness of our results by using several alternative estimation approaches, including rare-event logistic models and two-stage Heckman Probit selection models.

RESULTS

In Table 1, we provide the descriptive statistics and the correlation matrix. The correlations among the independent variables do not point to serious problems with collinearity. To further mitigate potential collinearity concerns, we calculate the variance inflation factors (VIFs). The maximum VIF value across all presented models is 6.56, which is well below the accepted cutoff of 10.

Insert Table 1 about here

Table 2 presents the results of the logistic regression. In Model 1, we only include the control variables, and we add the *partner CSR* and *partner CSI* variables in Model 2. In Models 3 through 5, we add each of three interaction terms with the *partner CSR* variable, respectively, and include all these interaction terms simultaneously in Model 6. Similarly, we include the three interactions with the *partner CSI* variable separately in Models 7 through 9 and all these interactions together in Model 10 (Neter, Wasserman, & Kutner, 1985).

Insert Table 2 about here

Hypothesis 1 predicts a positive relationship between *partner CSR* and *alliance formation*. In Model 2, we find that the coefficient of *partner CSR* is significantly positive (b = 0.059, p = 0.002). Furthermore, in Hypothesis 2, we propose a negative relationship between *partner CSI* and *alliance formation*. As expected, we find that *partner CSI* has a negative and significant (b = -0.177, p < 0.001) relationship with *alliance formation*. Hence, our findings are consistent with Hypotheses 1 and 2.

To assess the *economic magnitude* of these results, we calculate the extent to which a one standard deviation change in partner CSR/CSI affects alliance formation. In particular, we find that a one standard deviation increase in *partner CSR* from its mean corresponds to an increase in the likelihood of alliance formation by 16.47%, and that of *partner CSI* will reduce the probability of alliance formation by 22.07%. To better understand the practical significance of these effects, we further compare the magnitude of the effects of *partner CSR* and *partner CSI* with that of *a partner's general alliance experience*, which is well-established as an important determinant of alliance formation (Diestre & Rajagopalan, 2012; Hitt, Ahlstrom, Dacin, Levitas, & Svobodina, 2004). We find that a one standard deviation increase in a *partner's general alliance experience* from its mean increases the likelihood of alliance formation by 28.63%. Comparing this to the magnitude of the effect of *partner CSR* and *CSI*, we see that although the effect of *partner CSR* is somewhat smaller than that of *partner's alliance experience*, both effects are economically meaningful.

Hypotheses 3a and 4a posit, respectively, that *same industry* and *same*

location will weaken the positive baseline relationship between *partner CSR* and *alliance formation* (i.e., we expect negative interaction terms), while Hypotheses 3b and 4b posit, respectively, that *same industry* and *same location* will strengthen the negative baseline relationship between *partner CSI* and *alliance formation* (i.e., we expect negative interaction terms). In line with Hypothesis 3a, we find that the interaction term between *partner CSR* and *same industry* is negative and significant (b = -0.081, p = 0.001 in Model 3). Similarly, the interaction term between *partner CSR* and *same location* is negative and significant (b = -0.087, p = 0.004 in Model 4), which is consistent with Hypothesis 4a. In contrast and as expected in Hypothesis 3b, we find that the interaction term between *partner CSI* and *same industry* is negative and significant (b = -0.104, p = 0.039 in Model 7). Similarly, we observe that the interaction term between *partner CSI* and *same location* is negative and significant (b = -0.149, p = 0.023 in Model 8), which is consistent with Hypothesis 4b. Hence, our findings highlight that the baseline effect of *partner CSR* is moderated in the opposite direction by two dimensions of proximity than that of *partner CSI*, which supports our prediction that the *trust* mechanism is the primary driver of the effect of *partner CSR* on alliance formation while the *spillover* mechanism is dominant for that of *partner CSI*.

Hypothesis 5a proposes that *media coverage* weakens the positive relationship between *partner CSR* and *alliance formation* (i.e., we expect a negative interaction term), while Hypothesis 5b predicts that it strengthens the negative relationship between *partner CSI* and *alliance formation* (i.e., we expect a negative interaction term). In line with Hypothesis 5a, we find that the interaction term between *partner CSR* and *media coverage* is negative and

significant *(b* = -0.004, *p* = 0.003 in Model 5), which adds further evidence toward the notion that the *trust* mechanism dominates the role of *partner CSR*. In contrast and as predicted in Hypothesis 5b, we observe that the interaction term between *partner CSI* and *media coverage* is negative and significant (*b* = -0.005, *p* = 0.047 in Model 9), which is consistent with our earlier evidence that the *spillover* mechanism is dominant for *partner CSI*.

In Models 6 and 10, we present the results of the full models by including all three interaction terms with the *partner CSR variable* simultaneously (Model 6), and all three interaction terms with the *partner CSI* variable simultaneously (Model 10). We find results that remain supportive of all our moderating predictions, although there is an expected drop in the significance level for some coefficients given the number of interaction terms that are simultaneously included.

We examine the economic impact of these moderating effects using the coefficients from Models 3 through 5 for the moderation of the effect of *partner CSR*, and Models 7 through 9 for the moderation of the effect of *partner CSI*. First, the positive relationship between partner CSR and the likelihood of alliance formation weakens by 18.81% when firms are in the *same industry*, by 20.02% when firms are in the same location, and by 3.35% if media coverage increases by one standard deviation from its mean. We plot these interaction effects in Figures 1a, 2a, and 3a, which provide graphical support for Hypotheses 3a, 4a, and 5a. Second, the negative association between partner CSI and the likelihood of alliance formation strengthens by 13.66% when firms are in the *same industry*, by 18.93% when firms are in the same location, and by 2.36% if media coverage increases by one standard deviation from its mean.

Again, we plot these interaction effects, and Figures 1b, 2b, and 3b provide graphical support for Hypotheses 3b, 4b, and 5b.

Insert Figures 1-3a through 1-3b about here

ROBUSTNESS CHECKS AND ADDITIONAL ANALYSES

We conduct a number of tests to check the robustness of our findings. This battery of additional tests includes analyses using alternative sampling approaches, alternative measure specifications, and alternative estimation approaches. To abide by length requirements, we are not able to present the findings of all of these in full. For the results, we only briefly summarize and full results are available from the authors upon request.

Alternative sampling approaches

In our main analysis, we follow existing work (e.g., Reuer & Devarakonda, 2017; Rothaermel & Boeker, 2008; Ryu et al., 2020) and construct a risk set consisting of *all* possible dyads between any two high-tech firms with CSR/CSI records in each year. This approach is conservative as it helps minimize potential selection bias. However, considering all possible dyads results in large observations of non-realized alliances (Joshi & Lahiri, 2015; Ryu et al., 2020) while some potential alliances might be practically impossible to form (e.g., because two partners' industries are too unrelated). Therefore, we use an alternative risk set by employing a restrictive rule. Specifically, we only include possible alliances when at least one alliance is realized between any firms from the same four-digit SIC industries. The results are robust and reported in Table A-1 in the Appendix. We also apply the same

criteria at the two-digit, and three-digit SIC levels, which again yielded robust findings (see Table A-1 in the Appendix).

Alternative measure specifications

Partner CSR and CSI. In our main analysis, we use a combined measure of *partner CSR* and *partner CSI* by averaging two partners' CSR and CSI. As an alternative approach, we also run models with each firm's CSR and CSI entered separately, which automatically doubles the number of variables of interest and interaction terms in our models. To do so, we randomly assign the two firms in each dyad as either the focal firm or partner firm.[10] This yields results that are, as we detail in Table A-2 in the Appendix, consistent with our main analysis which we use two combined measures except for the interaction between *same industry* and *partner CSI* (Hypothesis 3b) (*partner 1*: b = -0.025, p = 0.711; *partner 2*: b = -0.067, p = 0.400).

Alternative specifications of other explanatory variables. In our main analysis, we calculate the same industry variable using the firms' primary four-digit SIC code. We check the robustness of our findings using an alternative measure of *same industry* that captures whether any of the partners' primary or secondary four-digit SIC codes is the same. This yields robust results as the interaction term between *partner CSR* and *same industry* (b = -0.088; $p < 0.001$), and the interaction term between *partner CSI* and *same industry* (b = -0.088; p = 0.022) both remain negative and significant.

We use core-based statistical areas (CBSAs) to determine whether two firms are located in the same area in our main analysis. In addition, we construct

[10] It is important to note that every different random assignment will yield different coefficients and p-values.

an alternative variable that is based on whether the headquarters of two firms in a specific dyad are in the same state (e.g., Rosenkopf & Almeida, 2003). Using this broader approach to operationalize the same location variable, we again find robust results: the interaction term between *partner CSR* and *same location* (b = -0.078, p = 0.003), and the interaction term between *partner CSI* and *same location* (b = -0.135, p = 0.024) are both negative and significant.

Alternative estimation approaches

Rare event logistic regression. While our dependent variable has a small percentage of events, using logistic regression instead of rare event regression is appropriate, and even desirable (e.g., Allison, 2012; Leitgöb, 2013; Ryu et al., 2020) when, as in our case, the absolute number of events is not very small. To further check the robustness of our findings, we use rare event logistic regression using the *relogit* command in Stata (King & Zeng, 2001). As shown in Table A-3 in the Appendix, the results are also consistent with our primary findings.

Two-stage Heckman Probit selection model. Our sample is constrained to those firms that are covered by the KLD database. Although the KLD database covers all firms that were included in the Russell 3000 index, which represents approximately 98% of the US public equity market, we cannot rule out the possibility of sample selection bias, for example, due to social rating agencies' potential bias towards analyzing larger and better-known firms (Bettinazzi & Zollo, 2017; Shahzad & Sharfman, 2017). To address such a concern, we adopt a two-stage Heckman Probit selection model (using the STATA *heckprob* command). Specifically, we first randomly select a number of high-tech firms excluded by KLD, equivalent to the number included in our

sample for each year, to construct the corresponding dyads of possible alliances that are not covered by KLD. For instance, in 2006, we have 526 unique high-tech firms covered by KLD. We then randomly select 526 corresponding high-tech firms from COMPUSTAT but not included in KLD and construct all possible dyads among the firms. Next, we combine these KLD-excluded dyads with the dyads in the risk set of our original sample (i.e., dyads consisting of KLD-included firms) to form a larger sample of dyads to be used in our first-stage probit model. In the first-stage estimation, we predict the likelihood of whether a specific dyad is included in KLD. Following prior studies (e.g., Bettinazzi & Zollo, 2017; Harjoto & Jo, 2011), we use a firm's *listing age* and *CBSA-level KLD coverage ratio* (percent of firms included in the same CBSA) as instrumental variables, as these two variables are expected to affect whether the firm is likely to be covered by KLD, but likely have limited influence on the likelihood of alliance formation. The fact that the two variables have significant effects on *KLD coverage* ($p < 0.001$) but no significant effect on *alliance formation* ($p > 0.334$) further confirm the reliability of this instrumental variable. Hence, these variables meet the required restriction criteria to be suitable instruments. In the second stage, we estimate the likelihood of alliance formation - including a correction for any potential selection bias obtained from the first-stage - and find results consistent with those presented in the main texts (see Table A-4 in the Appendix).

Models without relative partner CSR and CSI. As expected, the correlation between our variables of interest, i.e., partner CSR and partner CSI, and the two relative CSR and CSI are not trivial. Although the VIFs do not suggest that this causes problematic collinearity (as noted before the maximum

VIF value across all presented models is 6.56), we nevertheless check the robustness of our findings when excluding the relative partner CSR and CSI measures. As we detail in Table A-5 in the Appendix, this yields results consistent with our main findings.

DISCUSSION

This study investigates the signaling mechanisms (i.e., a trust or spillover mechanism) through which a partner firm's social activities affect alliance formation, and how the valence of the signal (i.e., CSR or CSI) determines which mechanism is dominant. Specifically, we argue that the positive impact of partner CSR on alliance formation is primarily driven by the *trust mechanism*, which signals a potential partner's moral character and trustworthiness. In contrast, the negative impact of partner CSI on alliance formation is primarily driven by the *spillover mechanism*. That is, by conveying negative information about the partner's moral character to stakeholders and shaping their evaluation of the focal firm, partner CSI may influence the focal firm's assessment of potential negative spillover. To further extend our theory and to provide empirical evidence of the different mechanisms we outline, we carefully select contingency factors – proximity (i.e., whether the alliance partners are in the same industry or same location) and media coverage (of potential partners) – that are expected to moderate the effects of the two different signaling mechanisms but in opposite directions. We find that both contingency factors weaken the positive relationship between *partner CSR* and *alliance formation* but strengthen the negative relationship between *partner CSI* and *alliance formation*. The findings support our arguments that both CSR and CSI act as signals that affect alliance formation, and, more importantly, that the valence of

the signal determines the dominant mechanism (i.e., the trust or spillover mechanism in our theory) through which alliance formation is affected.

Our study directly contributes to the signaling literature by demonstrating how negative and positive signals affect firm strategic decisions in different ways. Existing signaling research has either focused on the positive aspect of the signals (e.g., Luo et al., 2009; Ozmel et al., 2013; Reuer & Ragozzino, 2014) or assumed, either explicitly or implicitly, that an opposite signaling effect would prevail when the signals become negative (e.g., Folta & Janney, 2004; Sanders & Boivie, 2004; Stern et al., 2014). Building on the notion that negative and positive signals are conceptually distinct and associated with divergent audience attention, interpretations, and feedback (Baumeister et al., 2001; Connelly, Li, Shi, & Lee, 2020; Kahneman & Tversky, 1973; Rozin & Royzman, 2001), this study advances extant research by theorizing and demonstrating that partner CSR and CSI influence alliance formation through different dominating mechanisms. The CSR of a potential partner signals positive information about the partner's moral character and shapes a focal firm's evaluation of partner trustworthiness. We find that considerations based on the *trust mechanism* dominate in the case of CSR. In contrast, the *spillover mechanism* is found to be dominant in case of CSI: CSI signals a potential partner's moral character to a firm's external stakeholders, and these stakeholders could, through a negative spillover effect, further form a negative assessment of the focal firm.

Our study also makes at least two important contributions to the alliance literature. First, we integrate insights from both the CSR and signaling literatures to highlight that CSR and CSI are important determinants of alliance

formation. While existing alliance work has identified various signals that firms can rely on to assess potential partners (e.g., Luo et al., 2009; Ozmel et al., 2013; Reuer & Ragozzino, 2014), it has not systematically considered how a firm's social activities might play important signaling roles that affect alliance formation.

Second, prior alliance research has recognized that concerns about partner trustworthiness (Cuypers et al., 2021; Dyer & Chu, 2003; Zaheer et al., 1998) and potential spillover (Boone & Ivanov, 2012; Bourdeau et al., 2007; Gulati & Higgins, 2003) affect alliance formation, and there are various signals that firms can rely on to predict the extent of each of these concerns (e.g., Ozmel et al., 2013; Pollock & Gulati, 2007; Reuer & Devarakonda, 2017). However, little research has explicitly contrasted types of signals based on whether they are more relevant to the former concern or to the latter one. By conceptually differentiating between positive (CSR) and negative (CSI) signals, we advance the alliance literature by showing that CSR, as a positive signal, primarily speak to concerns about partner trustworthiness while CSI, as a negative signal, primarily speak to concerns about spillover between alliance partners.

Limitations and Future Research Directions

This study also has some limitations that suggest avenues for future research. First, following previous studies that examine issues related to information asymmetry and signals (e.g., Pollock & Gulati, 2007; Ramchander et al., 2012; Reuer & Ragozzino, 2014), we focus on high-tech industries in our empirical analyses, as firms in these industries tend to face considerable information asymmetry and rely on various signals to reduce such asymmetry and inform their strategic decision-making. On the other hand, high-tech firms

may also demonstrate some unique features of CSR and CSI that are worth additional considerations. As shown earlier, our conceptualization and measures of CSR and CSI are in line with prior studies that cover diverse industry contexts, and the extent of CSR and CSI activities of firms in our sample seem to largely parallel those in non-high-tech industries (e.g., Tang et al., 2018; Shin et al., 2021). Some differences nevertheless may still exist; for example, high-tech firms tend to score lower on CSI scores because their activities have less impact on the natural environment. Hence, future studies could examine alliance formation among firms in other industry contexts to further verify our key claims.

Second, we focus on how the partners' CSR or CSI in absolute terms act as signals, without theoretically considering the role of differences in CSR or CSI scores between the alliance partners. While we empirically control for such differences, we acknowledge that there is a potential for future research to incorporate the differences in CSR/CSI between partners more directly in the theoretical arguments. The role of such an asymmetry in alliance formation, however, requires some careful theorizing because the implications of CSR/CSI differences for one partner are likely to be opposite for the other partner. For example, one might argue, from a focal firm's perspective, that a potential partner is more (less) desirable if the partner has a higher CSR (lower CSI). However, a desirable alliance relationship for the focal firm becomes less (more) desirable from the perspective of the potential partner, who would be considering forming an alliance with a firm having lower CSR (higher CSI). Since alliance formation is a joint decision, where both partners have to agree for an alliance to be formed, it is unclear how such an asymmetry, where one

partner desires to form an alliance increases but by the exact same logic the other partner's desire to do so decreases, might have an overall effect on the likelihood of alliance formation. While it is beyond the scope of the current paper to unpack the complexity of the asymmetry, future research could explore, for example, which of the two partners' preferences, based on CSR/CSI differences, might end up determining alliance formation directly or through its influence on the trust and spillover mechanisms we outline.

Third, given that alliance formation is a joint decision that depends on the agreement of both partners, we do not prioritize one specific partner over the other in our theorizing and predictions. Accordingly, we measure our key explanatory variables at the dyad level, which, as shown earlier, is a more desirable approach given that the archival data do not allow us to observe whether a firm initiated an alliance or was selected as a potential partner. However, one of the firms might act more as the initiator of a deal. It would be interesting for future research to explore, perhaps by using survey or field data that enables a clearer distinction of the positions of partners, how such a distinction might affect the role of signals with different valence in the alliance formation process.

Lastly, in this study, we focus one an important outcome variable associated with strategic alliances, i.e., alliance formation. Future research can extend our work by exploring how an alliance partner's social activities as signals may affect other alliance-related decisions and outcomes. For example, it would be interesting to examine whether CSR and CSI affect the choices of governance mechanisms in an alliance relationship differently, or whether CSR

and CSI as signals affect other alliance outcomes, such as the stability of the alliance, or its innovative and financial performances.

Conclusion

In conclusion, this study outlines two different signaling mechanisms (i.e., the trust and spillover mechanism) and highlights how the valence of a signal (i.e., CSR or CSI) determines which signaling mechanism is dominant in affecting the formation of alliances. Specifically, we show that CSR primarily affects alliance formation through the *trust mechanism*, while CSI primarily has an impact through the *spillover mechanism*. Our study highlights the importance of conceptualizing positive and negative signals as distinct concepts that are associated with different dominant mechanisms. We hope that our study can be regarded as an important step toward a more comprehensive understanding of the conceptual distinction between positive and negative signals and the implications of making such a distinction.

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TABLE 1 Descriptive Statistics

Variable	Mean	*S.D.*	1	2	3	4	5	6	7	8	9	10	11
1. Alliance formation	0.00	0.02											
2. Partner CSR	0.18	2.57	0.03										
3. Partner CSI	-0.41	1.41	0.01	0.37									
4. Same industry	0.08	0.27	0.01	0.00	-0.01								
5. Same location	0.06	0.25	0.00	0.03	0.01	0.06							
6. Media coverage	12.14	33.96	0.04	0.52	0.44	-0.00	0.02						
7. Partner1 firm size (log)	5.94	2.09	0.02	0.38	0.22	-0.04	0.00	0.30					
8. Partner2 firm size (log)	5.94	2.08	0.02	0.38	0.22	-0.04	0.01	0.30	0.04				
9. Partner1 ROA	-0.03	0.22	0.00	0.11	0.04	-0.02	-0.01	0.07	0.52	0.00			
10. Partner2 ROA	-0.03	0.22	0.01	0.11	0.04	-0.02	-0.01	0.07	0.00	0.52	0.01		
11. Partner1 Tobin's Q	2.78	1.89	0.00	-0.03	-0.04	0.03	0.01	-0.01	-0.28	0.02	-0.15	0.01	
12. Partner2 Tobin's Q	2.78	1.89	0.00	-0.03	-0.04	0.03	0.01	-0.01	0.02	-0.28	0.01	-0.15	0.04
13. Partner1 R&D intensity	1.45	7.57	-0.00	-0.04	-0.01	0.02	0.00	-0.03	-0.46	0.00	-0.40	-0.00	0.14
14. Partner2 R&D intensity	1.40	7.22	-0.00	-0.05	-0.01	0.02	0.00	-0.03	0.00	-0.46	-0.00	-0.41	0.00
15. Partner1 general alliance experience	3.06	6.37	0.05	0.35	0.19	0.01	0.02	0.38	0.36	0.01	0.09	0.01	-0.04
16. Partner2 general alliance experience	3.06	6.36	0.06	0.35	0.19	0.01	0.02	0.38	0.01	0.36	0.01	0.08	0.00
17. Partner1 firm reputation	0.02	0.12	0.00	0.15	0.04	-0.00	0.00	0.13	0.20	0.01	0.05	-0.00	-0.03
18. Partner2 firm reputation	0.02	0.12	0.00	0.15	0.04	-0.00	0.00	0.13	0.01	0.20	0.00	0.04	0.00
19. Partner-specific alliance experience	0.00	0.04	0.14	0.06	0.03	0.02	0.01	0.09	0.04	0.04	0.01	0.01	0.00
20. Relative partner CSR	2.96	4.26	0.02	0.89	0.37	-0.01	0.01	0.48	0.32	0.32	0.09	0.09	-0.04
21. Relative partner CSI	1.81	2.17	0.01	0.41	0.67	-0.02	0.00	0.44	0.22	0.22	0.04	0.04	-0.06

Variable	12	13	14	15	16	17	18	19	20
13. Partner1 R&D intensity	0.00								
14. Partner2 R&D intensity	0.14	0.00							
15. Partner1 general alliance experience	0.00	-0.05	-0.01						
16. Partner2 general alliance experience	-0.04	-0.01	-0.05	0.09					
17. Partner1 firm reputation	0.00	-0.02	0.00	0.11	-0.00				
18. Partner2 firm reputation	-0.04	0.00	-0.02	-0.00	0.11	0.00			
19. Partner-specific alliance experience	0.00	-0.00	-0.00	0.12	0.12	0.01	0.01		
20. Relative partner CSR	-0.04	-0.04	-0.04	0.32	0.32	0.13	0.13	0.04	
21. Relative partner CSI	-0.06	-0.03	-0.03	0.22	0.22	0.04	0.04	0.03	0.41

Notes: N = 2,673,496. Correlation > |0.001| implies significance at $p < .05$.

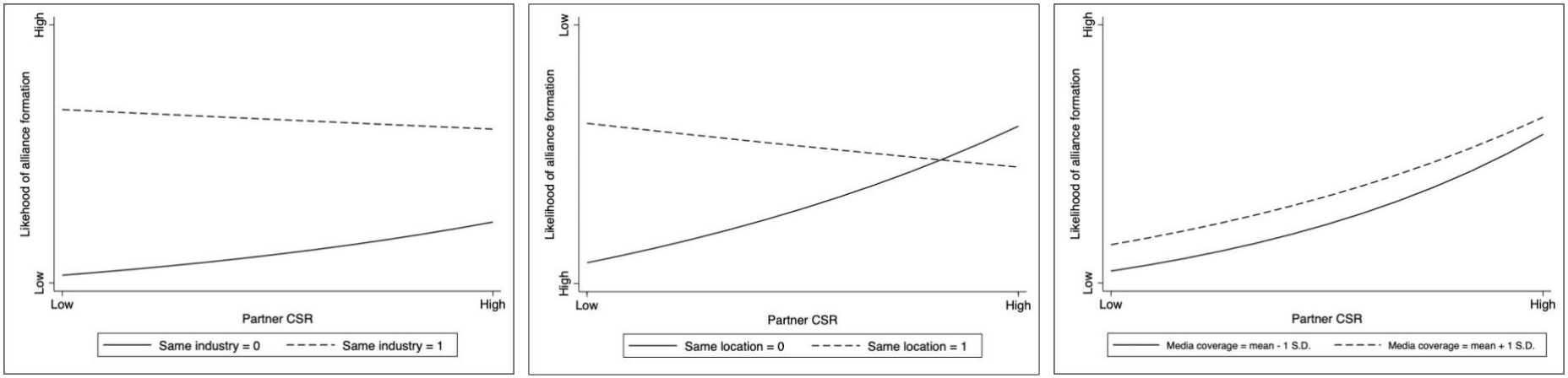
TABLE 2 Results for the Logistic Regression Models Predicting the Likelihood of Alliance Formation

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Partner CSR		0.059**	0.072***	0.070***	0.100***	0.125***	0.059**	0.060**	0.062**	0.063***
		(0.019)	(0.019)	(0.019)	(0.024)	(0.024)	(0.019)	(0.019)	(0.019)	(0.019)
Partner CSI		-0.177***	-0.176***	-0.176***	-0.168***	-0.166***	-0.152***	-0.153***	-0.123**	-0.075†
		(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.031)	(0.030)	(0.041)	(0.041)
Interactions with Partner CSR										
Partner CSR * same industry			-0.081**			-0.076**				
			(0.025)			(0.027)				
Partner CSR * same location				-0.087**		-0.077*				
				(0.030)		(0.032)				
Partner CSR * media coverage					-0.004**	-0.000**				
					(0.000)	(0.000)				
Interactions with Partner CSI										
Partner CSI * same industry							-0.104*			-0.089†
							(0.050)			(0.053)
Partner CSI * same location								-0.149*		-0.134†
								(0.066)		(0.070)
Partner CSI * media coverage									-0.005*	-0.006*
									(0.000)	(0.000)
Same industry	1.184***	1.214***	1.506***	1.224***	1.212***	1.496***	1.258***	1.232***	1.209***	1.264***
	(0.100)	(0.099)	(0.127)	(0.098)	(0.099)	(0.131)	(0.099)	(0.098)	(0.099)	(0.099)
Same location	0.294*	0.334**	0.355**	0.682***	0.337**	0.661***	0.358**	0.425***	0.327**	0.429***
	(0.125)	(0.123)	(0.122)	(0.160)	(0.123)	(0.167)	(0.122)	(0.122)	(0.123)	(0.123)
Media coverage	0.004***	0.034***	0.035***	0.034***	0.052***	0.054***	0.033***	0.033***	0.038***	0.038***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Partner 1 firm size (log)	0.283***	0.291***	0.293***	0.292***	0.280***	0.283***	0.293***	0.293***	0.288***	0.293***
	(0.031)	(0.034)	(0.033)	(0.034)	(0.034)	(0.034)	(0.033)	(0.034)	(0.034)	(0.034)
Partner 2 firm size (log)	0.316***	0.324***	0.326***	0.325***	0.312***	0.315***	0.325***	0.327***	0.321***	0.325***
	(0.029)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Partner 1 ROA	-1.032***	-1.114***	-1.098***	-1.116***	-1.100***	-1.087***	-1.109***	-1.107***	-1.124***	-1.115***
	(0.180)	(0.179)	(0.180)	(0.180)	(0.179)	(0.180)	(0.180)	(0.180)	(0.180)	(0.181)
Partner 2 ROA	-0.835***	-0.932***	-0.908***	-0.927***	-0.905***	-0.879***	-0.917***	-0.921***	-0.944***	-0.924***
	(0.216)	(0.214)	(0.215)	(0.215)	(0.215)	(0.216)	(0.215)	(0.215)	(0.215)	(0.216)
Partner 1 Tobin's Q	0.070***	0.071***	0.072***	0.070***	0.067***	0.068***	0.074***	0.073***	0.068***	0.072***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Partner 2 Tobin's Q	0.072***	0.072***	0.074***	0.072***	0.068***	0.068***	0.075***	0.074***	0.069***	0.073***

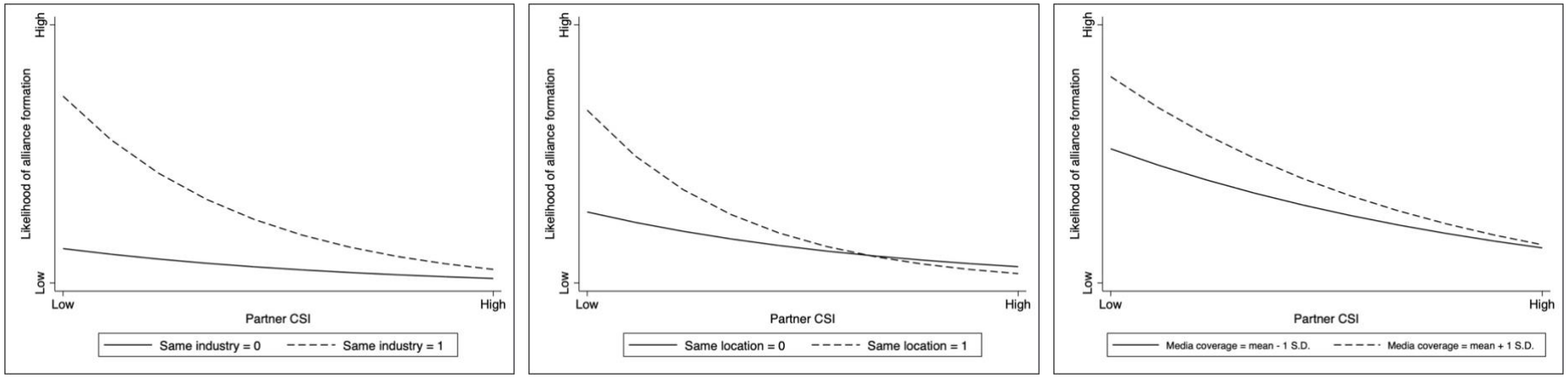
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.019)	(0.020)	(0.020)
Partner1 R&D intensity	0.017*	0.017*	0.017*	0.017*	0.017*	0.017*	0.018*	0.018*	0.017*	0.017*
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Partner 2 R&D intensity	0.009	0.010	0.010	0.010	0.009	0.010	0.010	0.010	0.009	0.010
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Partner 1 general alliance experience	0.041***	0.040***	0.040***	0.040***	0.040***	0.040***	0.040***	0.040***	0.039***	0.039***
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Partner 2 general alliance experience	0.040***	0.039***	0.039***	0.039***	0.039***	0.039***	0.039***	0.039***	0.039***	0.038***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Partner 1 firm reputation	-0.147	-0.240	-0.234	-0.232	-0.258	-0.247	-0.236	-0.252	-0.248	-0.257
	(0.190)	(0.189)	(0.189)	(0.190)	(0.190)	(0.190)	(0.190)	(0.190)	(0.190)	(0.191)
Partner 1 firm reputation	-0.195	-0.257	-0.250	-0.261	-0.276	-0.274	-0.244	-0.271	-0.264	-0.264
	(0.200)	(0.198)	(0.197)	(0.198)	(0.197)	(0.197)	(0.197)	(0.198)	(0.198)	(0.198)
Partner-specific alliance experience	1.435***	1.396***	1.400***	1.387***	1.409***	1.406***	1.413***	1.397***	1.404***	1.421***
	(0.117)	(0.118)	(0.118)	(0.118)	(0.118)	(0.118)	(0.119)	(0.117)	(0.118)	(0.119)
Relative partner CSR	0.009	-0.006	-0.004	-0.006	-0.010	-0.009	-0.005	-0.007	-0.008	-0.008
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Relative partner CSI	-0.015	0.049**	0.050**	0.047**	0.046**	0.045*	0.047**	0.044*	0.047**	0.041*
	(0.014)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Constant	-12.370***	-12.595***	-12.706***	-12.627***	-12.535***	-12.671***	-12.641***	-12.628***	-12.532***	-12.601***
	(0.376)	(0.456)	(0.454)	(0.455)	(0.457)	(0.455)	(0.455)	(0.456)	(0.460)	(0.459)
Year fixed effects	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
Log pseudolikelihood	-4806.59	-4784.03	-4778.11	-4779.64	-4779.85	-4770.42	-4781.41	-4780.63	-4781.87	-4776.44
Wald chi-square	7310.80	7359.39	7235.44	7306.76	7121.00	6962.80	7318.83	7342.29	7284.25	7236.02

Notes: N = 2,673,496; Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed.

FIGURES 1-3a: Moderating Effects of Proximity (Same Industry, Same Location) and Media Coverage on the Effect of Partner CSR



FIGURES 1-3b: Moderating Effects of Proximity (Same Industry, Same Location) and Media Coverage on the Effect of Partner CSI



APPENDIX

TABLE A-1: Robustness Test Predicting the Likelihood of Alliance Formation (Alternative Sampling Approaches Using Restrictive Rules at Different SIC Industry Levels)

	Four-digit SIC level		Three-digit SIC level		Two-digit SIC level	
Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Partner CSR	0.103***	0.045*	0.122***	0.058**	0.116***	0.054**
	(0.024)	(0.018)	(0.024)	(0.019)	(0.024)	(0.019)
Partner CSI	-0.137***	-0.043	-0.145***	-0.045	-0.162***	-0.072†
	(0.029)	(0.040)	(0.030)	(0.041)	(0.030)	(0.041)
Interactions with partner CSR						
Partner CSR * same industry	-0.051*		-0.073**		-0.075**	
	(0.025)		(0.026)		(0.027)	
Partner CSR * same location	-0.076*		-0.078*		-0.074*	
	(0.031)		(0.032)		(0.032)	
Partner CSR * media coverage	-0.004**		-0.004***		-0.004**	
	(0.001)		(0.001)		(0.001)	
Interactions with partner CSI						
Partner CSI * same industry		-0.096†		-0.117*		-0.105*
		(0.050)		(0.052)		(0.053)
Partner CSI * same location		-0.128†		-0.134†		-0.127†
		(0.068)		(0.070)		(0.070)
Partner CSI * media coverage		-0.006*		-0.006*		-0.005*
		(0.002)		(0.003)		(0.003)
Log pseudolikelihood	-4544.64	-4547.36	-4696.04	-4700.47	-4772.608	-4778.146
Wald chi-square	5877.43	6032.19	6647.49	6882.12	6947.045	7215.425
Observation	1,450,518	1,450,518	2,242,108	2,242,108	2,666,365	2,666,365

Notes: Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed. Control variables and year fixed effects are included in the model specification and available from the authors, but not reported here due to space constraints.

TABLE A-2 Robustness Test Predicting the Likelihood of Alliance Formation (Alternative Firm-level Measures of Partner CSR and CSI)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Partner1 CSR	0.036*	0.105***	0.037†	0.035	0.036†
	(0.017)	(0.025)	(0.019)	(0.023)	(0.022)
Partner1 CSI	-0.155***	-0.133***	-0.076†	-0.149***	-0.147***
	(0.030)	(0.033)	(0.042)	(0.035)	(0.035)
Partner2 CSR	0.043*	0.048*	0.043†	0.090***	0.047***
	(0.017)	(0.023)	(0.023)	(0.021)	(0.014)
Partner2 CSI	-0.139***	-0.121**	-0.130**	-0.132***	-0.056
	(0.031)	(0.042)	(0.045)	(0.029)	(0.043)
Interactions with Partner1 CSR					
Partner1 CSR * same industry		-0.101***			
		(0.024)			
Partner1 CSR * same location		-0.102**			
		(0.037)			
Partner1 CSR * media coverage		-0.003*			
		(0.001)			
Interactions with Partner1 CSI					
Partner1 CSI * same industry			-0.025		
			(0.068)		
Partner1 CSI * same location			-0.226**		
			(0.078)		
Partner1 CSI * media coverage			-0.005†		
			(0.003)		
Interactions with Partner 2 CSR					
Partner2 CSR * same industry				-0.074**	
				(0.028)	
Partner2 CSR * same location				-0.064*	
				(0.029)	
Partner2 CSR * media coverage				-0.002*	
				(0.001)	
Interactions with Partner2 CSI					
Partner2 CSI * same industry					-0.067
					(0.079)
Partner2 CSI * same location					-0.134†
					(0.076)
Partner2 CSI * media coverage					-0.005†
					(0.003)
Log pseudolikelihood	-4783.45	-4782.28	-4776.40	-4774.46	-4779.48
Wald chi-square	4853.31	8241.87	8504.13	7307.95	7181.11

Notes: N = 2,673,496; Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed. Control variables and year fixed effects are included in the model specification and available from the authors, but not reported here due to space constraints.

TABLE A-3 Results for the Rare Event Logistic Regressions Predicting the Likelihood of Alliance Formation

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Partner CSR	0.059**	0.072***	0.070***	0.100***	0.059**	0.060**	0.062**
	(0.019)	(0.019)	(0.019)	(0.024)	(0.019)	(0.019)	(0.019)
Partner CSI	-0.176***	-0.176***	-0.175***	-0.167***	-0.151***	-0.152***	-0.122**
	(0.029)	(0.029)	(0.029)	(0.029)	(0.031)	(0.030)	(0.041)
Interactions with Partner CSR							
Partner CSR * same industry		-0.080**					
		(0.025)					
Partner CSR * same location			-0.086**				
			(0.030)				
Partner CSR * media coverage				-0.004**			
				(0.001)			
Interactions with Partner CSI							
Partner CSI * same industry					-0.103*		
					(0.050)		
Partner CSI * same location						-0.148*	
						(0.066)	
Partner CSI * media coverage							-0.005*
							(0.003)

Notes: N = 2,673,496; Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed. Control variables and year fixed effects are included in the model specification and available from the authors, but not reported here due to space constraints.

TABLE A-4 Results for the Second Stage of the Heckman Selection Models Predicting the Likelihood of Alliance Formation

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Partner CSR	0.026***	0.029***	0.029***	0.033***	0.026***	0.026***	0.027***
	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)	(0.007)
Partner CSI	-0.049***	-0.049***	-0.048***	-0.047***	-0.043***	-0.043***	-0.029**
	(0.010)	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.013)
Interactions with Partner CSR							
Partner CSR * same industry		-0.021**					
		(0.008)					
Partner CSR * same location			-0.027**				
			(0.009)				
Partner CSR * media coverage				-0.008†			
				(0.005)			
Interactions with Partner CSI							
Partner CSI * same industry					-0.026†		
					(0.016)		
Partner CSI * same location						-0.039*	
						(0.019)	
Partner CSI * media coverage							-0.023**
							(0.009)
Rho	0.02	0.02	0.03	0.04	0.02	0.03	0.03
Wald test	0.08	0.05	0.20	0.26	0.07	0.16	0.22
Prob > chi2	0.78	0.82	0.66	0.61	0.78	0.69	0.64

Notes: N = 2,673,496; Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed. Control variables and year fixed effects are included in the model specification and available from the authors, but not reported here due to space constraints. The first stage models are available from the authors upon request.

TABLE A-5 Robustness Test Predicting the Likelihood of Alliance Formation (Exclude Relative Partner CSR and CSI)

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Partner CSR	0.054***	0.070***	0.065***	0.091***	0.055***	0.054***	0.054***
	(0.015)	(0.016)	(0.016)	(0.020)	(0.015)	(0.015)	(0.015)
Partner CSI	-0.131***	-0.130***	-0.132***	-0.125***	-0.107***	-0.110***	-0.077*
	(0.024)	(0.025)	(0.024)	(0.024)	(0.025)	(0.025)	(0.037)
Interactions with Partner CSR							
Partner CSR * same industry		-0.080**					
		(0.025)					
Partner CSR * same location			-0.089**				
			(0.030)				
Partner CSR * media coverage				-0.041**			
				(0.013)			
Interactions with Partner CSI							
Partner CSI * same industry					-0.112*		
					(0.051)		
Partner CSI * same location						-0.162*	
						(0.066)	
Partner CSI * media coverage							-0.054*
							(0.026)
Log pseudolikelihood	-4787.83	-4781.99	-4783.16	-4783.34	-4784.82	-4783.73	-4894.00
Wald chi-square	7399.59	7307.06	7343.45	7113.35	7374.38	7372.79	7225.53

Notes: N = 2,673,496; Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed. Control variables and year fixed effects are included in the model specification and available from the authors, but not reported here due to space constraints.

CHAPTER 3 THE EFFECT OF FIRM FOREIGNNESS ON INVESTOR REACTION TO CSI COVERAGE

ABSTRACT

The study examines the influence of firm foreignness on the investors' negative reactions to firms' corporate social irresponsibility (CSI) coverage. Building on social identity theory and attribution theory, I propose that firm foreignness affects investors' identification with and self-serving attributions toward culpable firms, thereby motivating them to react more negatively to CSI coverage of foreign firms than that of local firms. In addition, I argue that the relationship between firm foreignness and negative investors' reaction to CSI becomes weaker when the firm has been listed for a longer time or has more local ownership. The hypotheses are confirmed empirically, using a sample of 2,283 CSI coverage by 704 firms listed in the U.S. stock market from 2007 to 2018.

INTRODUCTION

Corporate social irresponsibility (CSI) studies have long recognized the impact of firms' CSI on the negative perceptions, evaluations, and reactions of stakeholders. Numerous studies have shown that firms may encounter sanctions from a variety of stakeholders if their actions fail to uphold stakeholders' legitimate claims. When a firm's CSI is disclosed, for instance, employees may leave the firm, customers may boycott the firm's products, suppliers may terminate the collaboration contract, and so on (Dorobantu et al., 2017; Flammer, 2013; Kölbel et al., 2017; Lange & Washburn, 2012).

While stakeholders, in general, will penalize firms that engage in CSI, stakeholders may not do so in a consistent way. Prior studies have recognized that stakeholders' reaction to firms' CSI is shaped by their subjective perceptions and evaluation (Barnett, 2014; Lange & Washburn, 2012; Zavyalova et al., 2012). For instance, stakeholders' sanctions on a firm's CSI could be influenced by their attention (Barnett, 2014; Tang & Tang, 2016), prior expectations of the firm (Zavyalova et al., 2012), the framing of the causality (Lange & Washburn, 2012; Liu et al., 2022) and opportunity costs and efficacy (Barnett, 2014). Such inconsistency in stakeholder response to firms' CSI is also supported by anecdotal evidence. For instance, in 2015 Volkswagen was found to have installed software in its diesel engines that allowed the cars to cheat on emissions tests, which results in significant fines and recalls. However, a similar scandal occurred in 2019 when Fiat Chrysler was found to have installed emissions-cheating software in its diesel engines. While the incident received some media attention, it did not receive the same level of scrutiny as Volkswagen's scandal.

While these studies have advanced our understanding of when and why stakeholders may differently punish a firm for its CSI, they mainly focused on local firms and are theoretically underdeveloped in differentiating between foreign and local firms. This difference is of particular importance because firm foreignness determines the extent to which stakeholders identify with firms and thus affects their evaluations of and reactions to firms' CSI. To fill this research gap, I propose that the difference of whether a firm is foreign or not affects how stakeholders – we particularly focus on investors in this study, react to its CSI.

Drawing on attribution theory and social identity theory, I argue that firm foreignness forms a critical part of firm identity that helps investors to distinguish firms between localness and foreignness. Because investors that react to firm CSI generally experience uncertainty regarding the underlying causes of CSI, firm foreignness offers the stimuli that help investors to define firm identity, elicit their self-serving attributions, and thus implement different sanctions on local and foreign firms' CSI. In particular, given the common country of origin, investors are more identified with local firms as in-group members whereas foreign firms as out-group members. To maintain the interests of a common group, the self-serving attributional bias will motivate investors to attribute the CSI by local firms to external factors but that by foreign firms to internal factors. Accordingly, I argue that investor reactions to firms' CSI are more negative when firms are foreign than domestic.

I further predict that such different reactions are contingent on the extent to which investors associate a foreign firm with foreignness identity, which is

reflected by two moderating factors –firms' listing age and the level of firm ownership held by local investors. When a foreign firm has been listed for a longer time or has more local ownership, foreign firms should have more chances to familiarize themselves with investors and exhibit a higher level of local embeddedness. This will thus draw investors' attention away from the firm's foreignness identity and encourage them to attribute foreign firms' CSI less to internal factors. As a result, the negative impact of firm foreignness on investors' negative reactions to CSI is expected to be weaker in such contingencies.

To test the key arguments, I examine 2,283 media CSI disclosure by 704 firms listed in the U.S. market during the period of 2007-2020. I find consistent results that investors react more negatively to CSI by non-U.S. firms than U.S. firms. In addition, investors' negative reaction to foreign firms' CSI becomes weaker when firms have been listed longer or have more local ownership. The study makes two streams of contributions. First, I advance prior CSR literature by showing how firm foreignness differently influences investors' negative evaluation and reaction to firms' CSI (Hawn et al., 2018). I argue that firms' foreignness identity could bias investors' attributions of a firm's CSI, thus implementing more sanctions on foreign firms than local firms. Second, while extant studies have recognized the positive role of CSR is instrumental for multinational firms to overcome the liability of foreignness (Marano et al., 2017; Zhou & Wang, 2020), I contribute to international business studies by complementing that the liability of foreignness could also bring them greater penalties for their CSI.

THEORY AND HYPOTHESES

Firms' CSI and investors' attributional thinking

CSI describes the firm actions that "negatively affect an identifiable social stakeholder's legitimate claims" (Strike, Gao, & Bansal, 2006, p. 852), which involves a set of doing-harm activities, e.g., the use of child labor, sweatshops, and the polluting facilities or products (Hawn, 2021; Shea & Hawn, 2019). Extant studies have long recognized that firm CSI could lead to stakeholders' negative evaluations and reactions due to the harm inflicted on their interests. By anticipating the potential loss of reputation and stakeholder support associated with other stakeholders' negative responses, investors thereby may doubt the firm's capability to create and maintain market value, thus resulting in the firm's adverse market value (Liu et al., 2022).

One main theoretical mechanism through which stakeholders evaluate and react to firms' CSI is their attributional thinking (Crilly et al., 2016; Lange & Washburn, 2012; Liu et al., 2022). Attributions are the causal explanation that individuals ascribe to outcomes they observe (Harvey, Madison, Martinko, Crook & Crook, 2014). Attributional thinking describes the process of stakeholders making sense of the surroundings by inferring the causality of the observed events (Heider, 1958; Jones & Davis, 1965; Kelley & Michela, 1980). In my context, the attributional thinking suggests that stakeholders observing firm CSI are motivated to explore the underlying drivers of firms' CSI and penalize those responsible for the errors.

Existing research has also recognized that stakeholders may not attribute firms' CSI in a consistent way. A key reason for this is that stakeholders are boundedly rational and might be cognitively biased to notice, assess, and punish firms' CSI (Barnett, 2004). For instance, stakeholders are more likely to penalize firms' CSI which results in a broader reach of audiences or leads to severe consequences (Kölbel et al., 2017; Tang & Tang, 2016). A clear framing of who is culpable may also motivate stakeholders to take more negative responses (Lange & Washburn; Li et al., 2022). In addition, stakeholders' negative response to a firm's CSI could be influenced by their prior positive expectations of the firm's accountability (Fombrun & Shanley, 1990; Godfrey et al., 2009). For instance, when a firm has a history of positive social performance that accrues its moral capital, its CSI is less likely to cause investors' negative responses (Zavyalova et al., 2012).

While prior studies have advanced our understanding of stakeholders' different evaluations and reactions to firms' CSI, these studies primarily focus on local firms or implicitly assume that foreign and local firms are not significantly different. However, such difference is critical because whether or not a firm conducting CSI is foreign serves as a critical clue for stakeholders to define the firm's identity. This will determine how likely stakeholders identify with the firm and attribute its CSI, and accordingly shape their evaluation and reaction to the firm. Given that stakeholders' attributional thinking drives their evaluations and reactions to a firm's CSI and then influences investors' reactions, it is reasonable

to anticipate that investors will also react to a firm's CSI by employing attributional thinking to predict other stakeholders' evaluations and reactions.

Investors' self-serving attributions

One critical cognitive attributional bias that investors are likely subjected to is self-serving attributions. That is, because individuals have the tendency to maintain their self-esteem and project a favorable self-image, they are more likely to attribute positive outcomes to internal factors (e.g., personal traits) and negative outcomes to external factors beyond their control (e.g., situational factors) (Heider, 1958; Kelly, 1967). Accordingly, the locus of causality (i.e., whether the observed event is perceived to be caused by internal or external factors) will then shape their different reactions to the observed event. For instance, in contrast to the events attributed to external factors, individuals are more likely to associate those attributed to internal factors with intentional actions, thus leading to a more stringent sanction on such errors (Park, Chung, & Rajagopalan, 2021).

When the event is conducted by others, the identification between individuals and violators may also influence individuals' self-serving attributions as well as their consequent reactions (Pettigrew, 1979, Hewstone, 1990). Social identity theory suggests that individuals can self-categorize or be categorized by others, and the category they belong to can form the basis for them to define their identities and then foster their different interactions with and reaction to in-group and out-group members (Hogg & Terry, 2000). Research suggests that individuals are subject to a positive in-group bias due to their stereotypical and normative perceptions of out-group members. In particular, because individuals are more

identified with members from the same group, they trust as well as ascribe better evaluations and reactions to in-group members (Tajfel, 1982). For instance, because females are often the minority in the workplace and less likely to be identified by the male majority, their misconduct is more likely to be attributed to dysfunctional features and incur greater incur blame and sanctions (Park & Westphal, 2013; Westphal & Stern, 2007).

When applying social identity theory to investors' self-serving attributions regarding firm CSI, I expect that when investors are strongly identified with a firm, they are more subject to self-serving attribution, which motivates them to attribute the firm's CSI to external factors and react less negatively to it. In contrast, if investors are weakly identified with the firm, the firm's CSI is more likely to result in investors' negative reactions because investors are more likely to attribute the firm's CSI to internal factors, thus holding the firm responsible for irresponsible behaviors.

Firm foreignness and investors' self-serving attributions

Drawing on attribution theory and social identity theory, I argue that the information on firms being foreign or not offers investors a critical clue to categorize firms into localness and foreignness. When observing firm CSI, this information will help investors to develop different levels of identification with foreign and local firms, i.e., a higher identification with local than foreign firms. As such, they are more likely to develop self-serving attributions to local firms by attributing local firms' CSI to external factors and foreign firms' CSI to internal factors, thereby fostering more negative responses to foreign firms' CSI.

Whether or not a firm is located outside the host country is highly visible information for investors to categorize firms and define their identity. Prior international business studies have suggested that foreignness forms a critical part of firm identity because firms from different countries are likely to manifest a set of differences in economics, politics, institutions, culture, and norms (Crilly et al., 2016; Cuypers et al., 2018; Lu et al., 2022), Accordingly, when firms' CSR practices and behaviors are disclosed, investors are likely to rely on the foreignness information as firm identity to predict the intention underlying firms' behaviors and then adopt different reactions. For instance, Lee (2020) find that firms with tax haven headquarters may have a corporate culture that less value stakeholder interests and will make fewer CSR commitments.

In this sense, investors are more prone to develop identification with and self-serving attributions towards local firms. Before engaging in further discussion, it is important to first define the identity of investors. Despite that it is possible for investors to originate outside the host countries, the prevailing majority, including those of foreign firms, are in general local to the host country (e.g., investors are mainly from the U.S. in the U.S. market in our case). This is due to the local legal protection as well as the firm's motivation to secure capital from the local market (La Porta et al., 2000). For the purposes of this discussion, I here consider investors with a localness identity in general. As such, by distinguishing firms between the identity of foreignness and localness, investors are more likely to develop identification with local firms given their common country of origin. Accordingly, in the face of local firms' CSI, investors are motivated to attribute it to external

factors in order to protect the positive views of common localness identity. For instance, investors are more likely to treat local firms in a lenient way by lowering their ethical standards or making excuses for domestic firms' mistakes. In contrast, in the case of foreign firms' CSI, they are less likely to evoke self-serving attributions but shift the blame to the firm's internal factors. This in turn will result in investors' more severe penalties for CSI by foreign firms than local firms. Similarly, prior studies have found consistent evidence in the case of CSR. For instance, Crilly, Ni and Jiang (2016) find that foreign firms' CSR will obtain fewer positive reactions from stakeholders because they are more likely to attribute the motivation underlying foreign firms' CSR to the situational pressure but local firms' CSR to the noble managerial motivation.

In sum, investors are less likely to develop identifications with a firm that locates outside the host country than that locates in the host country. Due to their self-serving attributions, investors will be motivated to attribute external factors to local firms' CSI and internal factors to foreign firms' CSI, which leads to investors' more negative reactions to CSI of foreign firms than to that of local firms. As a result, I contend that:

Hypothesis 1: Investor reaction to firms' CSI is more negative when firms are foreign than domestic.

Firm foreignness and firm listing age

The mechanism underlying my first hypothesis is local investors' less identification with foreign firms with CSI coverage than local firms. Thus, the negative relationship between firm foreignness and investors' negative reaction to

their CSI is expected to be weaker if the firm is perceived with a weaker foreignness identity. One key factor that affects investors' identification with a specific firm is the firm's listing age or the time that it has been listed on the local stock market. I argue that the longer the foreign firm has been listed, the less likely investors will attach foreignness identity to it and then employ self-serving attributions on its CSI.

A firm's listing age is likely to influence the investor's perceptions and identification of a foreign firm as foreignness for two reasons. First, unfamiliarity with a host country due to dissimilarity between home and host countries is considered one key source of foreignness identity (Eden & Miller, 2004; Lu et al., 2018, 2022). As such, investors would be more familiar with older firms than newly listed firms because the longer listing time allows investors to have more opportunities to observe and build relational ties with older firms. Meanwhile, the longer interaction history also facilitates the trust development between older foreign firms and local investors. Therefore, when observing CSI of foreign firms that have been listed for a longer period, investors are less attentive to those firms' foreignness identity, instead perceiving them as a common group of local firms due to the increased familiarity and trust.

Second, as the time that a foreign firm is listed on the stock market increases, the firm also has more chances to learn and imitate the practices and behaviors of local firms. Foreignness literature suggests that mimetic behavior is one critical approach for foreign firms to overcome the foreignness identity (Bell et al., 2012; Salomon & Wu, 2012, 2012). This propensity to mimic local practices

facilitates foreign firms' integration into local business networks and gains acceptance among local shareholders and stakeholders. Meanwhile, through listing in the local market, foreign firms need to conform to local institutions and governance standards (Cumming et al., 2017; Doidge et al., 2004; Karolyi, 2012; Pagano et al., 2002). The investment from local investors will further help them develop information about the local market as well as adopt practices similar to the local.

As such, when a foreign firm remains listed for a longer time, investors tend to diminish their perception of its foreignness identity because this firm is more familiar to them and also exhibits more shared features with local firms. Accordingly, when its CSI is disclosed, investors are more likely to engage in self-serving attributions by shifting the blame to external factors instead of internal factors. Hence, the negative relationship between the firm foreignness and investors' negative reaction to the firm's CSI is expected to be weaker when the firm's listing age increases. Thus, I argue,

Hypothesis 2: Listing age weakens the relationship between firm foreignness and negative investor reaction to firm CSI.

Firm foreignness and local ownership

The extent to which investors associate a foreign firm with foreignness identity could also be a function of the shares owned by local investors. Because I focus on firms listed in the U.S. market, local ownership describes the number of shares owned by U.S. investors. I argue that when investors see a foreign firm with greater local ownership, they will be less likely to treat such firm as a

foreigner than when they see a foreign firm with greater foreign ownership and accordingly, more likely to employ self-serving attributions to its CSI.

Local ownership of a firm can shape a firm's foreignness identity in two ways. First, the shares owned by local investors are positively associated with a foreign firm's information on the local market. To secure local capital from the host country, foreign firms would learn and develop an in-depth understanding of the preference and interests of local investors. Accordingly, they are more likely to accumulate relevant information about the local business environment and regulatory behaviors (Bhaumik, Driffield, & Pal, 2010). The increased familiarity with the local market is instrumental in mitigating investors' perception of foreignness identity associated with foreign firms with greater local ownership.

Second, foreign firms attracting more local investors are likely to exhibit a higher level of local embeddedness (Bonner, Kim, & Cavusgil, 2005; Lu, Song, & Shan, 2018). This is due to the inputs from local investors, which enables foreign firms to become more informed and compliant with local norms. Moreover, given the common interests shared, local investors are more willing to help the foreign firm that they invested to establish the local network, such as the access to local resources, e.g., the local business partners, suppliers, and community (Nachum, 2003; Park & Ungson, 1997). For instance, Lu et al., (2018) find similar evidence that with greater domestic ownership, foreign subsidiaries will have a lower demand on social trust to tap into the local network. Thus, a foreign firm with domestic ownership is more likely to be perceived as local in the eyes of domestic investors.

In sum, investors' biased negative reaction to the foreign firm's CSI coverage is contingent on the firm's domestic ownership. In particular, a foreign firm with more local investors is less likely to be associated with a foreign identity because domestic ownership increases its ability to obtain local information and establish the local network. This will then reduce the likelihood of local investors' attribution bias in foreign firms and weakens the relationship between a foreign firm and negative investor reaction to its CSI coverage. Hence,

Hypothesis 3: Local ownership weakens the relationship between firm foreignness and negative investor reaction to firm CSI.

METHOD

Sample

To examine the hypotheses, I construct the sample following several steps. The initial sample is based on the observations of all public firms available in the Compustat between 2007 and 2020. In line with prior studies (Kölbel et al., 2017; Lee et al., 2018; Shen et al., 2014), I focus on the firms listed in the U.S. major exchanges (NYSE, AMEX, or NASDAQ), and exclude financial and utility sectors (SIC codes between 6,000–6,999 and 4,900–4,999). I then obtain information on the CSI coverage and other CSI-related event attributes from the RepRisk database. By screening over 100,000 public media and stakeholders in 23 languages on a daily basis, RepRisk provides reliable data on firms' CSI issues, which has been widely used by prior studies to measure CSI coverage (Hawn, 2021; Kölbel et al., 2017). To ensure that CSI coverage is influential to affect market reaction, I follow the approach of Liu et al.'s (2023) work by removing

CSI disclosures that did not result in high reach or novelty. Next, the data is then merged with the Center for Research in Security Prices (CRSP), which is used to obtain the stock market data. Ownership data is extracted from the Thomson Reuters Institutional Ownership database of 13F filings. Finally, Compustat is used to construct listing age and other firm-level variables. After merging the major databases and deleting the missing value, the final sample includes 2,283 CSI coverage by 704 firms listed in the U.S. stock market. Of the 704 firms, I have 586 domestic firms and 118 foreign firms.

Dependent variable

The dependent variable is cumulative abnormal returns (CARs). I use event study methodology to capture the investor reaction around the announcement of firms' CSI coverage.

For each firm *i*, I calculate the CAR by summing up the abnormal return (AR) within a two-day event window [-1, 0] (Flammer, 2013; Hawn et al., 2018). The AR for each day is calculated as the difference between the actual return of firm *i*'s stock on that day and its expected return on that day. Using a standard market model, I calculate the CAR and AR as follows.

$$CAR_i = \sum_{t=-1}^{0} AR_{it}$$

and

$$AR_{it} = R_{it} - (\alpha + b_i R_{mt})$$

where $CAR_{it}$is the cumulative abnormal daily return of firm *i* within the two-day event window, $AR_{it}$is the abnormal daily return of firm *i* on day *t*, R_{it} is the stock

return of firm *i* on day *t*, and R_{mt} is the daily stock market return of of firm *i* on day *t*. The market model parameters, α and β, are estimated over a 120-day window with the minimum number of valid returns of 70 days (Shiu & Yang, 2017). For ease of interpretation, CAR is multiplied by 100.

Independent variable

Firm foreignness is defined based on the country in which the firms' headquarters are located. Because firms that are headquartered in tax havens are likely to raise investors' different perceptions and reactions to their CSR (Lee, 2020), I exclude those firms headquartered in Bermuda, Cayman Islands, Switzerland, Singapore, Luxembourg, Netherlands Antilles, Hong Kong, and British Virgin Islands. I construct a dichotomous variable to capture whether a firm is foreign or local, coding as 1 if the headquarters of a firm is located outside the U.S., and 0 otherwise.

Moderators

Listing age. The first moderator is a firm's *listing age*, measured by the number of years since the firm has been listed in the U.S. stock market. In a few cases where the information about its IPO time was missing in Compustat, the listing age is calculated by the number of years since a firm's first appearance in Compustat (Carpenter et al., 2003).

Local ownership. The second moderator is *local ownership*, which describes the percentage of shares held by local or U.S. investors (Aguilera et al., 2017). For each firm, I collect information about firm ownership at the end of the fiscal year for the period during 2007 – 2019. Similarly, I identify the nationality

of investors based on the country in which the investor's headquarter is located. Local ownership is measured by the number of shares held by U.S. investors divided by the total number of shares outstanding (Chen et al., 2022).

Control variables

I include some firm and event factors that may influence investor reaction to firm CSI coverage. At the firm level, because firm size may affect investors' evaluation of firms' resources and capability to mitigate negative events, I control *firm size* measured by the logarithm of total sales (Paruchuri, Han, & Prakash, 2021). Investors may react differently to CSI by firms with different performance, firm performance is controlled by measuring *Return on assets (ROA)*. To account for the potential effect of liquidities, I include *firm liquidity*, measured by total current assets divided by total current liabilities. I also control *firm slack* by calculating the ratio of selling and general administrative expenses (Liu, Wang, & Li, 2022). Because a firm's prior CSI record may also shape investor reaction to current CSI, I include a dichotomous variable to capture whether the firm has any CSI coverage before. In addition, firms' social performance may also shape investor reactions to CSI. Thus, I control firm performance in *corporate social responsibility (CSR)* and *corporate social irresponsibility (CSI)* by separately summing the strengths and concerns in five KLD dimensions (i.e., employee, environment, social, product, and diversity). I also include a dichotomous variable, *KLD missing*, coding as 1 for CSR and CSI record is available in KLD database and 0 otherwise.

In addition, I include some event-related factors that affect investor reactions. The severity of CSI event is positively associated with investors' attention and response. RepRisk provides the three-level severity of each CSI coverage based on its consequences, the number of persons affected, and the underlying causes. Thus, I account for the *severity* by coding 1 as low, 2 as medium, and 3 as high. I also control the variable of *CSI in the U.S.* to account for whether the CSI event occurred in the host country of the U.S. In addition, I include the type of CSI coverage by including three dichotomous variables, *environment, social,* and *governance*, to account for whether the CSI coverage is with respect to environmental, social, or governance issues.

Model specification

Because the sample includes several disclosures of CSI coverage by the same firm, I control robust standard errors at the firm level. In addition, following Flammer's (2013) approach, *trend* is included using a linear time trend (i.e., trend = 2007, 2008, ... 2018). In addition, I control the Standard Industrial Classification (SIC) division fixed effect to account for the unobserved industry heterogeneity. The model is expressed as follows:

$$CAR_{ij} = \alpha_0 + \beta_0 Control_{ij} + \beta_1 Foreign\ firm_{ij} + \beta_2 \left(Foreign\ firm_{ij} * Listing\ age_{ij}\right) + \beta_3 \left(Foreign\ firm_{ij} * Local\ ownreship_{ij}\right) + \varepsilon_{ij}$$

where *i* index firms, *j* index the event of CSI coverage. $CAR_{ij}$is the cumulative abnormal daily return of firm *i* within the two-day event window, $Foreign\ firm_{ij}$ is whether the headquarter of the firm is located outside the U.S.

$Listing\ age_{ij}$ is the years since firm i has been listed in the U.S. stock market at the time of CSI coverage j. $Local\ ownership_{ij}$ is the shares of firm i owned by the U.S. investors at the time of CSI coverage j. ε_{ij} is the residual.

Results

Table 3 presents the descriptive statistics and correlation of all variables. The highest variance inflation factor (VIF) is 2.97, which is below the cutoff point of 10. Thus, the multicollinearity is less of a concern in this study.

Insert Table 3 about here

Table 4 presents the regression results for the relationship between firm foreignness and investor reactions to their CSI coverage. Model 1 includes the results with control variables only. Model 2 includes the independent variable, firm foreignness. In Models 3 – 4, I include the two interaction terms between firm foreignness and listing age, and firm foreignness and local ownership, respectively. Model 5 is the full model with both interaction terms added.

Insert Table 4 about here

Hypothesis 1 predicts that there is a negative relationship between firm foreignness and investor reaction to firm CSI. Results in model 2 show that the coefficient of firm foreignness is negative and significant (b = -0.687; p = 0.049),

suggesting that a foreign firm is more likely to incur a negative investor reaction to CSI coverage than a domestic firm.

In Hypothesis 2, I predict that listing age will weaken the relationship between firm foreignness and investors' negative reactions to firm CSI. Consistent with this, Model 3 shows that the interaction term between firm foreignness and listing age is positive and significant ($b = 0.030$; $p = 0.022$), which supports Hypothesis 2.

The prediction in Hypothesis 3 is that local ownership weakens the negative relationship between firm foreignness and investor reactions to firm CSI. In model 4, I find a negative and significant interaction term between firm foreignness and local ownership ($b = 0.002$; $p = 0.029$), which provides further support for Hypothesis 3. The results remain robust when we include both interaction terms in Model 5.

DISCUSSION

This study examines how firm foreignness plays a role in affecting investors' distinct reactions to firms' CSI coverage. In particular, I argue that investors are more identified with local firms that locate in the host country, i.e., the U.S. than foreign firms that locate outside the host country, i.e., non-U.S. due to the common identity of localness. Therefore, in the face of firms' CSI, this will trigger investors' self-serving attributions by attributing local firms' CSI to external factors and foreign firms' CSI to internal factors, thereby penalizing foreign firms more harshly than local firms. In addition, I argue that investors' negative reactions to foreign firms' CSI are contingent on the extent to which investors associate the foreign firm with foreignness identity. That is, the relationship between firm foreignness and negative investor reaction to firms' CSI becomes weaker when firms have been listed for a longer time or have more

local ownership. The results based on a sample of 704 foreign and local firms listed in the U.S. market from 2007 to 2020 support our proposed arguments.

This study makes two key contributions. First, I contribute to CSR studies by showing the role of firm foreignness in shaping investors' negative evaluation and reaction to firm CSI (Hawn et al., 2018). There is extensive CSI research on how firms' CSI events could result in stakeholders' negative reactions associated with the loss of resources and inferior financial performance. While increasing studies have recognized that stakeholders' reactions could be influenced by their subjective perceptions and evaluations, they pay little attention to the international context by considering foreign and local firms simultaneously. Thus, this paper enriches CSI literature by providing new evidence on how investors may respond differently to foreign and local firms. Drawing on attributional theory and social identity theory, this paper offers new insights into how firm foreignness could influence investors' identification and self-serving attributions when they evaluate and react to firms' CSI.

Second, this study also makes a contribution to research on international business in general and liabilities of foreignness in particular. While prior foreignness studies have primarily focused on the positive aspect of CSR and its critical role in helping multinational firms to overcome the liability of foreignness (Marano et al., 2017; Zhou & Wang, 2020), they have either paid little attention or failed to differentiate the potential impact of negative CSR, namely CSI. Thus, this paper provides a more comprehensive understanding of social performance

and elucidates how the negative aspect of CSI may further exacerbate the liability of foreignness by subjecting foreign firms to more severe penalties for their CSI.

This study also has some limitations that offer opportunities for future studies. First, in this study, I select the U.S. market as my research context because it is a common phenomenon that many foreign firms select to list in the U.S. stock market with high governance standards. However, I believe my key argument that investors have a self-serving attributional bias regarding foreign and local firms' CSI is generalizable to other institutional contexts. Therefore, future research may consider examining my arguments in the context of other countries.

Second, this study focuses on the role of firms' CSI including three aspects, environment, social, and governance. While investors' different reactions depending on firm foreignness should reflect in all three aspects, there might be specific discrepancies between different dimensions. For instance, investors may pay extra attention to a foreign firm's CSI in terms of the environment when the country where the foreign firm is located has seen many environmental scandals. Thus, future research may examine how firm foreignness may differently affect the investors' negative reactions to firms' CSI in terms of different aspects.

Last, this study focuses on examining the mechanism of investors' subjective evaluation or self-serving attributions to foreign and local firms' CSI. Given the limitation of archival data, it is difficult to accurately capture the process of how investors develop their perceptions and bias toward foreign and local firms. Therefore, future studies may consider using survey or other field studies to offer more direct evidence of the underlying mechanism.

CONCLUSION

This study examines the role of firm foreignness in affecting investors' negative reactions to firms' CSI. I argue that investors respond more negatively to foreign firms' CSI than local firms' CSI because they have less identification with and self-serving attributions to foreign firms. This relationship between firm foreignness and investors' negative reaction to firm CSI becomes weaker when firms have listed longer or have more local ownership.

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TABLE 3 Descriptive Statistics

VARIABLES	*Mean*	*S.D.*	1	2	3	3	4	5	6	7	8	9	10
1. Investor Reaction	-0.34	4.30											
2. Firm foreignness	0.22	0.41	-0.04										
3. Listing age	31.72	21.61	0.06	-0.19									
4. Local ownership	0.86	0.09	0.02	-0.20	0.05								
5. Firm size	9.87	1.87	0.06	0.22	0.39	0.34							
6. ROA	0.06	0.10	0.07	-0.01	0.11	0.20	0.20						
7. Tobin's Q	2.41	1.86	0.01	-0.14	-0.27	0.13	-0.25	0.15					
8. Firm liquidity	2.19	2.02	-0.03	0.02	-0.27	0.05	-0.16	0.05	0.28				
9. Firm slack	0.27	1.09	0.02	-0.03	-0.08	-0.02	-0.14	-0.18	0.16	0.08			
10. Prior CSI	0.71	0.46	0.07	0.06	0.20	0.18	0.50	0.11	0.03	-0.10	-0.05		
11. CSR	3.08	4.16	0.04	-0.23	0.34	0.31	0.35	0.18	-0.04	-0.04	-0.02	0.19	
12. CSI	1.55	2.42	0.01	-0.20	0.28	0.29	0.33	0.12	-0.09	-0.08	-0.05	0.08	0.56
13. KLD missing	0.62	0.49	0.01	-0.38	0.14	0.15	-0.01	0.09	0.02	-0.02	-0.03	-0.05	0.58
14. Severity	1.21	0.43	-0.01	0.06	0.08	-0.03	0.08	0.03	-0.09	-0.01	-0.03	0.04	0.04
15. CSI in U.S.	0.52	0.50	-0.03	-0.22	-0.02	-0.14	-0.33	-0.13	-0.06	-0.03	-0.00	-0.24	-0.08
16. Environment	0.13	0.34	-0.01	0.05	0.03	-0.01	0.07	0.00	-0.06	0.01	-0.04	-0.01	-0.04
17. Social	0.38	0.49	0.01	-0.06	-0.01	0.02	0.01	0.01	0.03	0.02	-0.03	0.06	-0.00
18. Governance	0.48	0.50	-0.03	0.09	-0.06	0.07	0.04	0.02	-0.03	0.04	-0.00	0.01	-0.01
19. Trend	7.86	2.86	0.00	-0.07	-0.03	-0.04	-0.06	-0.12	0.13	-0.01	0.06	0.31	-0.32

VARIABLES	12	13	14	15	16	17	18
13. KLD missing	0.50						
14. Severity	0.17	0.02					
15. CSI in US	-0.09	0.13	-0.00				
16. Environment	0.12	-0.03	0.08	-0.04			
17. Social	0.03	-0.04	0.10	-0.13	0.09		
18. Governance	-0.02	0.03	0.00	0.07	-0.25	-0.51	
19. Trend	-0.42	-0.36	-0.23	0.00	-0.15	0.04	0.14

Note: Correlation > |0.04| implies significance at $p < .0$

TABLE 4 CARs around Firms' CSI coverage

VARIABLES	Model 1	Model 2	Model 3	Model 4
Foreign firm	-0.687*	-1.481*	-1.038*	-1.809*
	(0.349)	(0.619)	(0.443)	(0.710)
Foreign firm * listing age		0.030*		0.029*
		(0.013)		(0.013)
Foreign firm * local ownership			0.002*	0.002*
			(0.001)	(0.001)
Listing age	0.003	-0.002	0.003	-0.002
	(0.005)	(0.006)	(0.005)	(0.006)
Local ownership	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Firm size (ln)	0.066	0.059	0.068	0.061
	(0.121)	(0.119)	(0.121)	(0.119)
ROA	2.718	2.934	2.745	2.957
	(5.221)	(5.226)	(5.222)	(5.227)
Tobin's Q	0.011	0.008	0.005	0.001
	(0.108)	(0.107)	(0.108)	(0.107)
Firm slack	0.160	0.157	0.158	0.155
	(0.122)	(0.121)	(0.121)	(0.120)
Firm liquidity	-0.021	-0.023	-0.018	-0.021
	(0.047)	(0.047)	(0.047)	(0.047)
Prior CSI	0.462	0.457	0.465	0.460
	(0.294)	(0.294)	(0.294)	(0.294)
CSR	-0.005	-0.001	-0.006	-0.001
	(0.031)	(0.031)	(0.031)	(0.031)
CSI	-0.084*	-0.079†	-0.084*	-0.078†
	(0.041)	(0.041)	(0.041)	(0.041)
KLD missing	-0.007	-0.077	-0.051	-0.118
	(0.310)	(0.305)	(0.309)	(0.306)
Severity	-0.109	-0.099	-0.126	-0.116
	(0.202)	(0.202)	(0.202)	(0.202)
CSI in US	-0.127	-0.145	-0.149	-0.166
	(0.162)	(0.159)	(0.160)	(0.157)
Environment	-0.283	-0.261	-0.267	-0.246
	(0.358)	(0.354)	(0.356)	(0.352)
Social	0.060	0.070	0.063	0.073
	(0.261)	(0.260)	(0.260)	(0.259)

Governance	-0.187	-0.169	-0.196	-0.178
	(0.236)	(0.234)	(0.237)	(0.235)
Trend	-0.051	-0.054	-0.057	-0.060
	(0.040)	(0.040)	(0.040)	(0.040)
Constant	101.025	106.904	114.094	119.504
	(80.451)	(80.503)	(80.938)	(81.029)
SIC division fixed effect	Y	Y	Y	Y
N	2,288	2,288	2,288	2,288
Log lik.	-6554.99	-6551.93	-6553.13	-6550.17
Chi-squared	0.022	0.026	0.025	0.027

Notes: N = 2,673,496; Standard errors in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All tests are two-tailed.