

**Substantive Implementation with Symbolic Silence:  
The Strategic Publication of Certification Status**

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## **Substantive Implementation with Symbolic Silence: The Strategic Publication of Certification Status**

### **ABSTRACT**

In this article, we examine why organizations may at times substantively implement a practice, but choose not to symbolically signal such implementation. Central to our theory is the notion that concerns about being perceived as a hypocrite may cause organizations to remain symbolically silent about their organizational activities. Using a longitudinal panel of corporations that obtained a prominent environmental certification, we show that organizations are less likely to publicize their certification status when recent organizational activities directly contradict the claims implied by the certification and when such contradictions are readily apparent and understood. These findings contribute to the organizational literature by introducing a more nuanced form of decoupling and exploring an overlooked distinction between obtaining and publicizing certifications. They also help to delineate new boundary conditions under which firms will make prosocial claims and provide insights into how corporations strategically communicate with external constituents about their sustainability initiatives.

**Keywords:** institutional theory, certification, decoupling, impression management, prosocial claims, greenwash, sustainability

A core tenet of institutional theory is that organizations benefit when their actions are perceived as legitimate (Meyer and Rowan, 1977; Tolbert and Zucker, 1983; Scott, 2008). Benefits of legitimacy may include enhanced access to resources, increased customer acceptance, and reduced public scrutiny, all of which can significantly improve an organization's performance and survival (Pfeffer and Salancik, 1978; Singh, Tucker, and House, 1986; Baum and Oliver, 1991; Sine, David, and Mitsuhashi, 2007). To attain these benefits, organizations often adopt socially legitimated practices in order to enhance the degree to which they are perceived as conforming to social expectations (Meyer and Rowan, 1977; Pfeffer, 1981).

The adoption of legitimate practices, however, is not always associated with actual improvements in organizational efficiency. Under such circumstances, organizations may seek to decouple the symbolic adoption of a given practice from its actual implementation (Meyer and Rowan, 1977). By doing so, organizations can benefit from the signal provided by adopting a socially valued practice and at the same time protect their existing operations from the potentially disruptive effects of implementing the practice. This act of decoupling allows organizations to “achieve legitimacy through espoused action but remain efficient or consistent through actual action” (Boxenbaum and Jonsson, 2008: 81).

Although a growing body of empirical work supports this traditional view of decoupling as symbolic adoption without substantive implementation (Edelman, 1992; Westphal and Zajac, 1994; Westphal and Zajac, 2001; Fiss and Zajac, 2006), recent anecdotes illustrate how organizations may at times engage in a form of “reverse decoupling,” where they substantively implement a practice, but elect not to symbolically signal such implementation (Stifelman, 2008; Moriarty, 2012; Delmas and Grant, 2014; Gehman and Grimes, 2014). Indeed, these examples raise a provocative theoretical question: if the value of adopting a socially valued practice is

largely assumed to be associated with the symbolic signal it provides, why might organizations vary in the degree to which they publicize this symbol?

To address this puzzle, we explore the factors that affect the publication of an organization's certification status. While certifications have become an increasingly common symbol that organizations use to manage their legitimacy (Sine, David, and Mitsuhashi, 2007; York and Lenox, 2014), they also generally require substantive changes in organizational practices (Lee, 2009) and as such are an ideal setting in which to examine the concept of reverse decoupling (i.e. substantive implementation with symbolic silence).

We begin our study by integrating insights from impression management theory to explain how and when certifications can help an organization maintain, enhance, or defend their legitimacy (Elsbach and Sutton, 1992; Ginzel, Kramer, and Sutton, 1993; Elsbach, 1994; Bansal and Clelland, 2004; McDonnell and King, 2013). We then explore the conditions under which organizations might strategically elect not to publicize their certification status. Central to this argument is the idea that concerns about perceived hypocrisy may cause organizations to remain symbolically silent about their certification status. Such concerns, we maintain, will be amplified when recent organizational actions directly contradict the implied claims of the certification and when such contradictions are readily apparent and understood by stakeholders.

To test our hypotheses, we empirically analyze the communication strategies of large public corporations that obtained certification in the form of inclusion in the Dow Jones Sustainability Index (DJSI). Established in 1999 by Sustainable Asset Management (SAM) and Dow Jones Indexes (DJI), the DJSI was the first global index to identify and track the performance of sustainability-driven companies worldwide and is well-regarded among the socially responsible investment community for its credibility and transparency (Sadowski et al.,

2010b). From 1999-2012, however, only 54 percent of DJSI members in our sample mentioned their membership status in press releases, annual reports, or social responsibility reports. Our study provides insights that help explain why nearly half of these companies, at times, elected not to publicize their attainment of this certification.

## **CERTIFICATIONS AS SIGNALS OF LEGITIMACY**

Organizations engage in various tactics to maintain, enhance, and defend their legitimacy (Ashforth and Gibbs, 1990; Elsbach and Sutton, 1992; Suchman, 1995). One increasingly prevalent method organizations use to manage their legitimacy is by signaling their participation in socially valued activities through the attainment of a certification (Zimmerman, 2005; Bartley, 2007; Sadowski, Whitaker, and Buckingham, 2010a; York and Lenox, 2014). Certifications are defined as external evaluations made by authoritative institutional actors that formally acknowledge that an organization meets a particular standard or set of criteria (Sine, David, and Mitsuhashi, 2007; Lee, 2009). Certifications can thus be seen as symbolic signals of assurance that an organization has substantively implemented practices, or engaged in activities that meet the requirements of the certification.

Certifications help to establish an organization's legitimacy by signaling its conformity to societal expectations (Baum and Powell, 1995; Sine, David, and Mitsuhashi, 2007). Such conformity is met when an organization's actions and behaviors are found to be in line with the minimum standards for membership within a defined social category (King and Whetten, 2008). By revealing information about organizational attributes that would otherwise be hidden from external audiences (King, Lenox, and Terlaak, 2005), certifications also provide signals of underlying quality (Spence, 1974) that can help external audiences distinguish the focal organization from its peers (King and Whetten, 2008).

A large body of empirical work lends support for these assertions. Prior research, for example, has demonstrated a strong link between external endorsements and organizational survival (Singh, Tucker, and House, 1986; Baum and Oliver, 1991; Rao, 1994). Other work has shown how such endorsements benefit new ventures by increasing their access to capital (Stuart, Hoang, and Hybels, 1999) and their likelihood of reaching operational start-up (Sine, David, and Mitsuhashi, 2007). Underlying each of the studies is an assumption that certifications are inherently valuable because of the symbolic signal they provide and that organizations will enjoy greater levels of legitimacy and enhanced performance by communicating their certification status to their external stakeholders.

Although prior studies highlight the benefits organizations receive from attaining certifications, we know little about the factors that influence how organizations communicate or publicize their certification status. The institutional literature, for example, has largely overlooked the distinction between obtaining and publicizing a certification (Delmas and Grant, 2014). This oversight has likely occurred because of a set of implicit assumptions about the legitimacy benefits that accrue to certified firms and the frequency with which they publicize their certification status. Some scholars, for example, have assumed “certification from authorized actors to *always* be beneficial [emphasis added]” (Sine, David, and Mitsuhashi, 2007: 582). While other scholars have noted that certifications may be “more or less influential” (Graffin and Ward, 2010: 332), the implicit assumption underlying much of the institutional literature is that certifications will have varied yet universally positive effects on organizations. Following these assertions, one could conclude that if certifications are always beneficial, then organizations would logically want to make their certification status known. Indeed, such reasoning underlies much of the extant institutional literature.

A number of recent examples from practice, however, raise questions about these assumptions. Wineries, for example, have been shown to obtain organic certification but at times elect not to mention the certification on their labels (Delmas and Grant, 2014). IKEA, a Scandinavian company that manufactures home furnishing products, has long been a leader in sourcing Forest Stewardship Council (FSC)-certified lumber, but does little to communicate its efforts to consumers (Stifelman, 2008). Other examples include hotels that obtain ecotourism or sustainability certifications without mentioning the certification on their website or in their marketing material (Moriarty, 2012), or certified B Corps that fail to promote their certification status (Gehman and Grimes, 2014). Collectively, these examples motivate the need to reexamine why firms that obtain certifications might vary in the strategies they use to communicate those certifications to constituents.

To address this disconnect between prevailing theory and practice, we first build on the literature at the nexus of impression management and institutional theory (Elsbach and Sutton, 1992; Suchman, 1995; Bansal and Clelland, 2004). Drawing upon this literature, we propose that organizations will publicize their certification status in order to maintain, enhance, or defend their legitimacy (Ashforth and Gibbs, 1990). We then argue that variance in publicizing certifications is likely to hinge on the degree to which the claims implied by the certification can be viewed as inconsistent with an organization's recent actions (Schlenker, 1980).

### **Maintaining Legitimacy**

A key assertion of impression management theory is that organizations will engage in strategic actions *to maintain* their legitimacy. Such actions can reinforce an organization's legitimacy when they are deemed to be desirable, proper, and appropriate by the organization's primary audiences (Suchman, 1995; Bansal and Clelland, 2004). While the content and medium

of these actions may vary (Elsbach, 2003), they typically take the form of routinized claims (Ashforth and Gibbs, 1990) that express the organization's continued commitment to socially prescribed norms and values (Bansal and Clelland, 2004; Philippe and Durand, 2011). Indeed, such routinized claims are particularly likely to occur for organizations that have already attained a "threshold of endorsement sufficient for ongoing activity" (Ashforth and Gibbs, 1990: 183). Bansal and Hunter (2003), for example, found that firms that were already viewed as environmentally legitimate were more likely to certify for ISO 14001 (an environmental certification) than firms that were not. Such actions, the authors argued, help to reinforce the firms' commitment to environmental responsibility and thus retain the support of the firms' primary audiences.

Given the need for organizations to maintain their legitimacy by signaling continued involvement in socially expected activities, we thus anticipate that organizations that are perceived as more legitimate in relation to the characteristics measured by the certification will be more likely to publicize the attainment of that certification.

*H1: Organizations will be more likely to publicize their certification status when they are perceived as more legitimate in relation to the certification criteria.*

### **Enhancing Legitimacy**

Organizations may also seek to *enhance* their legitimacy when their core operational activities are not perceived as legitimate (Meyer and Rowan, 1977; Oliver, 1991; Aldrich and Fiol, 1994; Suchman, 1995). Such perceptions are particularly prevalent when an organization's activities pose substantial risks to society (Ashforth and Gibbs, 1990). Prior research, for example, has found that organizations whose operations pose a greater risk to society tend to be perceived as having lower levels of legitimacy (Bansal and Clelland, 2004), largely due to their potential for significant negative environmental and social impacts. These negative perceptions



are often tied to industry membership and may therefore exist regardless of the organization's actual behavior or performance (King and Lenox, 2000). Scholars, however, have demonstrated that organizations can improve these perceptions by signaling their commitment to continuous improvement and conformity to stakeholder expectations (Bansal and Clelland, 2004; Philippe and Durand, 2011).

Organizations whose operations pose a greater risk to society also tend to be heavily regulated and scrutinized by the state (Bansal and Roth, 2000; Cho and Patten, 2007; Reid and Toffel, 2009; Chatterji and Toffel, 2010). In response to this scrutiny and regulation, high-impact organizations will often establish sophisticated reporting structures and processes aimed at increasing the transparency of their operations and impacts (Lyon and Maxwell, 2011). These efforts may include the creation of executive committees to handle social and environmental issues, the issuance of social responsibility or sustainability reports, the adoption of stakeholder management systems, and participation in voluntary programs aimed at increasing transparency and disclosure (King and Lenox, 2000; King, Lenox, and Terlaak, 2005; Reid and Toffel, 2009; McDonnell, King, and Soule, 2015). Such factors, we maintain, would likely lower the perceived costs of publicizing a certification because the necessary structures, processes, and resources are already in place.

Collectively, these findings suggest that organizations with riskier operations will be more likely to publicize their certification status. Indeed, such actions help to signal that the focal organization has substantively implemented practices to mitigate such risk. These signaling actions are apt to be perceived as more beneficial for risky organizations because of the opportunity for these types of organizations to enhance their legitimacy and less costly because they typically have an established reporting infrastructure in place.

*H2: Organizations will be more likely to publicize their certification status when their operations pose a greater risk to society.*

### **Defending Legitimacy**

In addition to maintaining and enhancing their legitimacy, organizations also engage in impression management tactics to *defend* their legitimacy. Such efforts are most likely to occur when the organization's legitimacy is challenged or threatened (Ashforth and Gibbs, 1990; Elsbach and Sutton, 1992; Elsbach, 2003). In effort to defend their legitimacy, organizations often seek affiliation with other legitimate groups or organizations (Elsbach, 2003). Doing so may help to neutralize a legitimacy threat by serving as a signal that the organization is trustworthy and that its actions are aligned with socially prescribed values and actions (McDonnell and King, 2013). Organizations may also engage in proactive communication strategies to highlight their positive activities. McDonnell and King (2013), for example, found that firms targeted by boycotts were subsequently more likely to make prosocial claims. Similarly, Elsbach (1994) described how spokespersons from the California cattle industry deployed effective symbols and communication strategies to protect member organizations from legitimacy threats related to food safety, health, and environmental concerns. Given these assertions, we thus propose that organizations will be more likely to promote their certification status when their perceived legitimacy is threatened.

*H3: Organizations will be more likely to publicize their certification status when they experience a recent legitimacy threat.*

### **Certification Legitimacy**

Although an organization may seek to maintain, enhance, or defend its legitimacy through the use of symbolic actions, the symbol itself must be viewed as legitimate in order for the benefits of legitimacy to take effect. As institutional theory suggests, the legitimacy of

practices may evolve over time as greater awareness, understanding, and acceptance of the practices occur (Tolbert and Zucker, 1983). Thus, the symbolic value associated with a given practice depends in large measure on the degree to which the practice itself is understood, valued, and expected by important audience members (Meyer and Scott, 1983).

Because legitimacy is conferred by constituents who perceive the organization's actions as desirable and appropriate (Pfeffer and Salancik, 1978; Suchman, 1995), we anticipate that decisions to publicize certifications will vary based on the degree to which the certification itself is perceived as legitimate. If a certification is not valued, or well-understood, it may actually have detrimental effects such as creating confusion or negative reactions from customers (Delmas and Grant, 2014). Thus, we expect that organizations will be more likely to publicize the attainment of a certification when the certification itself is perceived as more legitimate.

*H4: Organizations will be more likely to publicize their certification status as the legitimacy of the certification increases.*

## **RISK OF PERCEIVED HYPOCRISY**

### **Avoiding Perceptions of Hypocrisy**

Although publicizing a certification represents one strategy organizations can utilize to manage their legitimacy, we maintain that organizations may at times elect not to publicize their certification for strategic reasons. Specifically, we argue that one reason firms may remain silent about their certification status is to avoid the appearance of hypocrisy. Organizations engage in hypocritical actions when they make claims to which their own behavior does not conform (Brunsson, 2007). Indeed, such perceptions may arise when the claims implied by a certification are inconsistent with an organization's recent actions or behaviors (Schlenker, 1980).

Organizations that are inconsistent in their impression management strategies risk embarrassment and negative perceptions when such inconsistencies come to light (Schlenker,

1980). Prior research, for example, has found that actors that make claims that are inconsistent with their actions are often perceived to lack credibility (Tedeschi, Schlenker, and Bonoma, 1971), which may lead audience members to view all other communications with skepticism (Rosenfeld, Giacalone, and Riordan, 1995). Other studies that have explored how firms communicate their corporate social responsibility (CSR) activities indicate that firms receive added value *only* if their CSR initiatives are consistent with their prior reputation (Schuler and Cording, 2006; Servaes and Tamayo, 2013) and suffer from negative consumer attitudes if their CSR claims are inconsistent with their actual behavior along those dimensions (Wagner, Lutz, and Weitz, 2009).

Beyond altering stakeholder perceptions, inconsistent claims can also lead to direct sanctions, including increased scrutiny by the media and public backlash by activists. Recent research has found that firms that make claims perceived as ceremonial or superficial following negative events or wrongdoing increase the negative tenor of media coverage (Zavyalova et al., 2012). Other studies suggest that activists react more negatively to firms that lay claim to being virtuous than firms that never make such claims (Lyon and Maxwell, 2011). Such negative actions are illustrated by the recent protests aimed at Verizon after a group of bloggers discovered that the company was co-sponsoring an event with Massey Energy that was designed to support mountaintop-removal coal mining and to oppose climate legislation (Mufson, 2009). Indeed, these actions were viewed by many activists as hypocritical given Verizon's past claims as an environmental leader. For example, one activist declared that Verizon "can't claim to be 'going green' and then join forces with one of the dirtiest companies in the world. They can keep saying they're a friend to the environment until they're green in the face, but there's no environmentally friendly way to blow up mountains and dump them into streams" (Curry, 2009a;

Curry, 2009b). Within a week of the discovery, nearly 81,000 individuals submitted letters to Verizon asking them to withdraw their support from the event. The controversy was also widely covered by major media outlets such as *The Washington Post* and *The Huffington Post*.

Such intense negative attention and activism can lead to adverse consequences for firms, including a loss in reputation and legitimacy and decreased financial performance. Deephouse (2000), for example, found that banks with more unfavorable media coverage had lower levels of financial performance. King and Soule (2007), likewise, discovered that corporations that were targets of protests experienced significant declines in their stock prices. Underlying both studies is an assumption that negative media coverage and activism alter perceptions of the firm and increase the level of risk incurred by potential investors (Bansal and Clelland, 2004; Vasi and King, 2012).

Given the damaging effects of inconsistency on organizational performance, it is understandable why firms would want to avoid perceptions of hypocrisy. Although we lack specific empirical evidence of organizations demonstrating hypocrisy avoidance, prior research has nevertheless noted that managers are indeed sensitive to these concerns. For instance, after interviewing a number of environmental managers regarding their motivations for engaging in environmentally responsible initiatives, Bansal and Roth (2000) found that some firms were reluctant to publicize their CSR efforts. While the authors did not directly explore this phenomenon, Bansal and Clelland (2004: 101) later acknowledged that touting one's commitment to the environment could carry the "danger of receiving a green lashing," particularly for firms with low environmental legitimacy. Indeed such claims are consistent with recent assertions that the threat of being perceived as hypocritical may "cause some firms to 'clam up' rather than become open and transparent" (Lyon and Maxwell, 2011: 21).

## **Boundary Conditions for Hypocrisy Avoidance**

Perceptions of hypocrisy, however, require that stakeholders “attach importance not only to what organizations do but also to what they say and the decisions they make” (Brunsson, 2007: 117). Indeed, such an assertion suggests that the threat of appearing hypocritical will be enhanced under certain conditions. Accordingly, we propose that the risk of perceived hypocrisy is likely to be heightened when (1) an organization’s actions directly contradict their claims and (2) those contradictions are readily apparent and understood by stakeholders.

First, we expect that the risk of perceived hypocrisy largely depends on whether recent negative actions are within the same domain as the claims they contradict. If prosocial claims are associated with activities unrelated to the organization’s illegitimate undesirable actions, publicizing those claims may help to deflect criticism and steer attention away from the organization’s misdeeds (McDonnell and King, 2013). Attempts to make positive claims that are directly contradicted by recent negative events, however, are more likely to be viewed as hypocritical (Godfrey, 2005). For example, publishing a certification that signifies excellence in labor practices is more apt to appear hypocritical for firms that have been recently targeted by activists for engaging in inappropriate child labor practices, but less so for firms that have experienced poor environmental performance but have no history of negative labor practices. Likewise, publishing a certification that signifies leadership in sustainable activities is more likely to be perceived as hypocritical for firms that have recently paid fines for violating environmental regulations, but may be an effective strategy for firms that are trying to draw attention away from negative labor practices.

While inconsistency between the organization’s claims and actions is expected to be a necessary condition for perceptions of hypocrisy to arise, it is not likely to be sufficient. In order

for an organization's claims to be perceived as hypocritical, stakeholders must also be aware of and understand the inconsistency. Because stakeholders are limited in their ability to attend to the various actions of organizations (Madsen and Rodgers, 2014), we should thus expect that evidence of hypocrisy avoidance would be greater for firms whose actions attract greater attention or that operate under greater stakeholder scrutiny.

In the following section, we build on these ideas by presenting a series of hypotheses that outline when inconsistencies between claims and actions are likely to be recognized and understood by constituents. Assuming that organizations will seek to avoid perceptions of hypocrisy, we expect that increased recognition and understanding by stakeholders will lead some organizations to withhold rather than publicize their certification status. Collectively, these hypotheses reinforce the idea that variation in how firms communicate their certifications may hinge on the relationship between unfavorable actions and the claims associated with the certification and whether stakeholders attend to and understand the claims implied by the certification.

**Organizational legitimacy.** One characteristic that may enhance stakeholder attention is the legitimacy of the organization. Madsen and Rodgers (2014), for example, found that firms that partnered with established NGOs in their disaster relief efforts received more attention from the media than other firms, ostensibly because the not-for-profit logic of NGOs enhanced the legitimacy of a firm's CSR efforts. Other work has indicated that stakeholders are more likely to attend to organizations whose actions and claims are aligned with the values and expectations of society (King, 2008; Briscoe, Chin, and Hambrick, 2014). Such attention is particularly salient for organizations with prior commitments to prosocial activities (King and McDonnell, 2014; Briscoe, Gupta, and Anner, 2015). Indeed, having a strong prosocial orientation can attract the

attention of the public—in particular, socially conscious consumers and investors whose values match the activities and initiatives of the legitimate organizations. This same legitimacy, however, can also draw the attention of activists who seek a more visible stage on which to proclaim their grievances (Briscoe and Safford, 2008; King and McDonnell, 2014). In either case, we argue that legitimate organizations tend to be more visible and that this increased visibility enhances the likelihood that stakeholders will notice and attend to activities or behaviors that may appear hypocritical. Following this logic, we thus expect that organizations perceived as more legitimate will be less likely to publicize a certification in the presence of legitimacy threatening events.

*H5: Legitimacy threats within the same domain as the certification will negatively moderate the relationship between an organization's legitimacy and the likelihood of publicizing a certification.*

**Perceived risk.** We also anticipate that the risk of hypocrisy will be greater for organizations that operate in industries that pose greater societal risk. Such organizations, as argued previously, tend to be heavily regulated and scrutinized by the government and other external stakeholders, and this added attention is likely to increase the degree to which inconsistencies between claims and actions are readily apparent. For these reasons, we predict that risky organizations that experience legitimacy threats will be less likely to publicize their certification status.

*H6: Legitimacy threats within the same domain as the certification will negatively moderate the relationship between the perceived risk of an organization's operations and the likelihood of publicizing a certification.*

**Certification legitimacy.** The degree to which stakeholders understand and recognize contradictions between an organization's actions and claims will also influence their perceptions of organizational hypocrisy. This recognition, we argue, will vary based on stakeholders'



understanding of the claims associated with the certification. In order for certifications to be of value in providing socially determined benefits to organizations, the certification itself must attain a degree of cognitive legitimacy (Suchman, 1995; Scott, 2008). In this regard, the cognitive dimension of legitimacy refers to the extent to which a practice is widely understood and conforms to a “common definition of the situation, frame of reference, or recognizable template” (Scott, 2008: 61). This cognitive dimension is viewed as the deepest level of legitimation because it results in taken-for-granted understandings and expectations (Scott, 2008). As a certification acquires greater legitimacy, stakeholders will likely have a greater awareness and understanding of the specific claims associated with the certification and will be in a better position to identify discrepancies between an organization’s actions and the claims implied by the certification. Accordingly, we posit that organizations that experience legitimacy threats will be less likely to publicize a certification as the legitimacy of the certification increases as doing so would increase the likelihood of being perceived as a hypocrite.

*H7: Legitimacy threats within the same domain as the certification will negatively moderate the relationship between the legitimacy of the certification and the likelihood of publicizing a certification.*

## **METHOD**

### **Empirical Context**

To test our hypotheses, we selected an institutionalized context in which the norms, values, and societal expectations of organizations were already well-established. By doing so, we increased the likelihood that an organization’s rationale for attaining and publicizing a certification would largely be driven by concerns about managing its legitimacy. Although there were a number of different contexts that we could have analyzed, for this study, we focused our analysis within the context of corporate sustainability. Such a context is appropriate given the

increasing institutionalized nature of corporate sustainability practices (Jennings and Zandbergen, 1995; Hoffman, 2001).<sup>1</sup>

Specifically, we tested our hypotheses using membership data from the Dow Jones Sustainability Index (DJSI). Established in 1999, the DJSI is a well-known sustainability certification that seeks to “identify companies that are better equipped to recognize and respond to emerging sustainability opportunities and risks” (RobecoSAM, 2013: 4). Implicit in this objective is an assumption that companies that adapt to such challenges enhance their ability to generate long-term shareholder value.

The index is constructed from an eligible universe of 2,500 companies, all of which are listed on the Dow Jones Global Index (DJGI). Each company from this universe is evaluated on an annual basis by RobecoSAM through a methodology known as the Corporate Sustainability Assessment (CSA). As part of the assessment, companies are required to disclose their economic, environmental, and social performance using an online industry-specific questionnaire.<sup>2</sup> Although much of the information is self-reported, each response is verified for accuracy through supporting documentation and other publicly available information. To further ensure quality and objectivity, an independent third party conducts an annual external audit of

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<sup>1</sup> Hoffman (2001: 156), for example, declared that “the existence of a culturally supported belief in some degree of corporate environmental responsibility is undeniable. That companies would no longer dump hazardous waste in the “back forty” could safely be considered a given. If a company did choose to undertake such an activity, it would do so with full knowledge that is deviating severely from *existing legal and ethical institutions* [emphasis added].” Indeed “as environmental management institutions reach the cognitive level, it becomes imperative that firms” not only refrain from harmful environmental activities, but also “project an image of environmental responsibility” (2001: 14).

<sup>2</sup> It must be noted that not all companies in the eligible universe choose to respond to the CSA. In such cases, RobecoSAM may complete the CSA questionnaire, to the extent possible, based on publically available information. While such practices in theory may allow firms who do not actively seek membership to still become certified, representatives of RobecoSAM confirmed that companies actually selected for the index tend to be those companies that actively complete the questionnaire. While we were unable to obtain the participation data from RobecoSAM for proprietary reasons, prior research corroborates their assertion. Ziegler and Schröder (2010), for example, found that 92.7 percent of the firms that were listed on the DJSI World Index from 1999 to 2004 voluntarily completed the questionnaire.

the assessment process. Following the assessment, RobecoSAM calculates a company's total sustainability score based on a predefined and preweighted scoring structure. These scores are then used to rank each company within its own sector. Only the top 10 percent in each sector are selected as members of the DJSI.

The DJSI is internationally recognized for its transparency and objectivity and is well regarded by the investment community (Sadowski, Whitaker, and Buckingham, 2010b; Cheung, 2011). One recent study, for example, found the DJSI to be the most credible sustainability certification in the eyes of sustainability professionals (Sadowski, Whitaker, and Buckingham, 2010b). Because of its prominence within the field of sustainability, companies often express inclusion on the index as a strategic goal and, for some CEOs, a key performance indicator (Robinson, Kleffner, and Bertels, 2011). Such achievement, however, does come at a cost. Many companies, for example, noted that the application process is time-consuming, requiring a significant commitment of person-hours to complete (Searcy and Elkhawas, 2012). Consistent with these beliefs, one study found that first-time members experienced a negative dip in accounting-based performance (López, Garcia, and Rodriguez, 2007), presumably reflecting the initial costs of being included on the index (Robinson, Kleffner, and Bertels, 2011). For other firms, particularly those in heavily regulated industries, the costs of applying are likely lower as such firms already have advanced reporting and environmental management practices in place (Searcy and Elkhawas, 2012).

Despite these costs, many firms assume that the external validation of their sustainability efforts can lead to enhanced financial performance and long-term value (Peloza et al., 2012). Although these benefits are difficult to quantify, companies have noted how inclusion on the index can increase perceptions of legitimacy among socially-conscious investors and enhance

their brand or reputation more generally, all factors that can help to maintain or improve the firm's competitive position among its industry peers (Searcy and Elkhawas, 2012). Indeed, studies have found that newly added firms experience positive abnormal returns upon inclusion, thus indicating that there are tangible and sustained benefits to being included on the index (Cheung, 2011; Robinson, Kleffner, and Bertels, 2011; Hawn, Chatterji, and Mitchell, 2014).

Given both the initial costs as well as the expected benefits of inclusion, one could imagine that recognized firms would always want to publicize their membership in the DJSI as a signal of sustainability leadership. Indeed, such an assertion is an implicit assumption underlying much of the extant institutional literature. Contrary to this assumption however, we find several instances where companies appear to remain silent about their membership in the DJSI from the public, particularly when the risk of perceived hypocrisy is increased.

Advanced Micro Devices (AMD), for example, was first included as a member of the DJSI in 2002 and maintained their membership through the duration of our analysis. For the first four years, AMD actively publicized its DJSI membership in an annual sustainability report. However, in February 2006 an environmentalist group called Save Our Springs Alliance filed a lawsuit against AMD to stop them from building a new corporate campus in a sensitive watershed area in Austin, TX. Following this lawsuit, AMD did not publicize their membership for a period of two years, but resumed publication again in 2008 and continued to do so until the end of our observation window in 2012. While we do not observe AMD's actual motivations for remaining silent about their membership, such actions are nevertheless consistent with our arguments that the choice of publicizing or withholding membership status from external constituents is indeed a strategic decision that could be influenced by whether the signal implied

by the certification is inconsistent with a firm's recent actions and well understood and recognized by external stakeholders.

### **Data Sources and Sample**

To investigate our hypotheses, we first assembled a list of all US-based public corporations that were listed on the DJSI-World or the DJSI-North America Index from 1999, the year the DJSI was first established, to 2012.<sup>3</sup> We also collected environmental performance data using the MSCI ESG STATS database. Finally, we gathered firm-specific and other financial performance variables from Compustat. Using these data, we constructed a panel of 261 firms and 1,251 firm-year observations.

### **Dependent Variable**

Our analysis focused on the managerial decision to publicly disclose membership in the DJSI. To evaluate this practice, we searched for any mention of membership in the DJSI in the following three key publication outlets: annual reports filed with the US Securities and Exchange Commission (SEC), corporate social responsibility or sustainability reports, and corporate press releases. All three outlets are common strategic communication tools that a firm may use to convey its commitment to sustainable practices to its various stakeholders (Holder-Webb et al., 2009; Philippe and Durand, 2011; McDonnell and King, 2013). We gathered and searched annual reports using the EDGAR database made available by the SEC. The majority of corporate sustainability reports were obtained from Corporate Register, "the world's largest online directory of corporate responsibility (CR) reports." We further supplemented and validated this source by searching other relevant resources, including the Global Reporting Initiative (GRI) database, the Sustainability Report Center on socialfunds.com, and the firms' websites. Finally,

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<sup>3</sup> The DJSI-North America Index was established in 2005. Unlike the DJSI-World index, the DJSI-North America index evaluates the 600 largest North American companies and includes the top 20 percent in each industrial sector.

we collected corporate press releases by searching PR Newswire and Business Wire on LexisNexis.

For each publication outlet, we searched for any mention of membership in the DJSI using the following terms: Dow Jones, DJS, DJSI, index, and sustainability. Because index membership in the corporate responsibility or sustainability reports was sometimes communicated using the DJSI logo rather than text, we also performed a visual analysis of each report. Based on our search, we generated a binary variable, *DJSI membership publicized*, coded as “1” for every year that a firm publicized their membership in the DJSI and “0” otherwise.

### **Independent Variables**

**Organizational legitimacy.** As Deephouse and Suchman (2008) note, a central issue for scholars who study legitimacy is to identify who has collective authority over legitimation within a given context. Legitimacy, for example, could be granted by society at large, or by influential institutional actors that, through their history and status, strongly influence the standards of appropriate or acceptable behavior on specific issues or activities (Zuckerman, 1999; Pollock and Rindova, 2003; Sine, David, and Mitsuhashi, 2007). Because our study is focused on the specific issue of environmental sustainability, we narrowed our attention to an influential organization that has, through its status and history, come to shape what it means to be a legitimate sustainable organization.

To thus evaluate a firm’s prior legitimacy, we used social ratings data from the MSCI ESG STATS database, formerly administered by KLD Research and Analytics (KLD). Established in 1990, KLD was one of the first social investment agencies to publish research designed to evaluate the risks and opportunities associated with corporate environmental and social performance. Initially lacking any significant competition, KLD’s database quickly

became the “de facto standard” for research on corporate sustainability (Waddock, 2003: 369) and has been deemed by many to be the most widely used social ratings database available to the public (Chatterji, Levine, and Toffel, 2009; Chen and Delmas, 2011). In addition, many well-known CSR rankings, such as the *100 Best Corporate Citizens*, have used KLD’s ratings as the primary source for their analysis (Waddock, Graves, and Kelly, 2000). Together, these statements support our assertion that KLD had a significant degree of authority over legitimation within the context of corporate sustainability.

Although KLD evaluates firms across a variety of dimensions of social interest, we focused on a subset of ratings that evaluate a firm’s environmental legitimacy (Bansal and Clelland, 2004). We did so for two reasons. First, the primary objective of the DJSI was to identify companies that lead the field in terms of sustainability (RobecoSAM, 2013). Second, recent research suggests that the public discourse surrounding sustainability is more closely aligned with environmental issues rather than social issues (Soderstrom and Weber, 2014). Given these assertions, we felt justified in focusing on a firm’s environmental legitimacy as opposed to a generalized legitimacy, as environmental legitimacy is more closely aligned with the primary objective of the DJSI.

Like most scholars, we view legitimacy as a dichotomous variable. Nevertheless, as Deephouse and Suchman (2008: 62) propose, “because legitimacy is always assessed by multiple audiences and with respect to multiple activities, an organization can become *more legitimate* by becoming legitimate to *more audiences* or in *more of its activities* [emphasis added].” We thus evaluated a firm’s *environmental legitimacy* by summing the number of environmental strengths it received in every firm-year. These environmental strengths are dichotomous variables that evaluate the processes that firms employ to reduce their

environmental impacts (Delmas, Etzion, and Nairn-Birch, 2013). Detailed descriptions of these variables are shown in Table 1. Assessments are performed annually and are primarily based on publicly available information reported by the media (Delmas, Etzion, and Nairn-Birch, 2013). Implicit in our approach is the notion that a firm's environmental legitimacy is based on the degree to which a firm's environmental initiatives conform to preexisting institutional expectations (Bansal and Clelland, 2004).

---Insert Table 1 here---

**Perceived risk.** Following prior research (Cho and Patten, 2007; Reid and Toffel, 2009; Chatterji and Toffel, 2010), we created a dichotomous variable, *environmentally sensitive industry* (ESI), for firms that were members of industries known to have greater environmental impacts and whose operations tend to pose greater environmental risks. Specifically, we coded this variable as "1" for firms with a primary Standard Industrial Classification (SIC) code of 10xx (mining), 13xx (oil exploration), 26xx (paper), 28xx (chemicals and allied products), 29xx (petroleum refining), 33xx (metals), and 49xx (utilities), and "0" otherwise.

**Legitimacy of the certification.** As a proxy for the *legitimacy of the DJSI*, we counted the cumulative number of newspaper articles mentioning the DJSI. These articles were obtained from LexisNexis using the following search terms: *Dow Jones Sustainability*, *DJSGI*, and *DJSI*. Implicit in this approach is an assumption that media coverage reflects the public opinion and can thus indicate the extent to which a certification is viewed as legitimate (Baum and Powell, 1995; Deephouse and Suchman, 2008). Indeed a number of empirical studies have used media coverage as a proxy for legitimacy which provides further support for our empirical approach (Deephouse, 1996; Bansal and Clelland, 2004; Sine, Haveman, and Tolbert, 2005; Sine, David, and Mitsuhashi, 2007). As one would expect, our results strongly support the notion that the



legitimacy of the DJSI increased over time. In 1999, the year the DJSI was first introduced, we found eight articles that made mention of the DJSI. By the end of our study, the cumulative number of articles mentioning the DJSI exceeded 1,000. Such a pattern, we argue, increases the probability that stakeholders would be aware of the DJSI and come to see its attainment as something that is desirable, proper, and appropriate (Suchman, 1995).

**Legitimacy threats.** Hypotheses 4–6 predict that recent actions that contradict or are inconsistent with the intended signal of a certification will negatively moderate the relationship between the hypothesized main effects. To test the generalizability of this prediction, we evaluated evidence of recent poor environmental performance as indicated by the following stakeholder actions: (1) regulatory actions taken by monitoring agencies, (2) resolutions filed by shareholders, and (3) protests, boycotts, or civil lawsuits organized by NGOs and other community activists. Implicit in our approach is the assumption that each one of these actions serves as evidence that the firm is not performing to the given stakeholder’s expectations, thus constituting a threat to the organization’s legitimacy. To maintain theoretical consistency with DJSI’s focus on sustainability, we only included stakeholder actions that occur within the environmental domain.

We first evaluated poor environmental performance using the *regulatory concerns* sub rating issued by MSCI. This variable was coded as “1” for companies that have recently paid substantial fines or civil penalties for violations of the Clean Air Act, Clean Water Act, or other major environmental regulations, and “0” otherwise.

We also obtained data on the level of *shareholder activism* by counting the number of environmental shareholder resolutions from the EthVest database published by the Interfaith Center on Corporate Responsibility. Shareholder resolutions are proposals often put forth by

socially minded investors that seek to influence corporate decision-makers by generating internal debates about a firm's policies and practices (Reid and Toffel, 2009). While such resolutions often fail to receive enough support to change corporate policies, they nevertheless serve as indicators that investors are concerned about a firm's environmental practices (Vasi and King, 2012). Because shareholder action targeting a specific firm is a rare event that has enduring influence, we summed the number of environmental shareholder resolutions for the prior two years (Reid and Toffel, 2009). To reduce the influence of outliers, we also transformed the variable using a square-root transformation. The square-root transformation is particularly appropriate for counted data, especially if the values are mostly small and contain zero-values (Cohen et al., 2003).

Finally, following prior research (Vasi and King, 2012), we evaluated the degree of *stakeholder activism* by counting the number of newspapers articles discussing an environmental protest, demonstration, boycott, or lawsuit. Such events, we argue, serve as indicators that environmental NGOs and other activists are not pleased with a firm's recent environmental performance and practices. We obtained these articles by using the following search string in LexisNexis: (environmental group *OR* environmental organization *OR* environmental activist *OR* environmentalist) *within the same paragraph* (protest *OR* boycott *OR* demonstration *OR* lawsuit) *within the same paragraph* (company name). We then manually evaluated each article and eliminated false positives. Because such events could have an enduring effect on a firm's environmental legitimacy (Bansal and Clelland, 2004), we summed the number of articles for the prior two years. Again, to reduce the influence of outliers, we transformed this variable using a square-root transformation.

## **Control Variables**

To rule out alternative hypotheses, we controlled for a number of other factors that might influence a firm's propensity to publicize their membership in the DJSI. First, we controlled for firm size using log total *revenue*, as prior research has found company size to be positively correlated with the likelihood of environmental disclosure (Reid and Toffel, 2009; Lewis, Walls, and Dowell, 2014) and, more generally, the number of prosocial claims made by a firm (McDonnell and King, 2013). Because corporate social and environmental initiatives often take a subordinate role to a firm's profitability goals, we suspected that the use of valuable corporate resources used in the publication of certification status could also depend on the prior financial performance of the firm. To control for this possibility, we thus included a measure of financial performance, specifically *return on assets* (ROA), calculated as income before extraordinary items divided by total assets.

We also sought to control for a firm's general tendency to publish environmental information. First, we included a measure of a firm's *environmental transparency* by including the transparency strength rating issued by MSCI which is coded as "1" for companies that are particularly effective in reporting a wide range of social and environmental performance measures and "0" otherwise. Second, we included the number of prior firm-membership-years publicized as a way to control for the routinized nature of a firm's *impression management* repertoire (McDonnell and King, 2013). Firms could also, however, withhold their publication status if they felt that their stakeholders were becoming exhausted hearing the same message year after year. To control for this possibility, we squared this variable to account for any curvilinear effects between the number of prior firm-membership years-publicized and the likelihood of publication in the focal year.

One could also expect that firms that cleared the threshold for inclusion (i.e. those in the 99<sup>th</sup> percentile) might be more inclined to publicize their membership knowing that they are likely to maintain it in the future, while firms that are “just good enough” (i.e. the 90<sup>th</sup> percentile) might be wary of touting an achievement that they could very well lose the following year.<sup>4</sup> To thus account for the possibility that a firm’s publication strategy might be influenced by its relative performance, we utilize information obtained from *The Sustainability Yearbook*, an annual report published by RobecoSAM. In order to be listed in the yearbook, companies must achieve a score that falls within the top 15 percent of their industry. The company with the highest score is named as the industry leader. Companies whose score falls within 1, 5, and 10 percent of the sector leader receive the following distinctions respectively: RobecoSAM Gold Class, RobecoSAM Silver Class, and RobecoSAM Bronze Class. While such categorization fails to distinguish the performance of firms within the same category (Graffin and Ward, 2010), it nevertheless gives us a coarse ranking of relative performance within an industry. Accordingly, we include indicator variables for the *DJSI sector leader*, *Gold Class*, *Silver Class*, *Bronze Class*, and *Yearbook* to control for variation in publication strategies based on intra-industry performance.

Members of the DJSI may also be less inclined to trumpet their inclusion if their membership information is already available and easily accessible to the public. Firms, for example, could assume that external stakeholders already know about their inclusion on the index, especially if their membership is published by the DJSI, and thus not see the need to report it themselves. To thus rule out this possibility, we first evaluated each annual press release

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<sup>4</sup> Although the performance of each individual company is not published by the DJSI, all participating firms receive a report that lists their overall score as well as the top, average, and lowest score in their industries (SustainAbility, 2013).

issued by the DJSI for any specific mention of a firm. Consistent with previously recorded statements, we found that the DJSI discloses the names of sector leaders as well as the additions and deletions resulting from the annual review process (SustainAbility, 2013). We thus included, in addition to the *DJSI sector leader* listed above, another indicator variable to evaluate whether being a new *DJSI addition* had any impact on the likelihood of publication. Some firms could also choose to not publicize their membership because such an achievement could become a taken-for-granted expectation by external stakeholders, particularly for firms that are serial members. To account for such expectations, we thus included a variable, *stakeholder expectations*, that evaluates the number of prior firm-membership-years.

Finally, through conversations with RobecoSAM, we learned that the DJSI-World Index is generally seen as the most prestigious of the Dow Jones Sustainability Indices because firms are essentially competing for recognition against their global peers rather than national peers. We thus included an indicator variable coded as “1” for firms that were included on the *DJSI-World* index, and “0” otherwise.

### **Model Specification**

Firms included on the DJSI are not randomly assigned members but rather are self-selected into membership by answering the CSA questionnaire. Such selection, however, could bias our results if factors that predict the likelihood of becoming certified also influence the likelihood of publication (Hamilton and Nickerson, 2003; Bascle, 2008). Because many firms likely seek to become certified with the intention of publicizing that certification to their stakeholders, one could expect that factors that predict the likelihood of becoming a member of the DJSI could also predict the likelihood of publication.

To thus account for these potential selection problems, we estimated the likelihood that a firm would publicize its membership in the DJSI using a two-stage Heckman probit model. A variation of the original Heckman selection model, the Heckman probit model is more appropriate when the primary variable of interest is dichotomous rather than continuous (King, 2008). The first stage included each firm that was a member of the DJSI as well as a comparable group of firms. Specifically, we included all firms listed on the S&P 500 index on the date the DJSI index constituents were announced. These firms, we argue, would represent an adequate comparison, given that 90 percent of firms listed on DJSI were also members of the S&P 500 index at the time that their membership was announced.

We then used this larger sample ( $n = 7,083$ ) to predict the likelihood that a firm would become a member of the DJSI. Because factors that would predict the likelihood of publication could very well predict the likelihood of becoming a member of the DJSI, we included all main effect and control variables from our second stage in the first-stage probit regression.<sup>5</sup> We also added two additional variables to the model: a series of *RobecoSAM industry* indicators, and an indicator variable titled *FTSE4Good*, operationalized as whether the firm had been a member of the FTSE4Good Index in the previous year. We included the former to account for unobserved differences in the likelihood of applying for membership in the DJSI between industries. The latter variable, we suspected, would be highly correlated with likelihood that a firm would be a member of the DJSI in the current year, but uncorrelated with the likelihood of publication and would thus serve a valid exclusion restriction.<sup>6</sup>

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<sup>5</sup> All control variables from the second stage were included in the first stage with the exception of the DJSI sector leader, Gold Class, Silver Class, Bronze Class, Yearbook, DJSI addition, and DJSI World indicator variables. These variables were determined simultaneously or shortly after the DJSI constituent decisions were made and thus cannot be used to predict membership in the DJSI in the focal year.

<sup>6</sup> Like the DJSI, the FTSE4Good Index is a socially responsible investment (SRI) index that seeks to identify companies that demonstrate strong Environmental, Social, and Governance (ESG) practices (see [www.ftse.com](http://www.ftse.com)).

In the second stage, we again estimated the likelihood that a firm would publicize its membership in the DJSI using a probit regression. To control for self-selection, we included the inverse-mills ratio generated from the first stage. We also included a series of year dummies to account for unobserved changes in environmental policy and social trends that might influence the likelihood of publication. To avoid concerns about simultaneity or reverse causality, we lagged all independent and moderating variables by one year (Reid and Toffel, 2009; Lewis, Walls, and Dowell, 2014). We also reported standard errors clustered by firm in order to accommodate potential serial correlation within firms (Marquis and Toffel, 2014).

---Insert Tables 2-4 here---

## **RESULTS**

### **First-stage model**

We display descriptive statistics and correlations for all variables in Table 2. The results of our first-stage selection model are displayed in Table 3. Consistent with our expectations, we discovered that firms with more environmental strengths were more likely to apply and be selected as a member, as were firms in environmentally sensitive industries. Ironically, we found that the legitimacy of the certification had a negative effect on the likelihood of applying for and becoming a member of the DJSI. While initially surprising, this result may nevertheless indicate that the likelihood of being selected decreases when more firms apply for membership, a factor that is likely positively correlated with the legitimacy of the certification.

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Although these two indices use distinct rating methodologies (Chatterji et al., Forthcoming), both rely on similar pieces of information when constructing their respective indices. We thus expected that membership in the FTSE4Good Index would be a reasonably good predictor of membership in the DJSI. Using a Wald test, we found the FTSE4Good indicator was indeed a strong predictor of membership in the DJSI ( $X^2 = 13.92$ ,  $p\text{-value} = .0002$ ). Furthermore, we had no reason to expect that membership in the FTSE4Good would influence the likelihood that firms would also publicize their membership in the DJSI. Subsequent analysis revealed very little correlation between membership in the FTSE4Good Index and DJSI publication ( $r = 0.06$ ), thus supporting our expectations.

Considering the effect of recent stakeholder actions, we found that firms that had recently experienced a fine for regulatory noncompliance were less likely to become members of the DJSI. In contrast, our results suggest that firms that were recent targets of stakeholder activism (i.e., protests, boycotts, lawsuits, etc.) were more likely to become members of the DJSI. While seemingly contradictory, these results likely reflect the respective objectives of each stakeholder group, with regulatory agencies seeking to target the poorly performing firms with the largest environmental impacts and environmental activists targeting legitimate firms with a high degree of visibility (King and McDonnell, 2014).

As one would expect, firms that were larger in size were more likely to apply for and be selected as a member, as were firms that had a history of environmental transparency and membership in the DJSI. Firms who were members of the FTSE4Good in the prior year were more likely to apply for and be selected as a member of the DJSI in the current year.

---Insert Table 5 here---

### **Second-stage model: Main effects**

We report the main-effect results for the second-stage probit regression model in Table 4 in columns 1-4. Models 1-3 seek to isolate the individual impacts of specific legitimacy threats. Model 4 contains the fully specified model.

Hypothesis 1 predicted that environmentally legitimate firms would also be more likely to publicize their certification status. Across all four model specifications, we find that *environmental legitimacy*, proxied by the number of environmental strengths in the prior year, increases the likelihood that a firm will publicize their DJSI membership in the current year. These results are consistent with our arguments that firms already perceived as legitimate will



seek to maintain their legitimacy by employing symbols that signal their continued commitment to socially prescribed norms and values.

Hypothesis 2 predicted that firms with a high degree of *environmental risk* would also be more likely to publicize their certification status. Our results provide moderate support for this prediction. When coupled with the *regulatory concerns* variable, we find a positive, but statistically insignificant effect for the degree of *environmental risk*. When the regulatory concerns were excluded from the model, however, we find a strong positive effect. Such inconsistent results may occur due to the correlated nature of regulatory oversight and *environmental risk*. Regulatory agencies, for example, may prefer to target firms and industries with the highest potential for negative impacts. Indeed, the moderate degree of correlation ( $r = 0.38$ ) between the two variables provides support for this assertion. Overall, these results provide some support for our arguments that firms with a high degree of environmental risk will be more likely to publicize their certification status.

Hypothesis 3 predicted that firms facing legitimacy threats would be more likely to defend their legitimacy by publishing a certification. Our results suggest that firms facing recent *regulatory concerns* are indeed more likely to publicize their membership in the DJSI (see columns 1 & 4). We find no support, however, for the other types of legitimacy threats, namely *shareholder activism* and *stakeholder activism* (see columns 2 & 3). While we were initially surprised by these results, we suspect they reflect the idiosyncratic objectives of each stakeholder group. Regulatory agencies, for example, tend to focus on compliance with the law, and may therefore not be aware or even care about prosocial claims made by firms. On the other hand, socially-conscious investors and other environmental NGOs tend to care not only about a firm's environmental impacts but also its environmental claims. Such preferences may help to explain

why firms facing recent regulatory actions may feel less inhibited about proclaiming their environmental leadership than firms facing other types of legitimacy threats.

Hypothesis 4 predicted that the likelihood that a firm would publicize their certification would increase with the legitimacy of a certification. Our results strongly support this prediction. Across all model specifications, we find that the *legitimacy of the DJSI*, proxied by the cumulative number of media articles that mention the DJSI, has a positive effect on the likelihood that firms will publicize their membership. These results suggest that legitimacy of a certification does indeed influence the likelihood that firms will publicize their certification status, thus strongly supporting Hypothesis 4.

---Insert Figures 1-3 here---

### **Second-stage model: Interaction effects**

Hypotheses 5–7 predicted that legitimacy threats as evidenced by recent stakeholder actions (specifically regulatory action, shareholder activism, and stakeholder activism) will negatively moderate the effects of the prior legitimacy of the firm, the degree of perceived risk, and the legitimacy of the certification on the likelihood of publication. Results for these three moderating variables are respectively shown in Table 5. Because the interpretation of interaction effects when using probit regression is inherently difficult, we also provide graphical interpretations for each interaction effect.

Our results suggest that shareholder activism and stakeholder activism both negatively moderate the relationship between *environmental legitimacy* and the publication of DJSI membership (see Table 5, columns 1-3). We find no support for a moderating effect of regulatory concerns. The effects of these interactions can be seen graphically in Figures 1b–1c. Together, these figures demonstrate support for a positive main effect of organizational

legitimacy. This effect, however, is negatively moderated for firms whose recent performance has fallen below expectations of shareholder and other external stakeholders. Indeed, these results are consistent with our arguments that inconsistent performance as observed by recent stakeholder actions will increase the risk of appearing hypocritical, particularly for legitimate firms, thus providing support for Hypothesis 5.

We also find similar patterns of results for firms associated with a high degree of *environmental risk* (see Table 5, columns 4-6). As shown in columns 4 and 5, regulatory concerns and shareholder activism also negatively moderate the effects of perceived risk of the firm's operations on the likelihood of publication. The magnitude of these interactions can also be examined using Figures 2a and 2b. Consistent with Hypothesis 2, we find that the predicted probability of publication increases for firms operating in environmentally sensitive industries. This effect, however, is negatively moderated by evidence of inconsistent performance, namely recent regulatory actions and shareholder activism. We find no moderating effect for stakeholder activism, which perhaps indicates that firms with a high degree of environmental risk might be more attuned to the specific concerns of regulatory agencies and shareholders than other external stakeholders (i.e., environmental NGOs, activists, etc.). These results are nevertheless consistent with our arguments that inconsistent performance as evidenced by recent stakeholder actions will increase the risk of perceived hypocrisy, particularly for firms with a high degree of environmental risk, thus providing support for Hypothesis 6.

Finally, we find that actions taken by regulators, shareholders and stakeholders all negatively moderate the relationship between the legitimacy of the certification and the likelihood of publication. As shown in Figure 3a-3c, we see that at lower levels of certification legitimacy, firms facing legitimacy threats are more likely to publicize their DJSI membership.

This relationship flips, however, as the certification becomes more legitimate. Overall, these results are consistent with our arguments that inconsistent performance can increase the risk of perceived hypocrisy, particularly when the claims being made are well understood and recognized by external stakeholders, and thus support the relationships predicted in Hypothesis 7.

While the control variables were not the primary focus of our analysis, they nevertheless help to rule out other alternative explanations for our findings. As one would expect, we find that firms that had a history of *environmental transparency* were more likely to publicize their DJSI membership. We also found that firms that had a history of *impression management* (prior publications of their DJSI membership) were more likely to publicize their membership. The negative coefficient on the squared-term, however, suggests that this influence begins to taper off over time, thus serving as evidence of marketing fatigue. Firms that were leaders of their respective sectors (*DJSI sector leaders*) were also more likely to publicize their membership as were firms listed on the more prestigious *DJSI World index*. Finally, we found that the number of times a firm had been a member of the DJSI had a strong negative impact on the likelihood of publication. Such results may serve as an indication that multi-year members had come to meet *stakeholder expectations* and would therefore not need to communicate their membership in the future. Across all specifications we find a negative, yet statistically insignificant, coefficient for the *inverse mills ratio*. Such an outcome suggests that our results are not likely to be influenced by selection bias.

## **DISCUSSION AND CONCLUSIONS**

In this study, we examined firms' decisions to publicize the attainment of an environmental certification. Motivated by recent calls for the need to consider more complex

types of organizational decoupling (Bromley and Powell, 2012), we explored a seemingly reverse form of decoupling where organizations implemented new practices in order to obtain a certification, but at times elected not to symbolically publicize their certification status. In doing so, this paper initiates new discussions around how organizations may engage in different types of decoupling strategies as impression management tactics and sheds light on the largely overlooked distinction between the attainment and publication of certifications (Delmas and Grant, 2014).

As part of our exploration, we developed and tested theories suggesting that organizations may engage in different communication strategies regarding their certification status based on the degree to which such strategies represent effective impression management tactics. In particular, we proposed that organizations would be more likely to publicize their certifications when the certification is perceived as more legitimate and when doing so represents an effective means to maintain, enhance, or defend their legitimacy. Most notably, however, we highlighted important risks associated with publicizing certifications when doing so may be perceived as hypocritical, or inconsistent with recent firm activities. Because organizations that are perceived as hypocritical stand to receive sanctions that will harm their performance, we contended that firms would be reluctant to publicize certifications (1) when their recent actions directly contradict the claims implied by the certification and (2) when the contradiction between the claims of the certification and the actions of the firm are more recognizable and apparent to stakeholders.

We tested these theoretical arguments by examining the publication strategies of publicly traded US corporations that had attained certification in the form of inclusion in the Dow Jones Sustainability Index (DJSI). Our findings are consistent with prior studies that have suggested

that organizations can utilize the publication of prosocial activities or the adoption of legitimate practices as a way to manage their legitimacy. The results of our analysis also indicate that recent actions that can be perceived as inconsistent with the claims made by the certification reduce the likelihood that organizations publicize their certification status, but only when these discrepancies are more readily observable and understood by key audience members.

### **Institutional Theory and Certification Strategies**

Our findings primarily address an intriguing disconnect between practice and traditional assumptions of institutional theory. Despite long held suppositions stemming back to Meyer and Rowan's (1977) seminal piece, institutional theorists have largely assumed that organizations derive benefits from making their socially valued activities known. Building on these ideas, research has pointed to the attainment of a certification as a particularly powerful social signal that can serve as a "prime indicator of legitimacy" (Scott, 2008: 60). In addition to increased perceptions of legitimacy, the positive social signals provided by certifications have also been shown to provide firms with benefits including greater access to resources and improved chances of survival (Rao, 1994; Sine, David, and Mitsuhashi, 2007).

Recent observations, however, suggest that there may in fact be instances when firms may be inclined to *not* tout the attainment of a certification (Delmas and Grant, 2014). The growing number of examples of firms that obtain but at times elect not to publicize certifications (e.g., Delmas and Grant, 2014; Moriarty, 2012; Stifelman, 2008) brings into focus the inadequacy of taken-for-granted institutional assumptions that do not account for this phenomenon.

We thus address this disconnect between theory and practice by shining light on the distinction between certification attainment and publication. To date, research has assumed that

certification attainment will naturally lead to certification publication, overlooking the fact that these are actually two distinct processes (Delmas and Grant, 2014). By distinguishing these actions and building theoretical insights to explain why variation in certification publication exists, this study helps to extend prior theory that has conflated certification attainment and publication. Although it is typically assumed that the very purpose of a certification is to provide a signal endorsing an organization's achievement of certain criteria set forth by the certifying authority, firms that obtain certifications need not engage in activities to make their certification status known. This raises attention to a potential form of "reverse decoupling," where organizations may actually engage in full implementation and elect *not* to publicize the symbol of adoption rather than ceremonially adopting a practice for symbolic reasons and not fully implementing the practice (Meyer and Rowan, 1977). In this way, our study responds to recent scholarship that points to the need for deeper understanding of how organizations engage in different forms of decoupling as they seek to negotiate complex institutional environments (Bromley and Powell, 2012; Snellman, 2012).

Regardless of the initial motivations for obtaining a certification, circumstances may arise that diminish the symbolic value it provides. In some instances, the signal may decrease in value or even become more damaging than helpful. In this paper, we highlighted the potential risks that may arise when publicizing a certification increases perceptions that the firm's behavior is hypocritical or inconsistent, but we encourage scholars to explore other instances when the symbolic value of a certification may be tarnished, such as when the legitimacy of the certification is called into question or when other certified firms engage in behaviors that may discredit the certification. There may also be instances where certified firms seek to disassociate themselves from a certification, such as if the firm engages in identity altering events like

entering new markets where a previously obtained certification may not be valued or understood by new stakeholders.

### **Boundary Conditions for Prosocial Claims**

This study also contributes to the impression management literature by exploring the boundary conditions under which firms will make prosocial claims. Prior research, for example, has shown that firms facing threats to their legitimacy or reputation will subsequently increase their use of prosocial claims (McDonnell and King, 2013), ostensibly as a way to neutralize the threat with positive information. We extend this work by defining new conditions under which firms utilize prosocial claims as an impression management tactic. Consistent with prior research, we show that firms facing legitimacy threats will be more likely to make subsequent prosocial claims (e.g., publicize a certification). Such claims, however, are less likely to occur when the claim (e.g., publicizing a sustainability certification) *falls within that same domain as the threat* (e.g., environmental sustainability) and when the consistency between the claim and the firm's actual performance are *readily apparent to stakeholders*.

While we are unable to directly observe the managerial decisions underlying such behaviors, we note that these patterns are consistent with our argument that claims that are directly contradicted by recent events could increase the risk of being perceived as hypocritical, an outcome that many firms would wish to avoid. Our findings thus demonstrate that it is important for impression management scholars to consider not only the amount of prosocial claims made, but also the content of each claim and how it relates to the threat that they are seeking to mitigate. These insights also build on recent literature that suggests that firms can accumulate goodwill by engaging in prosocial activities that create insurance-like benefits that provide protection in the event of a future threat (Godfrey, 2005; Godfrey, Merrill, and Hansen,



2009). While such goodwill could arguably be used to mitigate the damage of future misdeeds, our study suggests that goodwill built up by firms may be devalued if their future actions directly contradict the actions and claims on which the goodwill was established. Future work could thus investigate the boundary conditions under which prosocial claims provide insurance-like benefits to firms.

### **The Strategic Nature of Corporate Environmental Communication**

Our findings also contribute to an emerging scholarly discussion around the strategic nature of corporate environmental communication. While many companies actively tout their environmental initiatives, others have been hesitant to disclose environmental information or call attention to their socially responsible endeavors (Bansal and Roth, 2000; Delmas and Burbano, 2011; Lyon and Maxwell, 2011), presumably because such actions may draw additional scrutiny that can have negative implications, such as increasing the likelihood of being labeled as a greenwasher by environmental activists, an outcome that could significantly alter a firm's reputation and perceived risk (Bansal and Clelland, 2004; King, 2008; Vasi and King, 2012). Also known as "greenhush," this phenomenon of withholding information or remaining silent has become an increasingly common behavior among large corporations that are under the ever-watchful eye of environmental activists (Horiuchi et al., 2009).

While most evidence of greenhush has been anecdotal, recent empirical research provides some support for the phenomenon. Kim and Lyon (2011), for example, found that investor-owned utilities that operated in states with strong Sierra Club membership were less likely to join a government-sponsored voluntary disclosure program, presumably because environmental groups considered participation in the program to be a form of greenwashing. Similarly, other scholars have examined the content of environmental disclosure and have found that increased

scrutiny by stakeholders and civil society at large can lead to more accurate (Marquis and Toffel, 2014) or even overly modest disclosures (Kim and Lyon, 2014). Underlying all of these results is the notion that the threat of environmental activism may drive firms to carefully strategize how to communicate their environmental claims.

Although we do not directly observe managerial intentions, we find, consistent with our arguments, that corporations facing legitimacy threats due to recent poor environmental performance are much less likely to publicize their membership in the DJSI. These findings thus lend support to previous anecdotal assertions that managers are concerned about their organizations being labeled as hypocrites and will remain strategically silent about their environmentally positive activities if such communications may place the firm at risk of being targeted by activists.

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**Table 1: Description of KLD environmental ratings**

| <i>KLD environmental strengths</i> | <i>Description</i>  |
|------------------------------------|---|
| Beneficial products and services   | This indicator measures the positive environmental impact of a firm's products and/or services. Factors affecting this evaluation include, but are not limited to, products/services that reduce other firms' and individuals' consumption of energy, production/consumption of hazardous chemicals, and overall patterns of resource consumption.  |
| Pollution prevention               | This indicator measures a firm's method of mitigating non-carbon air emissions, water discharges, and solid waste from its operations. Factors affecting this evaluation include, but are not limited to, initiatives to reduce a firm's non-carbon air emissions from its operations; to reduce the release of raw sewage, industrial chemicals, and other regulated substances; to reduce hazardous and non-hazardous waste; and programs to reduce the use of packaging materials; to support recycling; and to recycle old products such as televisions and other consumer electronics. |
| Recycling                          | This indicator measures a firm's use of recycled materials in its products/services. Factors affecting this evaluation include, but are not limited to: assessment of the volume and recycled content of products made with recycled input materials, including paper, metal, plastic; and any certification of its practices by a third party, such as the Forest Stewardship Council for timber product companies.  |
| Clean energy                       | This indicator measures a firm's policies regarding climate change. Factors affecting this evaluation include, but are not limited to, acknowledgement of direct and/or indirect impacts on operations due to climate change and formal commitments to reduce greenhouse gas emissions; and initiatives to reduce energy consumption and to increase the use of renewable energy.   |
| Other strength                     | This indicator measures a firm's environmental management policies. Factors affecting this evaluation include, but are not limited to, a stated commitment to integrate environmental considerations into all operations; reduce environmental impact of operations, products, and services; and comply with regulations.   |

*Source:* MSCI ESG STATS: User Guide & ESG Ratings Definition, June 2012

*Notes:* Since 1991, there have been eight environmental strength variables issued by KLD that have evaluated various aspects of firm environmental performance. The Property, Plant, and Equipment variable was discontinued in 1995 and is therefore not included in our sample window. The Communications Strength variable was absorbed within the Transparency Strength sub dimension of Corporate Governance and is included as a control variable (see below). Finally, in 2006, KLD created a Management Systems variable which evaluates the extent to which firms monitor and measure their environmental performance. Nevertheless, because this variable was created midway through our sample window, we excluded it from our summation of firm environmental strengths. We did however, run another set of models with this variable included and found substantively similar results.

**Table 2. Descriptive statistics**

| <b>Panel A. Summary statistics</b> | Mean   | SD     | Min  | Max   |
|------------------------------------|--------|--------|------|-------|
| DJSI membership publicized         | 0.53   | 0.50   | 0    | 1     |
| Environmental legitimacy           | 1.00   | 1.12   | 0    | 4     |
| Environmentally sensitive industry | 0.31   | 0.46   | 0    | 1     |
| Legitimacy of the DJSI             | 329.65 | 261.11 | 0    | 853   |
| Regulatory concerns                | 0.19   | 0.39   | 0    | 1     |
| Shareholder activism (square root) | 0.19   | 0.49   | 0    | 3.61  |
| Stakeholder activism (square root) | 0.20   | 0.56   | 0    | 4.80  |
| Revenue (log)                      | 9.49   | 1.25   | 3.18 | 12.98 |
| Return on assets (ROA)             | 5.98   | 6.87   | -    | 31.53 |
| Environmental transparency         | 0.38   | 0.49   | 0    | 1     |
| Impression management              | 1.75   | 2.49   | 0    | 12    |
| DJSI sector leader                 | 0.07   | 0.25   | 0    | 1     |
| Gold class                         | 0.06   | 0.23   | 0    | 1     |
| Silver class                       | 0.05   | 0.21   | 0    | 1     |
| Bronze class                       | 0.07   | 0.25   | 0    | 1     |
| Yearbook                           | 0.39   | 0.49   | 0    | 1     |
| DJSI addition                      | 0.25   | 0.44   | 0    | 1     |
| Stakeholder expectations           | 3.36   | 3.11   | 0    | 13    |
| DJSI-World Index                   | 0.65   | 0.48   | 0    | 1     |
| FTSE4Good                          | 0.40   | 0.49   | 0    | 1     |

| <b>Panel B. Correlations</b>          | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18   | 19    | 20 |
|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|----|
| 1. DJSI membership publicized         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 2. Environmental legitimacy           | 0.39  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 3. Environmentally sensitive industry | 0.17  | 0.13  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 4. Legitimacy of the DJSI             | 0.35  | 0.59  | 0.02  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 5. Regulatory concerns                | 0.25  | 0.18  | 0.38  | 0.05  |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 6. Shareholder activism (square root) | 0.08  | 0.12  | 0.12  | 0.01  | 0.30  |       |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 7. Stakeholder activism (square root) | 0.08  | 0.03  | 0.12  | 0.03  | 0.22  | 0.34  |       |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 8. Revenue (log)                      | 0.15  | 0.23  | -0.03 | 0.19  | 0.26  | 0.35  | 0.25  |       |       |       |       |       |       |       |       |       |       |      |       |    |
| 9. Return on assets (ROA)             | 0.01  | 0.04  | 0.04  | 0.03  | -0.08 | 0.03  | 0.03  | 0.06  |       |       |       |       |       |       |       |       |       |      |       |    |
| 10. Environmental transparency        | 0.37  | 0.58  | 0.07  | 0.44  | 0.16  | 0.11  | 0.13  | 0.29  | 0.07  |       |       |       |       |       |       |       |       |      |       |    |
| 11. Impression management             | 0.47  | 0.56  | 0.11  | 0.46  | 0.19  | 0.09  | 0.11  | 0.25  | 0.01  | 0.51  |       |       |       |       |       |       |       |      |       |    |
| 12. DJSI sector leader                | 0.14  | 0.12  | 0.07  | 0.00  | 0.04  | 0.01  | -0.03 | 0.05  | 0.06  | 0.04  | 0.13  |       |       |       |       |       |       |      |       |    |
| 13. Gold class                        | 0.17  | 0.18  | 0.10  | 0.15  | 0.08  | 0.03  | -0.01 | 0.07  | 0.05  | 0.18  | 0.26  | 0.38  |       |       |       |       |       |      |       |    |
| 14. Silver class                      | 0.15  | 0.16  | 0.05  | 0.12  | 0.09  | -0.02 | 0.03  | 0.08  | 0.07  | 0.15  | 0.19  | 0.01  | -0.05 |       |       |       |       |      |       |    |
| 15. Bronze class                      | 0.15  | 0.23  | 0.06  | 0.24  | 0.09  | -0.05 | 0.00  | 0.04  | 0.04  | 0.18  | 0.21  | -0.01 | -0.07 | -0.06 |       |       |       |      |       |    |
| 16. Yearbook                          | 0.02  | -0.11 | -0.10 | -0.09 | -0.15 | 0.00  | -0.02 | -0.04 | -0.03 | -0.07 | -0.06 | -0.22 | -0.19 | -0.17 | -0.21 |       |       |      |       |    |
| 17. DJSI addition                     | -0.19 | -0.23 | 0.00  | -0.24 | -0.04 | -0.01 | -0.07 | -0.20 | 0.00  | -0.26 | -0.38 | -0.12 | -0.13 | -0.11 | -0.08 | -0.04 |       |      |       |    |
| 18. Stakeholder expectations          | 0.28  | 0.55  | 0.02  | 0.51  | 0.09  | 0.02  | 0.05  | 0.28  | 0.09  | 0.46  | 0.76  | 0.16  | 0.23  | 0.18  | 0.15  | 0.00  | -0.53 |      |       |    |
| 19. DJSI-World Index                  | 0.01  | -0.02 | 0.02  | -0.34 | -0.05 | -0.06 | -0.05 | -0.16 | 0.03  | -0.08 | 0.06  | 0.20  | 0.18  | 0.11  | 0.04  | 0.09  | -0.05 | 0.02 |       |    |
| 20. FTSE4Good                         | 0.06  | 0.03  | -0.26 | 0.10  | -0.13 | -0.08 | -0.08 | 0.15  | 0.03  | 0.15  | 0.13  | 0.07  | 0.04  | 0.00  | -0.02 | 0.20  | -0.20 | 0.22 | -0.04 |    |

Note. 1,251 observations

**Table 3. Probit estimates for the first-stage selection model**

|                            | Coefficients | SE      |
|----------------------------|--------------|---------|
| Environmental legitimacy   | 0.121 *      | (0.066) |
| Environmentally risk       | 0.576 ***    | (0.182) |
| Legitimacy of the DJSI     | -0.012 ***   | (0.002) |
| Regulatory concerns        | -0.291 **    | (0.114) |
| Shareholder activism       | -0.056       | (0.077) |
| Stakeholder activism       | 0.243 ***    | (0.065) |
| Revenue                    | 0.199 ***    | (0.041) |
| Return on assets           | 0.001        | (0.002) |
| Environmental transparency | 0.428 ***    | (0.118) |
| Stakeholder expectations   | 0.392 ***    | (0.032) |
| FTSE4Good                  | 0.319 ***    | (0.085) |
| Year effects               | Yes          |         |
| Industry effects           | Yes          |         |
| Observations               | 7,083        |         |
| Firms                      | 841          |         |
| Log pseudo-likelihood      | -1994.06     |         |

Note. Robust standard errors are shown in parentheses clustered by firm.

The dependent variable evaluates whether a firm applies for and is selected into the DJSI. \*p < 0.10; \*\*p < 0.05; \*\*\*p < 0.01

**Table 4. Probit estimates for the second-stage selection model**

|                                      | (1)                  | (2)                  | (3)                  | (4)                  |
|--------------------------------------|----------------------|----------------------|----------------------|----------------------|
| <i>Maintaining legitimacy (H1)</i>   |                      |                      |                      |                      |
| Environmental legitimacy             | 0.184 **<br>(0.089)  | 0.206 **<br>(0.089)  | 0.201 **<br>(0.083)  | 0.181 **<br>(0.083)  |
| <i>Enhancing legitimacy (H2)</i>     |                      |                      |                      |                      |
| Environmental risk                   | 0.171<br>(0.136)     | 0.363 ***<br>(0.122) | 0.362 ***<br>(0.120) | 0.181<br>(0.135)     |
| <i>Defending legitimacy (H3)</i>     |                      |                      |                      |                      |
| Regulatory concerns                  | 0.568 ***<br>(0.175) |                      |                      | 0.623 ***<br>(0.172) |
| Shareholder activism                 |                      | -0.044<br>(0.140)    |                      | -0.111<br>(0.138)    |
| Stakeholder activism                 |                      |                      | -0.039<br>(0.150)    | -0.073<br>(0.151)    |
| <i>Certification legitimacy (H4)</i> |                      |                      |                      |                      |
| Legitimacy of the DJSI               | 0.002 ***<br>(0.000) | 0.002 ***<br>(0.000) | 0.002 ***<br>(0.000) | 0.002 ***<br>(0.000) |

*Control Variables*

|                                    |                       |                       |                       |                       |
|------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Revenue (log)                      | -0.026<br>(0.053)     | 0.032<br>(0.051)      | 0.029<br>(0.048)      | -0.007<br>(0.055)     |
| Return on assets (ROA)             | 0.006<br>(0.007)      | 0.004<br>(0.007)      | 0.004<br>(0.007)      | 0.007<br>(0.007)      |
| Environmental transparency         | 0.250 *<br>(0.137)    | 0.278 **<br>(0.136)   | 0.277 **<br>(0.136)   | 0.251 *<br>(0.138)    |
| Impression management              | 0.593 ***<br>(0.070)  | 0.625 ***<br>(0.068)  | 0.626 ***<br>(0.066)  | 0.604 ***<br>(0.067)  |
| Impression management <sup>2</sup> | -0.034 ***<br>(0.007) | -0.038 ***<br>(0.007) | -0.038 ***<br>(0.007) | -0.035 ***<br>(0.007) |
| DJSI sector leader                 | 0.638 **<br>(0.306)   | 0.627 **<br>(0.296)   | 0.623 **<br>(0.299)   | 0.615 **<br>(0.307)   |
| Gold class                         | -0.052<br>(0.280)     | -0.062<br>(0.275)     | -0.058<br>(0.274)     | -0.076<br>(0.281)     |
| Silver class                       | 0.253<br>(0.262)      | 0.241<br>(0.271)      | 0.249<br>(0.269)      | 0.226<br>(0.265)      |
| Bronze class                       | -0.032<br>(0.260)     | -0.055<br>(0.262)     | -0.050<br>(0.266)     | -0.054<br>(0.261)     |
| Yearbook                           | 0.360 **<br>(0.165)   | 0.313 *<br>(0.166)    | 0.308 *<br>(0.165)    | 0.355 **<br>(0.165)   |
| DJSI addition                      | 0.033<br>(0.139)      | 0.033<br>(0.139)      | 0.037<br>(0.139)      | 0.037<br>(0.138)      |
| Stakeholder expectations           | -0.215 ***<br>(0.046) | -0.203 ***<br>(0.046) | -0.205 ***<br>(0.047) | -0.226 ***<br>(0.047) |
| DJSI World Index                   | 0.253 *<br>(0.154)    | 0.247<br>(0.154)      | 0.247<br>(0.154)      | 0.252 *<br>(0.152)    |
| Inverse mills ratio                | -0.117<br>(0.212)     | -0.007<br>(0.205)     | -0.024<br>(0.202)     | -0.150<br>(0.208)     |
| Year Effects                       | Yes                   | Yes                   | Yes                   | Yes                   |
| Firms                              | 261                   | 261                   | 261                   | 261                   |
| Observations                       | 1,251                 | 1,251                 | 1,251                 | 1,251                 |
| Log pseudo-likelihood              | -570                  | -578                  | -578                  | -568                  |

Note. Robust standard errors are shown in parentheses clustered by firm. The dependent variable evaluates whether a firm publicized its DJSI membership in an annual report, sustainability report, or press release. \*p < 0.10; \*\*p < 0.05; \*\*\*p < 0.01

**Table 5. Interaction effects: evidence of hypocrisy avoidance**

|  | (1)                  | (2)                   | (3)                   | (4)                   | (5)                   | (6)                  | (7)                  | (8)                   | (9)                  |
|--|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|-----------------------|----------------------|
| <i>Maintaining legitimacy (H1)</i>                 |                      |                       |                       |                       |                       |                      |                      |                       |                      |
| Environmental legitimacy                           | 0.216 **<br>(0.101)  | 0.257 ***<br>(0.091)  | 0.226 ***<br>(0.087)  | 0.167 *<br>(0.088)    | 0.193 **<br>(0.086)   | 0.195 **<br>(0.082)  | 0.176 **<br>(0.087)  | 0.188 **<br>(0.087)   | 0.192 **<br>(0.083)  |
| <i>Enhancing legitimacy (H2)</i>                   |                      |                       |                       |                       |                       |                      |                      |                       |                      |
| Environmental risk                                 | 0.166<br>(0.135)     | 0.368 ***<br>(0.123)  | 0.385 ***<br>(0.120)  | 0.352 **<br>(0.150)   | 0.484 ***<br>(0.126)  | 0.420 ***<br>(0.133) | 0.195<br>(0.132)     | 0.421 ***<br>(0.120)  | 0.438 ***<br>(0.123) |
| <i>Defending legitimacy (H3)</i>                   |                      |                       |                       |                       |                       |                      |                      |                       |                      |
| Regulatory concerns                                | 0.768 ***<br>(0.217) |                       |                       | 1.182 ***<br>(0.256)  |                       |                      | 1.012 ***<br>(0.282) |                       |                      |
| Shareholder activism                               |                      | 0.263<br>(0.182)      |                       |                       | 0.269<br>(0.188)      |                      |                      | 0.689 ***<br>(0.172)  |                      |
| Stakeholder activism                               |                      |                       | 0.125<br>(0.160)      |                       |                       | 0.094<br>(0.131)     |                      |                       | 0.390 ***<br>(0.149) |
| <i>Certification legitimacy (H4)</i>               |                      |                       |                       |                       |                       |                      |                      |                       |                      |
| Legitimacy of the DJSI                             | 0.002 ***<br>(0.000) | 0.002 ***<br>(0.001)  | 0.002 ***<br>(0.000)  | 0.002 ***<br>(0.000)  | 0.002 ***<br>(0.001)  | 0.002 ***<br>(0.000) | 0.003 ***<br>(0.001) | 0.003 ***<br>(0.001)  | 0.003 ***<br>(0.001) |
| <i>Interaction effects (H5-H7)</i>                 |                      |                       |                       |                       |                       |                      |                      |                       |                      |
| Environmental legitimacy ×<br>Regulatory concerns  | -0.178<br>(0.122)    |                       |                       |                       |                       |                      |                      |                       |                      |
| Environmental legitimacy ×<br>Shareholder activism |                      | -0.227 ***<br>(0.073) |                       |                       |                       |                      |                      |                       |                      |
| Environmental legitimacy ×<br>Stakeholder activism |                      |                       | -0.173 ***<br>(0.067) |                       |                       |                      |                      |                       |                      |
| Environmental risk ×<br>Regulatory concerns        |                      |                       |                       | -0.959 ***<br>(0.318) |                       |                      |                      |                       |                      |
| Environmental risk ×<br>Shareholder activism       |                      |                       |                       |                       | -0.547 ***<br>(0.209) |                      |                      |                       |                      |
| Environmental risk ×<br>Stakeholder activism       |                      |                       |                       |                       |                       | -0.249<br>(0.237)    |                      |                       |                      |
| Legitimacy of the DJSI ×<br>Regulatory concerns    |                      |                       |                       |                       |                       |                      | -0.001 **<br>(0.001) |                       |                      |
| Legitimacy of the DJSI ×<br>Shareholder activism   |                      |                       |                       |                       |                       |                      |                      | -0.002 ***<br>(0.000) |                      |

|   |                   |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |  |  |  |  |  |                   |     |
|---|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--|--|--|--|--|--|--|--|--|-------------------|-----|
| Legitimacy of the DJSI × Stakeholder activism |                   |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |  |  |  |  |  | -0.001<br>(0.000) | *** |
| <i>Control Variables</i>                      |                   |                       |                       |                       |                       |                       |                       |                       |                       |  |  |  |  |  |  |  |  |  |                   |     |
| Revenue (log)                                 | -0.025<br>(0.053) | 0.025<br>(0.052)      | 0.031<br>(0.048)      | -0.024<br>(0.053)     | 0.036<br>(0.051)      | 0.029<br>(0.048)      | -0.026<br>(0.054)     | 0.013<br>(0.053)      | 0.034<br>(0.048)      |  |  |  |  |  |  |  |  |  |                   |     |
| Return on assets (ROA)                        | 0.006<br>(0.007)  | 0.004<br>(0.007)      | 0.004<br>(0.007)      | 0.007<br>(0.007)      | 0.004<br>(0.007)      | 0.004<br>(0.007)      | 0.007<br>(0.007)      | 0.005<br>(0.007)      | 0.004<br>(0.007)      |  |  |  |  |  |  |  |  |  |                   |     |
| Environmental transparency                    | 0.243<br>(0.137)  | * 0.265<br>(0.136)    | * 0.278<br>(0.136)    | ** 0.305<br>(0.137)   | ** 0.283<br>(0.138)   | ** 0.274<br>(0.137)   | ** 0.260<br>(0.138)   | * 0.317<br>(0.138)    | ** 0.300<br>(0.140)   |  |  |  |  |  |  |  |  |  |                   | **  |
| Impression management                         | 0.586<br>(0.070)  | *** 0.615<br>(0.069)  | *** 0.622<br>(0.067)  | *** 0.576<br>(0.070)  | *** 0.633<br>(0.067)  | *** 0.637<br>(0.066)  | *** 0.600<br>(0.069)  | *** 0.640<br>(0.068)  | *** 0.638<br>(0.067)  |  |  |  |  |  |  |  |  |  |                   | *** |
| Impression management <sup>2</sup>            | -0.034<br>(0.007) | *** -0.036<br>(0.007) | *** -0.037<br>(0.007) | *** -0.034<br>(0.007) | *** -0.039<br>(0.007) | *** -0.039<br>(0.007) | *** -0.034<br>(0.007) | *** -0.037<br>(0.008) | *** -0.038<br>(0.007) |  |  |  |  |  |  |  |  |  |                   | *** |
| DJSI sector leader                            | 0.628<br>(0.306)  | ** 0.610<br>(0.302)   | ** 0.610<br>(0.304)   | ** 0.670<br>(0.303)   | ** 0.618<br>(0.303)   | ** 0.627<br>(0.300)   | ** 0.579<br>(0.309)   | * 0.624<br>(0.304)    | ** 0.611<br>(0.304)   |  |  |  |  |  |  |  |  |  |                   | **  |
| Gold class                                    | -0.043<br>(0.280) | -0.066<br>(0.275)     | -0.098<br>(0.273)     | -0.100<br>(0.284)     | -0.054<br>(0.274)     | -0.079<br>(0.274)     | -0.069<br>(0.279)     | -0.164<br>(0.286)     | -0.121<br>(0.278)     |  |  |  |  |  |  |  |  |  |                   |     |
| Silver class                                  | 0.229<br>(0.262)  | 0.216<br>(0.275)      | 0.242<br>(0.267)      | 0.187<br>(0.262)      | 0.231<br>(0.271)      | 0.240<br>(0.269)      | 0.222<br>(0.262)      | 0.146<br>(0.281)      | 0.235<br>(0.269)      |  |  |  |  |  |  |  |  |  |                   |     |
| Bronze class                                  | -0.042<br>(0.260) | -0.105<br>(0.260)     | -0.068<br>(0.267)     | -0.020<br>(0.257)     | -0.052<br>(0.266)     | -0.053<br>(0.266)     | -0.036<br>(0.259)     | -0.164<br>(0.265)     | -0.091<br>(0.270)     |  |  |  |  |  |  |  |  |  |                   |     |
| Yearbook                                      | 0.351<br>(0.167)  | ** 0.292<br>(0.168)   | * 0.293<br>(0.167)    | * 0.342<br>(0.165)    | ** 0.300<br>(0.166)   | * 0.292<br>(0.165)    | * 0.317<br>(0.164)    | * 0.284<br>(0.166)    | 0.260<br>(0.168)      |  |  |  |  |  |  |  |  |  |                   |     |
| DJSI addition                                 | 0.037<br>(0.139)  | 0.036<br>(0.138)      | 0.042<br>(0.138)      | 0.016<br>(0.140)      | 0.033<br>(0.140)      | 0.040<br>(0.140)      | 0.054<br>(0.141)      | 0.037<br>(0.142)      | 0.033<br>(0.140)      |  |  |  |  |  |  |  |  |  |                   |     |
| Stakeholder expectations                      | -0.213<br>(0.047) | *** -0.209<br>(0.048) | *** -0.208<br>(0.047) | *** -0.207<br>(0.046) | *** -0.201<br>(0.047) | *** -0.205<br>(0.047) | *** -0.220<br>(0.047) | *** -0.215<br>(0.047) | *** -0.206<br>(0.047) |  |  |  |  |  |  |  |  |  |                   | *** |
| DJSI World index                              | 0.260<br>(0.155)  | * 0.269<br>(0.155)    | * 0.258<br>(0.156)    | * 0.261<br>(0.154)    | * 0.233<br>(0.156)    | 0.238<br>(0.155)      | 0.251<br>(0.155)      | 0.272<br>(0.157)      | 0.246<br>(0.158)      |  |  |  |  |  |  |  |  |  |                   |     |
| Inverse mills ratio                           | -0.126<br>(0.214) | -0.026<br>(0.209)     | -0.027<br>(0.202)     | -0.103<br>(0.213)     | 0.002<br>(0.206)      | -0.018<br>(0.202)     | -0.139<br>(0.214)     | -0.047<br>(0.206)     | -0.011<br>(0.203)     |  |  |  |  |  |  |  |  |  |                   |     |
| Year Effects                                  | Yes               | Yes                   | Yes                   | Yes                   | Yes                   | Yes                   | Yes                   | Yes                   | Yes                   |  |  |  |  |  |  |  |  |  |                   |     |
| Firms   | 261               | 261                   | 261                   | 261                   | 261                   | 261                   | 261                   | 261                   | 261                   |  |  |  |  |  |  |  |  |  |                   |     |
| Observations                                  | 1,251             | 1,251                 | 1,251                 | 1,251                 | 1,251                 | 1,251                 | 1,251                 | 1,251                 | 1,251                 |  |  |  |  |  |  |  |  |  |                   |     |
| Log pseudo-likelihood                         | -568              | -574                  | -576                  | -564                  | -573                  | -577                  | -565                  | -560                  | -569                  |  |  |  |  |  |  |  |  |  |                   |     |

Note. Robust standard errors are shown in parentheses clustered by firm. The dependent variable evaluates whether a firm publicized its DJSI membership in an annual report, sustainability report, or press release. \*p < 0.10; \*\*p < 0.05; \*\*\*p < 0.01

### Figures 1-3. Interaction effects: evidence of hypocrisy avoidance

