Harvard Environmental Economics Program

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Corporate Visibility, Civil Society Scrutiny, and Environmental Disclosure

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The Harvard Environmental Economics Program

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ABSTRACT

Under increased pressure to report environmental impacts, some firms selectively disclose relatively benign impacts, creating an impression of transparency while masking their true performance. What deters selective disclosure and leads firms to instead make disclosures more representative of their environmental performance? We hypothesize that selective disclosure, a novel symbolic strategy firms use to manage stakeholder perceptions, is mitigated by two forms of organizational visibility. Firms with greater domain-specific visibility have specific characteristics that make them especially vulnerable to stakeholder criticism and as a result are less prone to selective disclosure. In contrast, more generically-visible firms are deterred from selectively disclosing only when they are subjected to civil society scrutiny. We test our hypotheses using a novel panel dataset of 4,484 public companies in many industries, headquartered in 38 countries, during 2005-2008, when environmental disclosure increased among global corporations. We find that domain-specific visibility mitigates selective disclosure, that it mitigates selective disclosure more so than generic visibility, and that generic visibility mitigates selective disclosure only in the presence of civil society scrutiny. This research contributes to understanding how corporations manage the symbolic use of information and how corporate behavior is influenced by civil society scrutiny embedded in institutional processes.

Investigating whether organizations' responses to institutional demands are substantive or symbolic is a classic topic in organizational theory (Meyer & Rowan, 1977). Prior studies have identified several symbolic strategies. Decoupling, for example, refers to corporations creating an appearance of complying with stakeholders' demands to adopt particular management practices without actually doing so (Westphal & Zajac, 2001; Tilcsik, 2010). A less-explored type of symbolic compliance is what we term *attention deflection*, which refers to companies highlighting certain desirable activities in order to avoid scrutiny of their other practices that do not conform to institutional norms. Companies engaging in attention deflection have pursued different strategies such as creating their own corporate governance standards (Okhmatovskiy &

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David, 2012), developing voluntary self-regulation programs (Gunningham, 1995; Sasser et al., 2006), and bolstering their social image (Morris & King, 2010), all of which are designed to avoid scrutiny of illegitimate or questionable activities.

In this paper, we identify and examine *selective disclosure*, an attention deflection strategy whereby firms seek to gain or maintain legitimacy by disproportionately revealing relatively benign performance indicators to obscure their less impressive overall performance. Organizations' concealing potentially negative information about their activities to appear more legitimate is assumed to be a common practice (Pfeffer, 1981; Oliver, 1991; Abrahamson & Park, 1994), but important questions that have remained unanswered. Which types of firms are particularly likely to engage in information concealment strategies such as selective disclosure— and under what circumstances? We explore these questions in the context of "greenwashing," a form of selective disclosure where companies promote "environmentally friendly programs to deflect attention from an organization's environmentally unfriendly or less savory activities" (Webster's New Millennium Dictionary of English, 2009). Greenwashing organizations reveal positive environmental attributes while concealing negative ones, which can create a misleadingly positive impression of their overall environmental performance (Delmas & Burbano, 2011).

To explore the circumstances where firms are particularly likely to engage in selective disclosure, we focus on a key debate in the institutional literature regarding how an organization's visibility affects its compliance with institutional pressures (Greenwood et al., 2011). One set of theory and findings suggests that greater visibility makes organizations especially concerned with their legitimacy and therefore particularly sensitive to external pressures for information disclosure (Bansal & Roth, 2000; den Hond & de Bakker, 2007).

Others have argued conversely that more prominent firms, being more powerful, are less dependent on key stakeholders such as the government and civil society, and are therefore more likely to resist external pressures and to possess more freedom in choosing whether and how to comply (Greenwood & Suddaby, 2006; Kostova, Roth, & Dacin, 2008; Okhmatovskiy & David, 2012).

To sort out these seemingly contradictory sets of prior findings, we distinguish two types of visibility by which organizations can vary, where each has a different implication for organizations' responses to institutional pressure. In doing so, we identify conditions under which various forms of visibility spurs compliance with such pressures. A firm with greater *generic visibility* possesses organizational characteristics such as high reputation, status, and prominence that make the firm more widely known in society. In contrast, *domain-specific visibility* arises from an organization's specific characteristics (e.g., labor relations or environmental impact) that may expose the firm to a greater degree of institutional pressures related to that particular domain, such as those exerted by nongovernmental organizations (NGOs) and activists. For example, consider Wal-Mart and Nike, whose ubiquitous advertising and scale—both are members of the S&P 500—gives them high generic visibility. A large employer such as Wal-Mart also has high domain-specific visibility with regard to labor relations (Rao, Yue, & Ingram, 2011), which attracts scrutiny on this issue (e.g., Bhatnagar, 2004; Lobel, 2007; Tilly, 2007). With many fewer employees, Nike's reliance on labor-intensive suppliers in developing countries provides the firm with high domain-specific visibility with respect to suppliers' working conditions (Locke, Qin, & Brause, 2007), which has led to substantial scrutiny on that issue (e.g., Greenberg & Knight 2004; Larimer, 1998; The Economist, 2012).

Because several mitigating factors—such as the firm's increased power and

management's divided attention—might enable or cause firms with high generic visibility to avoid compliance on issues where they lack domain-specific visibility, we argue that domain-specific visibility is the more likely of the two to promote institutional conformity and deter selective disclosure in the particular domains in which they are visible. However, as stakeholder scrutiny on certain domains becomes more likely, firms with greater generic visibility increasingly pay more attention to their vulnerability to sanctions , making compliance more likely. Thus, the greater the degree of scrutiny attending to a particular domain, the less difference there will be in the extent to which generic and domain-specific visibility lead to compliance. To understand how institutional pressure influences visible firms, we diverge from prior research that has focused on how corporate characteristics (such as size, performance, and reputation) influence the effects of visibility (e.g., Bansal & Roth, 2000; King, 2008). Instead, we focus on national institutional features that enable and promote civil society scrutiny— through information dissemination or activism—that pressures visible firms to be more responsive.

We examine how these two forms of organizational visibility deter selective disclosure in the context of the global movement for corporate environmental transparency. That corporations should voluntarily disclose information about their operations has become a pervasive idea in managerial circles (e.g., Meyer & Kirby, 2010) and has attracted significant research attention (Eccles & Kruze, 2010). But full transparency conveys serious risks of alerting stakeholders and inviting scrutiny of practices that do not conform to institutional norms. So as pressure has mounted on global corporations to be more socially and environmentally responsive, so too have concerns that corporate responses are often merely symbolic, meant to change the firm's image rather than its behavior (Deegan & Gordon, 1996). We examine the environmental disclosures of

4,484 large publicly traded companies headquartered in 38 countries during the years 2005-2008. This was a period of dramatic increase in environmental disclosure activity. Of the 250 largest companies in the world, fewer than half issued sustainability reports in 2004, but more than 80 percent did so by 2008 (KPMG, 2008). But while environmental disclosure is increasingly seen as a global issue with global best practices based on standards such as the Global Reporting Initiative, there is still tremendous variation in the types and amount of information disclosed.

Our sample of thousands of firms in dozens of countries allows us to examine how organizational and institutional features that tend to increase environmental scrutiny influence firms' selective disclosure behavior. At the organizational level, we focus on firms' environmental impact, which, in our context, confers domain-specific visibility (Chatterji & Toffel, 2010; Lyon & Maxwell, 2011; Doshi, Dowell, & Toffel, 2013). Specifically, we argue that, because firms with greater domain-specific visibility are more likely to face scrutiny with respect to that domain, they are less prone to selective disclosure. We also argue that generically visible firms headquartered in institutional contexts that facilitate scrutiny by civil society on a particular domain will be less prone to selective disclosure in that domain, since this heightens the risk of reputational damage if selective disclosure were exposed (Lyon & Maxwell, 2011). That is, some types of organizational visibility directly spur compliance, whereas other types prompt compliance only in the presence of greater levels of institutional scrutiny. We examine the scrutiny associated with (1) civil society's exposure to ideas through various global communication mechanisms, (2) civil society's ability to express ideas through legal protections that allow for activism, and (3) the presence of mobilization structures (such as environmental NGOs) that facilitate such activism. Our theorizing focuses on how these institutional features that promote global information diffusion and activism on environmental issues moderate

prominent firms' engagement in selective disclosure.

Our study makes several contributions to research on institutional theory and corporate environmental management. First, we advance institutional research by identifying different types of attention deflection strategies and selective disclosure specifically. We argue that understanding the determinants and ramifications of selective disclosure represents an increasingly important topic for organizational research. The "pervasive spread of rationalizing trends in society" has led to greater use of symbolic practices (Bromley & Powell, 2012: 483), as shown by the increasing focus on greenwashing among academics (e.g., Lyon & Maxwell, 2011; Delmas & Burbano, 2011) and practitioners (e.g., Glater, 2006; Kanter, 2009; Koch, 2010; Nelson & Peterka, 2010). Second, to help resolve a theoretical puzzle regarding contradictory perspectives on the influence of visibility on institutional compliance, we unpack different types of firm visibility and identify how they—and their interaction with institutional attributes—affect firms' propensity to engage in selective disclosure. Finally, by showing that selective disclosure is mitigated by factors related to firm visibility and civil society's information diffusion and activism, we challenge the view that globalization of environmentalism is just a myth with little effect on firms (e.g., Buttel, 2000; Yearley, 1996).

THE GLOBALIZATION OF CORPORATE ENVIRONMENTAL DISCLOSURE

Transparency about corporate environmental impacts is an important part of the global environmental movement that has emerged over the past decade (Eccles & Krzus, 2010). A growing number of stakeholders—including investors, consumers, and governments—are concerned that assessing organizational performance requires a more holistic picture than financial indicators can provide and have increasingly tried to convince companies to disclose information about their environmental and social performance (American Institute of Certified

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Public Accountants, 2008). Many advocate that corporations' sustainability should be evaluated according to a "triple bottom line" of environmental, social, and financial performance (Elkington, 1998; Marshall & Toffel, 2005), and a cottage industry has emerged to help companies publish glossy sustainability reports. The capital allocated to socially responsible investment funds, many of which screen for environmental performance, has also dramatically increased. As of 2010, approximately 11 percent of all assets under management in the United States were in mutual funds that had social or environmental screens (Social Investment Forum, 2012) and more than 100 schemes have emerged to rate companies along environmental dimensions (Sadowski, Whitaker, & Buckingham, 2010).

The number of companies worldwide that have voluntarily issued corporate environmental or sustainability reports has increased dramatically since such reports first appeared in 1989. Figure 1 depicts this trend among the 100 largest companies in five countries (KPMG, 2002, 2005, 2008; Kolk, 2004), and also reveals significant variation across countries. In Japan and the United Kingdom, almost all of these largest companies issue environmental reports and over 75 percent do so in the United States, but the figure is much lower in many other countries. Prior research has focused extensively on the industry-level and company-level antecedents of environmental reporting, reaching the general conclusion more heavily polluting industries and firms are especially likely to issue voluntary environmental reports (Kolk, Levy, & Pinkse, 2008).

[Insert Figure 1 about here]

Does the growing number of sustainability reports imply an increase in corporate transparency? Prior research has shown that the reports themselves vary significantly in their content and comprehensiveness (Kolk, 2004), and that corporate environmental disclosures are

also made through other channels including annual financial reports (Meek, Roberts, & Gray, 1995), corporate websites, carbon registries, and government and industry databases (Kolk, Levy, & Pinkse, 2008; Reid & Toffel, 2009; Doshi, Dowell, & Toffel, 2013). Comprehensively assessing the degree of corporate disclosure, as we do in this study, requires not only compiling data from multiple sources, but also making sense of a wide array of disparate environmental metrics. Finally, when examining how institutional processes affect corporate disclosure, a key unresolved issue is distinguishing those disclosures that constitute enhanced accountability from those that are merely greenwashing.

SELECTIVE DISCLOSURE AS A SYMBOLIC STRATEGY

Research in institutional theory suggests that organizations often seek to gain legitimacy from stakeholders by merely symbolically adopting legitimizing practices while engaging in little if any substantive organizational change (Meyer & Rowan, 1977), concealing nonconformity behind a facade of acquiescence (Oliver, 1991). A number of studies have shown the prevalence of decoupling (Meyer & Rowan, 1978; Tilcsik, 2010), including observations that organizations have purported to "maintain standardized, legitimating, formal structures, while their activities vary in response to practical considerations" (Meyer & Rowan, 1977: 357). For example, a series of studies by Westphal and Zajac (1994, 1995, 2001) revealed many instances in which corporations publicly announced various activities demanded by stakeholders, yet did not implement them.

[Insert Figure 2 about here]

Attention deflection types of symbolic compliance have been less explored. As shown in Figure 2, one form is *substitution*, by which companies substitute a new standard for the

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institutionally prescribed one. For example, Okhmatovskiy and David (2012) showed that Russian companies sought to maintain legitimacy by creating alternative, less stringent governance standards when they were confronted with more stringent global standards. Companies have also developed voluntary self-regulation programs, establishing their own compliance rules to avoid more stringent standards developed by regulators (Gunningham, 1995) or NGOs (Sasser et al., 2006).

Another form of attention deflection is *social image bolstering*, where organizations adopt practices to enhance their social or environmental reputation and to deflect attention from less admirable activities. For example, companies have increased the publicity of their corporate social responsibility (CSR) programs to deflect attention from a boycott (Morris & King, 2010). Manufacturers whose products are alleged to cause breast cancer have adorned their products with pink ribbons to convey their support for breast cancer research (Breast Cancer Action, 2011). And some companies participating in the United Nations Global Compact have been accused of "bluewashing" by affiliating with the United Nations brand and its Compact's lofty principles to deflect attention from less savory management practices (Williams, 2004; Deva, 2006).

The form of attention deflection we identify and focus on in this paper is *selective disclosure*, a strategy whereby organizations conceal potentially negative aspects of their performance by selectively revealing relatively benign performance indicators. Such concealment strategies, whereby organizations keep "secret the information that might be necessary or useful for evaluating organizational results," are theorized to be commonplace (Oliver, 1991; Pfeffer, 1981: 30). For example, Abrahamson and Park (1994) found that corporations avoid disclosing negative financial information unless they are actively monitored

by their boards and investors. Greenwashing has been identified as a common strategy whereby firms "mislead consumers about their (actual) environmental performance" (Delmas & Burbano, 2011: 64), giving a false impression of transparency and accountability. Greenwashing occurs when firms disclose relatively benign environmental indicators rather than more harmful indicators, which can result in their (undeservingly) appearing to be comprehensively transparent and accountable.

Overall, the recent attention on symbolic strategies such as substitution, social image bolstering and selective disclosure is perhaps not surprising given Bromley and Powell's (2012: 483) recent review of firm symbolic strategies concluded that "The pervasive spread of rationalizing trends in society, such as the … increasing emphases on accountability and transparency, has (led to) growing pressure on organizations to align their policies and practices, and to conform to pressures in an expanding array of domains." To understand the organizational processes underlying one important symbolic strategy of selective disclosure, we hypothesize a set of factors related to a firm's core business and institutional environment that increase the risk of exposure, which reduces the firm's propensity to selectively disclose.

ORGANIZATIONAL VISIBILITY AND SELECTIVE DISCLOSURE

In this section, we hypothesize that greater domain-specific visibility will lead to institutional compliance, which in our context means firms are less prone to selectively disclose their environmental impact. We also hypothesize that domain-specific visibility is more likely than generic visibility to deter selective disclosure. Finally, we hypothesize that firms with greater generic visibility will be less prone to selective disclosure the more their institutional environments promote civil society scrutiny. We describe several mechanisms that promote such scrutiny by a country's civil society: its exposure to global ideas, and national institutions that

allow civil society to express those ideas and mobilize action to pressure companies. In so doing, this study reveals conditions that determine whether organizational disclosures are likely to reflect reality or deflect attention from it.

Types of Visibility and Selective Disclosure

Prior institutional research presents a puzzle with respect to how organizational visibility influences symbolic strategies such as selective disclosure (Greenwood et al., 2011). Several studies have shown that organizations' visibility leads them to comply with institutional demands because they are likely to receive more attention and hence pressure from a variety of external sources (Bansal & Roth, 2000; den Hond & de Bakker, 2007; King, 2008; King & Soule, 2007; Rehbein, Waddock, & Graves, 2004). King and Soule (2007), for instance, showed that protests targeting more visible corporate activities prompted a negative stock market reaction, presumably because the activities' visibility made the protests particularly salient to investors. Similarly, oil companies with particularly strong or particularly weak CSR ratings attracted more media coverage of their oil spills than did firms with more modest CSR records, presumably because very high or very low CSR ratings makes these firms more visible and thus their negative events more newsworthy (Luo, Meier, & Oberholzer-Gee, 2012). Additionally, the corporate environmental disclosure literature has shown that more prominent firms, which are presumed to be more visible and thus subject to greater external pressure, are more likely to comply with institutional pressures to disclose (Alnajjar, 2000; Berthelot, Cormier, & Magnan, 2003; Short & Toffel 2008). Scrutiny likely dissuades companies from selective disclosure; getting caught at such misrepresentation can significantly damage a firm's reputation (Lyon & Maxwell, 2011).

Other research, however, has shown that more visible organizations are less likely to respond to institutional pressures. In these studies, more visible organizations are considered to be more powerful and therefore less vulnerable to the demands of key stakeholders such as governments and the general public; in short, somewhat immune to institutional pressure (Greenwood & Suddaby, 2006; Kostova, Roth, & Dacin, 2008). Similarly, in the accounting literature, Cho and Patten (2007: 639) argue that the visibility of more environmentally damaging companies can result in their providing "more extensive off-setting or positive environmental disclosures in their financial reports" to evade pressure based on their actual environmental records.

These contradictory findings could result from prior studies having failed to distinguish between different types of organizational visibility and to consider how scrutiny might exert different kinds of influence on firms with different kinds of visibility. We propose that two forms of organizational visibility—domain-specific and generic—have distinct effects on firms' responses to institutional pressures.

Domain-specific visibility. We argue that a firm will be particularly motivated to respond to institutional pressures in domains in which it has high domain-specific visibility. Organizations with high domain-specific visibility have some prominent characteristic that directly relates to an issue—such as labor relations, worker safety, and environmental impact— that makes it more susceptible to institutional pressure regarding that domain. For example, Hoffman (1999) showed that firms in the chemical industry were highly visible in the environmental domain, which led to their facing greater scrutiny over their environmental records by NGOs. As Bansal and Roth (2000) describe, it is not necessarily the salience of the issue to the firm, but the extent to which the issue is publicly visible that heightens stakeholder

attention. For a company that emits paint dust, Bansal found that "it was not the actual emissions which were of issue, but [that the emissions] could be sensed by stakeholders" (Bansal, 1996 as quoted in Bowen, 2000: 96). Thus, in our context, while firms with greater environmental impact may be more aware of their environmental issues than other firms, we argue that the mechanism that leads them to respond proactively is the potential scrutiny they face from external stakeholders.

Consistent with these prior findings that greater likelihood of external scrutiny leads companies with high domain-specific visibility to be more proactive in responding to stakeholders, other studies have found greater environmental disclosure by organizations that were—or were perceived to be—heavier polluters (e.g., Li, Richardson, & Thornton, 1997; Cho & Patten, 2007). In addition, other research suggests that the revelation of misrepresentations of environmental impacts is more damaging to firm reputation than the actual impacts (e.g., Lyon & Maxwell, 2011). Thus, we posit that firms with high domain-specific visibility will be particularly aware of potential stakeholder scrutiny and associated reputational damage from the exposure of selective disclosure. As a result, such firms will be especially motivated to respond to institutional pressures targeting the specific domains in which they are visible.

Hypothesis 1: Domain-specific visibility deters firms from engaging in selective disclosure in that domain.

The relative influence of generic versus domain-specific visibility. Generic visibility is a different story. Several factors mitigate the degree to which firms with greater generic visibility might comply with institutional pressures. First, such firms are usually more prominent and powerful and are therefore better able to resist institutional pressure (Kostova, Roth, & Dacin,

2008). Second, because generic visibility can subject a firm to heightened stakeholder pressure on a wide range of issues, the firm's management simply may not be able to proactively address all of them. In contrast, firms with large environmental impacts—those with high domain-specific visibility in that domain—anticipate intense stakeholder scrutiny of their environmental impacts, and so are likely to aim to be more accurate in their disclosures, lest they be exposed. We argue, therefore, that firms with greater domain-specific visibility would be less likely than firms with generic visibility to attempt selective disclosure.

[Insert Table 1 about here]

To better understand variation across firms on these different types of visibility, Table 1 illustrates how the industries in our sample differ with respect to these two constructs. Measuring domain-specific visibility as a firm's environmental impact (explained below), we calculated industry averages. For Table 1, we categorized each industry into low, high, or moderate levels of domain-specific visibility based on whether its average domain-specific visibility was below the 33rd percentile of industries in our sample, above the 66th percentile, or in between these thresholds. Similarly, we calculated industry averages of generic visibility, which we measured using sales (explained below), and again use the 33rd and 66th percentiles to distinguish industries with low, moderate, and high generic visibility. Table 1 illustrates significant heterogeneity between industries along these two types of visibility. Firms in the metal mining industry (cell 1) have high domain-specific visibility due to their high environmental impact, but low generic visibility because most are relatively small. In contrast, firms in the depository institutions industry (cell 9) are typically large and thus have high generic visibility, but their low environmental impacts means they have low domain specific visibility of

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the type we are examining. Petroleum-refining companies (cell 3) have high levels of both generic and domain-specific visibility.

Viewing this table with respect to hypothesis 2, we predict a greater reduction of selective disclosure when comparing a company in the hotel industry (cell 7) to one in the coal mining industry (cell 1), as opposed to a comparison between companies in the coal mining and petroleum industries (or between hotels and depository institutions). Put more generally, the risk of being exposed when selectively disclosing increases faster with increases in domain-specific visibility than it does with increases in generic visibility. Furthermore, firms with domain specific visibility do not enjoy the mitigating factors—increased power and divided management attention—associated with generic visibility. We therefore propose:

> *Hypothesis 2: Domain-specific visibility deters firms from engaging in selective*
> *disclosure more so than generic visibility.*

Generic Visibility, Civil Society Scrutiny, and Selective Disclosure

Not only are there different types of visibility, there are also different contexts of visibility. Being Wal-Mart or Nike in the United States is not the same as being Wal-Mart or Nike in China. While many studies have theorized that external scrutiny is the mechanism underlying visible firms' responsiveness to institutional pressure, we unpack this relationship further by arguing that different types of civil society pressure deter firms with high generic visibility from selective disclosure. Having argued above that greater domain-specific visibility spurs corporate compliance even at low levels of civil society scrutiny, we argue here that heightened scrutiny on specific issues is essential to understanding when generic visibility will spur such action. As noted earlier, firms with high generic visibility can find it difficult or

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impossible to respond to the many institutional demands to which they are vulnerable. But greater scrutiny by civil society in a particular domain can increase the risk of exposing generically visible firms' failures to conform to institutional norms in that domain (Lyon & Maxwell, 2011), which can focus management's attention and drive conformance.

Numerous studies have shown that environmental concerns are frequently at the forefront of globalization processes and that local populaces have displayed increased awareness and activism regarding global social and environmental issues (e.g., Frank, Hironaka, & Schofer, 2000). There are many examples of countries and NGOs organizing to address global environmental issues including Earth Summits to promote sustainable development, and United Nations conventions and meetings to protect stratospheric ozone and international fisheries and to prevent climate change. Furthermore, as the networks linking countries, organizations, and individuals expand and become more intense, global norms of information disclosure and transparency have become more widely disseminated as well (Ventresca, 1995; Drori, Jang, & Meyer, 2006).

We therefore propose that several institutional features related to the global diffusion of information and to activism promote civil society scrutiny on a firm's environmental records. As a result, prominent companies headquartered in countries possessing these features are thus deterred from engaging in selective disclosure. We focus on a company's headquarters country because most senior managers, board members, and those shareholders who attend annual meetings reside there, making it the institutional environment with the most influence on corporate decisions (Guler & Guillén, 2012). We focus on what we suggest will be pronounced effects on highly generically visible firms because they are more likely to be targets of civil society actions (Bartley & Child, 2012; King, 2008).

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We identify three institutional features that tap information diffusion and activism mechanisms that can bolster civil society pressure on visible firms to disclose more comprehensive information about their operations and environmental impact; that is, to refrain from selective disclosure. Below, we argue that, in these settings where civil society is afforded greater access to global information and more freedom to act on that information, firms with high generic visibility will face more scrutiny over information they disclose, particularly as it relates to their environmental impacts.

Exposure of local civil societies to global ideas. We argue that, as a country's civil society acquires greater exposure to global ideas, this includes exposure to the global trend of increasing corporate environmental transparency and accountability. Observing or anticipating growing civil society expectations of more comprehensive reporting and civil society scrutiny over this issue will focus company managers' attention on environmental transparency and the risks of selective disclosure, which will lead to less selective disclosure.

A population's exposure to such globalized ideas is a complex process that can result from international trade, employment of foreigners, interactions with foreign embassies and consulates, information flows such as Internet access and international telephone traffic, and international tourism.[1] We focus on information diffusion mechanisms because globalization of societies is "mediated through a variety of flows including people, information and ideas, capital and goods" (Dreher, 2006: 1092). Such exposure brings about a "norm cascade" found in many contexts, whereby a norm diffuses across international borders, becomes taken for granted, and influences the activities of individuals and organizations around the world (Sunstein, 1997; Risse-Kappen, Ropp, & Sikkink, 1999). Research has also shown that because of their greater

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[1] To foreshadow our empirical approach, we measure the global exposure of a country's citizenry through a widely used index designed for this purpose (Dreher, 2006).

likelihood of being in global networks, the diffusion of global ideas is particularly likely among a country's elite including corporate executives (Reimann, 2002). Given the prominence of environmental issues in globalization processes as discussed above, we argue that as firms with high generic visibility are more exposed to these ideas, they will become more vulnerable to pressure from civil society on the importance of environmental transparency and will, in turn, be more reluctant to attempt selective disclosure. We therefore propose:

Hypothesis 3a: The deterrent effect of generic visibility on selective disclosure will be stronger among firms headquartered in countries that are more connected to global society.

Expression of global ideas by local civil societies. Civil society actors seeking to enforce global norms of accountability and environmental transparency need the ability to speak up in order to pressure more generically visible companies to conform. Institutional environments providing more civil liberties and political rights empower civil society actors to take social action and to lobby for political support when companies violate global norms. Discussing "civic environmentalism," Steinberg (2002: 26) argued that the "challenges of sustained collective action are compounded when citizens fear for their safety or operate in a political environment where autonomous civic organization and the expression of dissenting views are considered a threat by state authorities." We thus propose that firms with greater generic visibility will be less likely to selectively disclose when headquartered in countries whose governments afford civil liberties and political rights.

Hypothesis 3b: The deterrent effect of generic visibility on selective disclosure will be stronger among firms headquartered in countries with greater civil liberties and political rights.

Mobilization of global ideas in local civil societies. Social activists' potential influence on corporate behavior relies ultimately on collective action and engagement, citizen pressure, and sometimes consumer boycotts (Davis, Whitman, & Zald, 2008; King, 2008). There is growing evidence that companies' strategies and management practices are influenced by a wide array of collective action by activists (Chatterji & Toffel 2010; Eesley & Lenox, 2006; King, 2008; Lenox & Eesley, 2009; O'Mahony & Ferraro, 2007; Reid & Toffel, 2009; Weber, Rao, & Thomas, 2009). Such activism is frequently focused on companies' visible social and environmental issues. For example, in order to avoid a "sweatshop stigma" activists threatened to impose (Bobbin, 1997), several major global apparel makers adopted voluntary codes of conduct and internal compliance-monitoring programs (Chatterji & Levine, 2006; Bartley, 2007; Hiscox, Schwartz, & Toffel, 2009). Social activists are likely to scrutinize more visible firms whose violations of social norms are more likely to attract more media coverage (Rehbein, Waddock, & Graves, 2004), one of activists' most potent weapons to influence firm behavior (King, 2008). Thus, activist pressures will be especially likely to deter highly visible firms from engaging in selective disclosure.

Crucial to civil society being able to influence corporations is the ability to organize "collective vehicles … through which people mobilize and engage in collective action" (McAdam, McCarthy & Zald 1996: 3). For many movements, the local presence of NGOs has been shown to be a key organizational mechanism of citizenry mobilization and activism (e.g., Sine & Lee, 2009; Tsutsui & Wotipka, 2004), magnifying individual voices to intensify the pressure on companies. Because citizen mobilization can deter unsavory activities especially among firms concerned with maintaining their reputation, we hypothesize that the greater the presence of environmental NGOs in a country, the less prone highly visible firms will be to

selective disclosure.

> *Hypothesis 3c: The deterrent effect of generic visibility on selective disclosure will be stronger among firms headquartered in countries with environmentally-oriented nongovernmental organizations.*

To summarize, we focus on the organizational and institutional factors that mitigate selective disclosure. The theoretical framework described above proposes that greater domain-specific visibility will deter selective disclosure (H1) and that it will do so more so than generic visibility (H2). Furthermore, greater generic visibility mitigates selective disclosure only in contexts where civil society is exposed to global ideas (H3a), can express its ideas (H3b), and can mobilize to act on those ideas (H3c). Overall, these predictions illuminate the conditions under which scrutiny constrains firms from using selective disclosure as a strategy to deflect attention from less savory corporate activities.

DATA AND MEASURES

Sample

To test our hypotheses, we gathered data on 4,484 publicly traded companies, headquartered in 38 countries, listed on the following major stock indices during 2004-2007: ASX 200, FTSE All Share (and subsets including FTSE 100 and FTSE 350), MSCI All World Developed (and subsets including MSCI Europe), MSCI Asia ex Japan, MSCI Emerging Markets, Nikkei 225, Russell 1000, S&P 500, and S&P Emerging Markets. This sampling frame was determined by the coverage of Trucost Plc, an organization that produces environmental profiles of these companies for socially responsible investors. (We also obtained data on some of

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our key variables from Trucost, as described below.)

Tables 2 and 3 report the distribution of industries and headquarters countries for the companies in our sample.

[Insert Tables 2 and 3 about here]

Dependent Variable

Our dependent variable, *selective disclosure magnitude,* represents the extent to which companies risk creating a misleading impression of transparency and accountability by disclosing relatively benign environmental metrics rather than those more representative of their overall environmental harm. *Selective disclosure magnitude* refers to the difference between two ratios that Trucost developed to assess companies' environmental transparency. Specifically, *selective disclosure magnitude* is calculated as an *absolute disclosure ratio* minus a *weighted disclosure ratio*.[2]

The *absolute disclosure ratio* is the proportion of relevant environmental indicators for which a company publicly discloses quantitative information. Trucost determines (a) the set of indicators relevant to a company based on the industries in which it operates (the denominator) and (b) the subset of those indicators that the company publicly discloses in, for example, its annual reports, regulatory filings, and corporate website (the numerator).

The *weighted disclosure ratio* takes this concept a step further by incorporating the extent of environmental impact associated with each environmental indicator. If Company A discloses

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[2] This formula results in *selective disclosure magnitude* equaling zero when a firm's *absolute disclosure ratio* equals its *weighted disclosure ratio*, which occurs when firms disclose no indicators (when both ratios equal 0), all of their indicators (when both ratios equal 1), or when the ratios take on identical intermediate values. Each of these scenarios represents the lack of misrepresentation. Because some might assume stakeholders would make different inferences based on the absence of disclosure compared to full disclosure, as a robustness test we re-estimated our models omitted observations corresponding to the absence of any disclosure (when both ratios equal 0). The results were nearly identical and supported the same hypotheses as our primary results, with one exception: the marginally significant primary result supporting H3c was no longer statistically significant.

only the ten least damaging indicators out of 20 and Company B discloses only the ten most

damaging out of 20, they will have the same *absolute disclosure ratio* but very different

weighted disclosure ratios, as Company A is concealing more important information. In short,

the absolute disclosure ratio shows how many of the appropriate environmental indicators were

disclosed—regardless of their relative importance—and the *weighted disclosure ratio* shows how

much of the most important information was disclosed.

When a company's *absolute disclosure ratio* exceeds its *weighted disclosure ratio*,

selective disclosure magnitude is a positive value, which indicates that the company disclosed

relatively less harmful indicators; that is, it is engaging in selective disclosure.[3] S*elective*

disclosure magnitude approaches its maximum value of 1 when a company discloses many of its

less-harmful indicators but few if any of its more-harmful indicators. Such a company could

easily create the impression of transparency while in fact hiding quite a lot. In contrast, a

company disclosing just a few indicators that matter most in terms of environmental harm will

have a *selective disclosure magnitude* tending toward the minimum value of -1. The Appendix

describes the calculation of these ratios in more detail.

Independent Variables

We measure a firm's domain-specific visibility as *environmental impact cost*, the extent

to which its operations impact the environment. We use Trucost's estimate of an organization's

environmental impact, which is based on the following process (Thomas, Repetto, & Dias, 2007;

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[3] For example, a steel manufacturer or cement producer that discloses only its greenhouse gas emissions—the dominant environmental impact in those highly energy-intensive industries—is likely to have a low *absolute disclosure ratio* but a high *weighted disclosure ratio*, resulting in a low *selective disclosure magnitude*. It is keeping a lot undisclosed, but is disclosing the most damaging indicator. In contrast, a mining company that discloses most of its pollution release into the air, water, and land but omits some or all of the most environmentally burdensome pollutants in that industry (such as ammonia, arsenic, and cyanide) will have a high *absolute disclosure ratio* but a lower *weighted disclosure ratio*, resulting in low *selective disclosure magnitude*. It is disclosing a many indicators, but keeping the most important ones undisclosed.

Trucost Plc, 2008). First, Trucost allocates each company's annual revenues to a standardized set

of 464 industries (typically one to a few dozen industries for each company), based on data from

the FactSet Fundamentals database, corporate annual reports, corporate regulatory filings, and

feedback from the company. Second, Trucost's model estimates the company's total annual

tonnage of emissions released (various pollutants to air, land, and water) and resources

consumed (such as metals, water, oil, natural gas, and mined materials) based on the company's

revenues from each industry. These calculations are based on environmental factors derived from

several pollution release and transfer registries (national databases with inventories of natural

resources and pollutants associated with many establishments in various industries)[4] and

economic input-output models (which model trade between suppliers and producers). Third,

these physical quantities are multiplied by their respective environmental impact cost factors,

which are drawn from academic research on the pricing of environmental externalities and refer

to costs "borne by society through the degradation of the environment but which [are] not borne

by the firm that uses the resource or emits the pollutant" (Trucost Plc, 2008: 4).[5] The total

represents the annual *environmental impact cost* in millions of U.S. dollars, which we log to

accommodate its skewed distribution.

We capture an organization's generic visibility as a function of its size, which we

measure as *sales*, a metric used in many studies of corporate environmental and social disclosure

(e.g., Patten, 2002; Hackston & Milne, 1996; Cho & Patten, 2007; Reid & Toffel, 2009; Elsayed

& Hoque, 2010). Sales is also frequently used in the organizations literature to proxy a firm's

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[4] These include the U.S. Toxic Release Inventory, the Federal Statistics Office of Germany (Destatis), the UK Environmental Accounts, the Japanese Pollution Release and Transfer Register, the Australia National Pollution Inventory, and Canada's National Pollutant Release Inventory.
[5] In other words, they represent the externalized costs of the environmental degradation associated with each ton of natural resource consumed and pollutant emitted. For example, Trucost uses $31 as the environmental impact per ton of greenhouse gas emitted (Trucost Plc, 2008: 5).

visibility (King, 2008). We obtained annual corporate-wide sales data reported in millions of U.S. dollars from Compustat and used log values in our models to accommodate the skewed distribution of sales.

Moderator Variables

To assign a value to *globalization index*, our measure of the extent to which a country is exposed to and integrated into ideas and trends of global society, we rely on the KOF index of globalization, developed by Dreher and colleagues (Dreher, 2006; Dreher, Gaston, & Martens, 2008; available in ETH Zürich, 2010) and used by many scholars of globalization (e.g., Fischer, 2008; Potrafke, 2009; Sapkota, 2009; Vujakovic, 2009). This index, calculated annually for 208 countries, incorporates a country's social, economic, and political integration with other countries (Keohane & Nye, 2000). A country's social integration—the flow of international information and ideas—is reflected in the KOF index by measures of personal contacts (such as telephone traffic, international tourism, and the proportion of population that are foreigners), information flows (such as the prevalence of Internet access), and cultural affinity (such as the import and export of books as a percent of GDP). Economic integration is measured by trade flow indicators (such as the value of international trade and foreign direct investment, each normalized as percentages of the country's gross domestic product) and trade restrictions (such as import barriers and tariffs). Political integration is represented by measures such as the number of foreign embassies in the country and the number of UN peace missions in which the country has participated.

Civil society's ability to freely express its interests and concerns relies upon government protections of civil liberties and political rights. We measure a country's *civil liberties and political rights* based on data from annual Freedom in the World reports (Freedom House, 2010),

which assess civil liberties (such as freedom of expression and assembly) and political rights (such as free elections). We used the annual national averages of political rights and civil liberties scores—an approach used by others (e.g., Vaaler, 2008; Chong, Guillen, & Riano, 2010; Longhofer & Schofer, 2010)—and reverse-coded the result so that higher values reflect more rights and liberties.

Civil society pressures can be magnified and more easily mobilized in institutional contexts that allow people to voice their concerns collectively. To measure this capacity, we gathered national data on the number of *environmental NGOs per million population* (Esty et al., 2005); specifically, the number of the International Union for Conservation of Nature (IUCN) member organizations in 2003, the year before our sample period, divided by the country's population in 2004 (measured in millions). IUCN is an international environmental organization with more than 1000 member organizations, including the most significant international environmental NGOs such as Conservation International, the National Geographic Society, and the Sierra Club. Presence of such NGOs has frequently been used in the organizations and sociology literatures to proxy local social movement processes (e.g., Sine & Lee, 2009; Tsutsui & Wotipka, 2004; Hafner-Burton & Tsutsui, 2005).

Organization-level Control Variables

Companies relying on export markets and those focused on domestic markets can face different pressures for corporate environmental behavior (Christmann & Taylor, 2001). Because such differences could affect environmental reporting, we control for *percentage of sales to foreign countries*—that is, nonheadquarters countries—using data from Worldscope.

Prior research suggests that companies seeking to exhibit greater transparency will list on foreign stock exchanges that have more stringent financial reporting requirements than their

domestic exchanges (Khanna, Palepu, & Srinivasan, 2004). To control for this, we created a dichotomous variable that indicates whether the company was *listed on a foreign stock exchange*. Using stock exchange listings data from Datastream, we coded this variable 1 for companies that listed their stock on an exchange outside their headquarters country and 0 otherwise.

Because prior studies have argued and shown that an organization's financial performance influences its environmental disclosure (Barth, McNichols, & Wilson, 1997; Neu, Warsame, & Pedwell, 1998), we control for an organization's financial performance using *return on assets*, calculated as net income divided by starting-year assets, both of which we obtained from Compustat. To avoid the undue influence of a few outliers, we winsorized this ratio by recoding values below the 0.1 percentile and values above the 99.9 percentile to those values, respectively.

We control for employment because employees are a powerful group of stakeholders in many societies (Barnett, 2007) and large employers may hold disproportionate political power in a country.[6] We measure a company's *employment* based on annual corporate-wide employment data from Worldscope. Because average company employment differs substantially across countries, we standardized this measure by country.

Research reveals very different levels of environmental and social disclosure for companies in different industries (Cho & Patten, 2007; Newson & Deegan, 2002; Reid & Toffel, 2009; Roberts, 1992). We therefore controlled for such differences by using *industry* dummy variables to account for each company's primary two-digit SIC code, obtained from Compustat.

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[6] Because employment could also be viewed as an additional proxy for generic visibility, we also estimated our models without controlling for employment, which yielded results nearly identical to our primary results.

Country-level Control Variables

We measure the stringency of environmental regulations and enforcement in two ways. Many companies headquartered in countries engaged in the Kyoto Protocol are, or will be, required to calculate and disclose greenhouse gas emissions, which will increase those companies' weighted disclosure ratios. We control for this regulatory pressure by creating an annual country-level dichotomous variable, *Kyoto Protocol.* We coded this variable 1 starting in the year when the Protocol entered into force in that country and 0 in the preceding years. We coded this variable 0 for all years for countries, such as the United States, in which the Protocol had not entered force during our sample period. We obtained these data from the United Nations Framework Convention on Climate Change (2009).

We also obtained data on the stringency of a country's environmental regulations and enforcement using annual data from the Executive Opinion Surveys of the World Economic Forum's Global Competitiveness Reports (e.g., Porter et al., 2004). The environmental governance portion of these surveys asked executives to assess the stringency their country's environmental regulations and regulatory enforcement. Additional questions were added to subsequent surveys, but all were coded on the same scale (1 to 7)—with increasing values reflecting the executive's perception of more stringent environmental governance—and data were available for every year of our sample. Questions about environmental quality, the environmental sustainability of travel and tourism industry development, and the business consequences of environmental challenges were added in 2005, 2006, and 2007, respectively. We measured a country's *environmental governance* as the mean of the responses to these questions from all respondents in that country that year (Wainer, 1976). We confirmed that all of the questions reflected a single construct based on a Cronbach's alpha value of 0.92 and on

exploratory factor analysis resulting in just one factor whose eigenvalue of 3.92 exceeded the common threshold of 1.0.

Companies headquartered in countries with poor environmental quality might face particularly high demands for environmental disclosure. We controlled for environmental quality in each country using a composite indicator from the 2002 Environmental Sustainability Index (World Economic Forum, Yale Center for Environmental Law and Policy, and Center for International Earth Science Information Network, 2002). A country's *environmental stress* refers to the extent to which pollution and resource consumption are stressing the country's environmental systems. This measure incorporates emissions and fertilizer and pesticide use (all normalized by land area), change in forest cover, per capita natural resource consumption, and projected population growth rates (World Economic Forum, Yale Center for Environmental Law and Policy, and Center for International Earth Science Information Network, 2002: 7).

Because a country's economic development can affect the diffusion rates of organizational practices (Guler, Guillén, & Macpherson, 2002) and can affect environmental practices more generally (Inglehart, 1990), we control for each country's *per capita real gross domestic product* in a given year. We obtained country-level data on annual gross domestic product, reported in 2005 U.S. dollars, from the World Bank and annual population data from the U.S. Census Bureau, compiled by the U.S. Department of Agriculture's Economic Research Service (U.S. Department of Agriculture, 2010). To reduce skew, we use logged ratios in our models.

To help isolate our hypothesized effects of civil liberties and political rights at the country-level, from media attention, which has been shown to be an important mechanisms of institutional compliance (King & Soule, 2007), we measure each country's *press freedom* via the

country's score on the World Press Freedom Index, produced annually by Reporters without Borders (Faccio, 2006; Libby, 2011). This index reflects (a) the freedom that journalists and the news media actually possess and (b) government efforts to respect that freedom, based on surveys on harms and threats to individual journalists (such as murders, imprisonment, and physical attacks) and to the news media (such as censorship and harassment). We multiplied World Press Freedom Index values by -1 so that higher values of *press freedom* reflect greater freedom.

Because stringent accounting standards might deter selective disclosure, we obtained data on a country's *accounting standard stringency* from La Porta et al. (1998), which was based on the comprehensiveness of financial statements from a sample of corporate annual reports. Higher index values indicate more stringent accounting standards. We rescaled the raw index values to range from 0 to 1.

Tables 4 and 5 report summary statistics and correlations of all variables.

[Insert Tables 4 and 5 about here]

METHODS AND RESULTS

Model Specification

We test our hypotheses by predicting *selective disclosure magnitude*, a continuous dependent variable, estimated using ordinary least squares (OLS).[7] All models include all the independent variables and control variables described above, as well as a set of dummy variables indicating two-digit SIC codes to control for differences between industries and a full set of year dummies. We standardize our measures of domain-specific visibility (*environmental impact*) and

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[7] Results are virtually identical when estimated with tobit regression.

generic visibility (*sales*) to facilitate comparing their influence on selective disclosure. We demean (mean-center) all moderator variables to facilitate interpretation of interactions. To address concerns associated with multicollinearity, we test each moderated relationship by including each interaction term in a distinct model.

For each of the variables for which we recoded occasional missing values to 0 (details provided in the footer of each regression table), we included a corresponding dichotomous variable coded 1 to denote observations which had been recoded and 0 otherwise (Maddala, 1977: 202; Greene, 2007: 62). This approach, common in econometric analysis, is algebraically equivalent to recoding missing values with the variable's mean (Greene, 2007: 62).

Regression Results

Table 6 presents our regression results. Because our sample includes several observations per firm and many firms per country, we report heteroskedasticity-robust standard errors clustered by country, a more conservative approach than clustering by firm.[8] Model 1 is a baseline model that includes only control variables. Model 2 also includes the hypothesized and moderator variables but without any interactions; it tests Hypotheses 1 and 2. The significant negative coefficient on *environmental impact cost* indicates that this factor deters selective disclosure, which supports Hypothesis 1. Because this is a standardized variable, the coefficient (β = -0.111) implies that a one-standard-deviation increase in *environmental impact cost* is associated with a 0.11 decline in selective disclosure, the equivalent of one-half a standard deviation (calculated as $\beta_{\text{environmental impact cost}} \div \text{SD}_{\text{selective disclosure magnitude}}$ = -0.111 ÷ 0.235 = -0.48). A Wald test indicates that the coefficient on *environmental impact cost* is significantly smaller

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[8] Estimating these models with standard errors clustered by firm yielded more precise estimates (i.e., smaller standard errors).

than the nearly zero (and non-significant) coefficient on *sales* (Wald F statistic = 28.97, $p <$ 0.01), which supports Hypothesis 2 that domain-specific visibility does more than generic visibility to make a firm less prone to selective disclosure.

Among the control variables, we find significantly less selective disclosure among companies headquartered in countries with more environmental NGOs per capita or where the Kyoto Protocol had entered into force and among organizations listed on foreign stock exchanges or more reliant on foreign sales.

[Insert Table 6 about here]

Model 3 adds an interaction term between the country's *globalization index* and the organization's *sales*. Whereas the near-zero (and non-significant) coefficient on the main effect of sales suggests no direct relationship between generic visibility and selective disclosure, the significant negative coefficient on the interaction term indicates that a citizenry that is more connected to global society renders generically visible companies less prone to selective disclosure. These findings yield support for Hypothesis 3a.

Figure 3a depicts average predicted values of *selective disclosure magnitude* from this model, estimated at each decile of *sales*. Two lines indicate estimates made at the 10th percentile of *globalization index*—that is, for low-globalization countries whose citizens have little exposure to globalization—and at the 90th percentile — that is, for high-globalization countries whose citizens have extensive exposure to globalization. The average predicted values of *selective disclosure magnitude* decline as generic visibility increases among companies headquartered in high-globalization countries, but not among those headquartered in low-globalization countries.

Model 4 includes an interaction term between the country's *civil liberties and political*

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rights and the organization's *sales*. The significant negative coefficient on the interaction term indicates that greater civil and political liberty protections render generically visible companies less prone to selective disclosure, whereas the non-significant coefficient on the main effect of *sales* continues to suggest no direct effect of generic visibility on selective disclosure, yielding support for Hypothesis 3b.

Figure 3b depicts average predicted values of *selective disclosure magnitude* based on this model and yields insights very similar to those yielded by Figure 3a. In particular, the average predicted values of *selective disclosure magnitude* decline as generic visibility increases among companies headquartered in countries with high civil liberties and political rights (90th percentile), but not among those headquartered in countries with low civil liberties and political rights (10th percentile).

Model 5 includes an interaction term between the prevalence of environmental NGOs in the country and the organization's sales, thus testing Hypothesis 3c. Whereas the near-zero non-significant coefficient on the main effect of *sales* continues to suggest no direct impact of generic visibility on selective disclosure, the negative coefficient on the interaction term indicates that a greater NGO presence renders visible companies less prone to selective disclosure, although this effect is only marginally statistically significant (p = 0.08) and thus provides only tentative support for Hypothesis 3b. Figure 3c depicts average predicted values of *selective disclosure magnitude* based on this model and yields insights very similar to those yielded by Figures 3a and 3b.

[Insert Figure 3 about here]

Extension: The Impact of Visibility and Scrutiny on Firms' Disclosure Levels

While the above regressions yield statistically significant support for our hypotheses, we conducted further analyses to better understand the mechanisms that lead to our selective disclosure findings. Recall that *selective disclosure magnitude* is calculated as *absolute disclosure ratio* minus *weighted disclosure ratio*. Thus, the regressions indicating that our hypothesized variables significantly mitigate *selective disclosure magnitude* could be driven by (a) a greater increase of the weighted than of the absolute disclosure ratio, (b) a greater reduction of the absolute than of the weighted disclosure ratio, or (c) an increase of the weighted and a decrease of the absolute disclosure ratio. To detect which was happening, we estimated models that separately predicted *absolute disclosure ratio* and *weighted disclosure ratio*, including the same independent and control variables used in our primary models. As above, we estimated these models with OLS regression and clustered standard errors by country.[9]

Recall the results (Table 6, Column 2) confirming Hypothesis 1 that selective disclosure is significantly mitigated by domain-specific visibility (measured as *environmental impact cost*) but not by generic visibility (measured as *sales*). To understand the extent to which these results are driven by changes in the numerator or dominator of *selective disclosure magnitude*, we present analyses of that variable's two underlying components. These results, reported in Columns 1 and 2 of Table 7, indicate that a one-standard-deviation increase in *environmental impact cost* is associated with a 47-percent increase in *absolute transparency ratio* (Model 1: β /

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[9] Estimating these models with standard errors clustered by firm yielded more precise estimates (i.e., smaller standard errors). Because these regressions predict proportional dependent variables, we alternatively estimated these as generalized linear models (GLM) with a logit link function and binomial family (McDowell and Cox, 2004; Papke and Wooldridge, 1996) to accommodate distinct baselines. This GLM approach yielded results very similar to our primary OLS models.

Y-bar = 0.022 / 0.047) but an 87-percent increase in *weighted transparency ratio* (Model 2: β / Y-bar = 0.133 / 0.153). That is, firms that have greater environmental impact increase *weighted transparency ratio* to a greater extent than they increase *absolute transparency ratio*, which supports our intuition that these more environmentally damaging firms are also being more transparent. In contrast, a one-standard-deviation increase in *sales* is associated with a 43-percent increase in *absolute transparency ratio* (Model 1: β / Y-bar = 0.020 / 0.047) but a mere 20-percent increase in *weighted transparency ratio* (Model 2: β / Y-bar = 0.030 / 0.153).

To gain further insight into the mechanisms driving the significant negative interaction coefficients that support Hypotheses 3a-3c (Table 6, Columns 3-5), we estimate two models for each interaction term, one predicting *absolute transparency ratio* and the other predicting *weighted transparency ratio* (Table 7, Columns 3-8). Note that in each pair of regressions, the interaction term's coefficient is larger in the model predicting *weighted transparency ratio* than in the model predicting *absolute transparency ratio*, suggesting that the scrutiny moderators have a more pronounced effect on a firm's choice to report indicators of greater environmental relevance than on its choice to merely report more indicators. In other words, scrutiny appears to lead highly visible firms to report more of what matters most, which suggests that these firms realize that the civil groups keeping an eye on them may not be impressed (or fooled) by disclosures of many trivial indicators. Rather, our results are consistent with highly visible firms responding to scrutiny by disclosing environmental indicators that more comprehensively communicate the environmental harm their operations impose.

[Insert Table 7 about here]

DISCUSSION AND CONCLUSION

Our study examined the conditions under which corporate disclosures are less likely to be

merely symbolic, and focused on how different forms of organizational visibility make companies less prone to selective disclosure of their environmental impacts. We find that greater domain-specific visibility deters firms from engaging in selective disclosure, and that domain-specific visibility is a greater deterrent than generic visibility. We also find that firms with greater generic visibility are more responsive to institutional demands when they are headquartered in countries that afford greater civil society scrutiny.[10] Below, we discuss our more general theoretical contributions, which include (a) identifying selective disclosure as a symbolic strategy, (b) unpacking how visibility shapes selective disclosure, and (c) shedding new light on the globalization of corporate practices.

Selective Disclosure as a Corporate Symbolic Strategy

Symbolic compliance occurs when organizations seek to gain legitimacy from stakeholders by merely appearing to adopt institutionalized practices without actually implementing substantive changes. Institutional research has mainly examined just one symbolic strategy—decoupling (Meyer & Rowan, 1977; Zajac & Westphal, 2004; Tilcsik, 2010). We advance research on symbolic compliance by identifying the importance of attention deflection as a distinct category of symbolic compliance. Furthermore, we distinguish several types of attention deflection, including substitution (Okhmatovskiy & David, 2012), social image bolstering (Morris & King, 2010), and the specific symbolic strategy we examine in the paper - selective disclosure (see Figure 2). Thus, our approach provides not only a framework for future researchers to consider firms' symbolic strategies, but also a more nuanced mechanism—

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[10] While not the focus of our hypotheses, we speculate that firms with domain-specific visibility would also pay more serious attention to institutional pressures in domains that facilitate scrutiny by civil society. We explored this by estimating models akin to Models 3-5 in Table 5 except that we interacted our measure of domain-specific visibility (*environmental impact cost*) instead of our measure of generic visibility (*sales*). The results of each of these three models (not shown) yielded a significant negative coefficient on the interaction term.

selective disclosure—to explain the increasingly common symbolic practices associated with firms' management of social and environmental issues (Lyon & Maxwell, 2011).

We view these contributions as particularly important for contemporary organizational theory in light of the increasing prevalence and variety of avoidance and symbolic compliance strategies (Bromley & Powell, 2012), which highlights the need to examine symbolic strategies beyond decoupling. Global movements for accountability and transparency have led to the development of an "audit society" (Power, 1994) and "audit culture" (Strathern, 2000) whereby monitoring and tracking of organizational activities is commonplace. In such a global environment, as we described above, firms have developed a number of novel symbolic strategies and we have provided evidence on what leads organizations to engage in one of these – selective disclosure. Along with Bromley and Powell (2012), we encourage future research to identify additional organizational and institutional factors that lead firms to engage in symbolic strategies.

Visibility and Corporate Response to Institutional Pressure

Having identified the important symbolic strategy of selective disclosure, our study addressed which types of firms would be less likely to engage in this practice. We focused on a key debate in the institutional literature regarding how an organization's visibility affects its compliance with institutional pressure. While prior research has produced contradictory and mixed findings, our approach unpacked this relationship along two dimensions: the type of visibility a company possesses, and the moderating impact of the headquarters country's institutional environment. We believe these two refinements allow for a better understanding of the effects of visibility on institutional relationships.

We identified two types of firm visibility—generic and domain-specific—and showed

that they have distinct influences on selective disclosure. Our results indicate that, compared to generic visibility, domain-specific visibility has a greater deterrent effect on selective disclosure. Our results suggest that firms with greater generic visibility tend to curb their selective disclosure only in the presence of civil society scrutiny, including settings where civil society is exposed to global ideas, can express its ideas, and can mobilize to act on those ideas. We argued that this occurs not only because the prominence and power of these firms' can enable their resistance in contexts that lack civil society scrutiny, but also because such scrutiny is necessary to focus the attention of these firms' managers who are exposed to a wide range of issues.

Our findings contribute to institutional theory by showing how symbolic compliance strategies vary across firms and that certain corporate characteristics, such as visibility, increase the capacity of institutional pressure to mitigate symbolic compliance. More generally, our finding that specific organizational characteristics affect organizations' responses to institutional pressures contributes to an emerging literature examining heterogeneous responses to institutional pressures associated with various organizational characteristics (e.g., Delmas & Toffel, 2008, 2011; Marquis & Huang, 2009, 2010).

Of particular interest is our finding that several aspects of a country's civil society moderate visible companies' practice of selective disclosure. Prior theory and research on the effects of civil and political liberties has focused on the importance of both information dissemination and activism—commonly measured as INGO or IGO presence—but seldom has examined these mechanisms separately (Tsutsui, & Wotipka, 2004). Because our setting of global transparency processes intersects global information management (Drori, Jang, & Meyer, 2006) and environmental movements (Frank, Hironaka, & Schofer, 2000), it is particularly important to differentiate information dissemination from activism. Our theory identified distinct

processes through which three civil society characteristics operate—building awareness of global issues, enabling the ability to speak out on issues, and facilitating mobilization on those issues—and our results supporting the associated hypotheses indicate that both information dissemination and activism are of crucial importance to deter selective disclosure. Given the growing scholarly effort to understand how companies respond to activism (e.g., Eesley & Lenox, 2006; King, 2008; Lenox & Eesley, 2009; Reid & Toffel, 2009), we believe that further identifying the distinct effects of information dissemination and activism is a worthy area for future research.

Finally, because we focused on domain-specific visibility with respect to environmental impact, our context addresses a type of domain-specific visibility that is often associated with inferior performance. Because firms can sometimes gain domain-specific visibility based on superior performance (e.g., award-winning human resources practices), future research could explore how domain-specific visibility predicated on superior versus inferior performance might differ in its influence on complying with institutional norms.

The Globalization of Corporate Practices

The globalization of environmentalism has been critiqued as nothing more than myth and ceremony at the nation-state level with only limited effect on lower-level actors such as corporations (Buttel, 2000; Yearley, 1996). This line of criticism alleges that many nations symbolically adopt environmental laws and policies merely as a veneer to acquire or maintain legitimacy, but then do little in the way of enforcement. China, for example, passed significant environmental legislation after joining the World Trade Organization, but the environmental practices of companies there remained largely unchanged (Marquis, Zhang, & Zhou, 2011). By studying the behavior of thousands of corporations across the institutional environments of 38 nations, our study responds to Longhofer and Schofer's (2010) call for globalization research to

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look beyond nation-state level diffusion, identifying the extent to which firms are directly influenced by globalization pressures through institutional processes such as the government and citizenry of the headquarters country.

In sum, we note that our findings provide systematic evidence across many countries and companies that, despite potential decoupling at the national level, the global environmental movement does affect corporate environmental management practices. Our paper provides evidence that the global institutionalization of environmentalism by national governments can institutionalize environmental norms in societies and provide a public signal or endorsement of the importance of environmentalism. More generally, our approach suggests that research across multiple levels with large-scale organizational data is an excellent setting in which to examine the operation of globalization processes on the ground.

APPENDIX. Description of Selective Disclosure Magnitude Measure

This appendix provides a detailed description of the components used to calculate *selective disclosure magnitude*, which equals *absolute disclosure ratio* minus *weighted disclosure ratio*.

Absolute Disclosure Ratio

Absolute disclosure ratio measures the proportion of a company's relevant environmental indicators that it publicly discloses in a given year. It is calculated as follows:

1) Trucost allocates the company's annual revenues amongst the various industries in which it operated that year (typically from one to a few dozen of a set of 464 industries), using segment-based revenues data from the FactSet Fundamentals database as well as corporate annual reports and regulatory filings such as Form 10-K. Trucost shares these allocations with the companies it profiles; some companies then provide additional segmentation data, which Trucost incorporates into its database.

2) Trucost identifies the relevant environmental indicators associated with each of these industries, relying on several pollution release and transfer registries—national databases with inventories of natural resources and/or pollutants from many establishments in various industries (Trucost Plc, 2008). These registries include the U.S. Toxic Release Inventory, the Federal Statistics Office of Germany (Destatis), the UK Environmental Accounts, the Japanese Pollution Release and Transfer Register, the Australia National Pollution Inventory, and Canada's National Pollutant Release Inventory. The environmental indicators associated with each company are selected from the more than 700 that Trucost tracks, including consumption of natural resources (such as water, oil, natural gas, mined materials, and various metals) and emissions of various pollutants to air, land, and water. The number of such environmental indicators relevant to a particular company is the denominator of its *absolute disclosure ratio*.

3) Trucost counts the number of such indicators that the company publicly disclosed that year, using each company's annual report, environmental or sustainability report, corporate social responsibility report, website, and other publicly disclosed data. Trucost considers only disclosures that refer to the firm's worldwide operations and are quantitative—for example, specifying how many tons of carbon dioxide emissions result from the company's global operations. The number of such disclosed indicators is the numerator of the company's *absolute disclosure ratio*.

4) The *absolute disclosure ratio* is the number of disclosed environmental indicators (from step 3) divided by the number of environmental indicators relevant to the firm's operations (step 2). That is, of the number of environmental indicators the firm could have been disclosed, how many were?

Weighted Disclosure Ratio

Weighted disclosure ratio takes *absolute disclosure ratio* a step further, incorporating the materiality of these disclosures by factoring in financial estimates of environmental harm associated with each environmental indicator. It is calculated as follows:

1) For every dollar of economic output associated with each industrial sector, Trucost estimates the emissions released and natural resources consumed for each environmental indicator, based on the pollution release and transfer registries described above. In other words, how many tons of carbon dioxide are emitted per dollar of activity in the automotive assembly sector? How many liters of water are used per dollar of activity in the agricultural sector? Multiplying each physical-factor-per-unit-revenue in each industry by the company's revenues in that industry yields an estimate of the company's total amount of each emission released and each natural resource consumed that year.

2) These physical quantities are then multiplied by *environmental impact cost factors*, such as $31 of environmental impact per ton of greenhouse gas emitted (Trucost Plc, 2008: 5). These damage cost factors are drawn from academic research on the pricing of environmental externalities. This weighted sum is the denominator of *weighted disclosure ratio*.

3) The numerator of *weighted disclosure ratio* reflects a company's observed behavior, and is the product of the quantity of each disclosed indicator and its environmental cost factor.

4) The *weighted disclosure ratio* is calculated as the proportion of the firm's *environmental impact cost* (step 2) for which the company disclosed quantitative global figures (step 3); that is, the weighted sum of the disclosed environmental indicators divided by the weighted sum of all environmental indicators the company could have disclosed.

Selective Disclosure Example 1

Suppose a company's revenues from various sectors in a given year indicate that the company has just two relevant environmental indicators: greenhouse gas emissions and releases of arsenic to waterways. Further suppose that the company that year publicly discloses its tons of global greenhouse gas emissions but not its tons of arsenic released to waterways.

1) Absolute disclosure ratio: The denominator of the absolute disclosure ratio would be 2, because the company has two relevant environmental indicators. The numerator of the absolute disclosure ratio would be 1, because it disclosed one of those two indicators. Thus, *absolute disclosure ratio* for that company-year would be 0.5, indicating that the company had disclosed worldwide quantitative figures for 50 percent of its relevant environmental indicators. Had the company also disclosed that it released arsenic into waterways, but not how much, the ratio would be the same because a nonquantitative disclosure would not count as a disclosure.

2) Weighted disclosure ratio: For the same hypothetical company, suppose Trucost estimated the company's total environmental impact cost that year to be $1 million, the sum of $700,000 from releases of arsenic to waterways and $300,000 from greenhouse gas emissions. Because the company disclosed quantitative figures for its worldwide greenhouse gas emissions but not for its arsenic releases, its weighted disclosure ratio would be 0.3 (calculated as $300,000 ÷ $1,000,000), implying that its disclosures accounted for 30 percent of its environmental impact cost that year. Had the company disclosed its arsenic release but not its greenhouse gas release, its absolute disclosure ratio would still be 0.5 (one of two indicators disclosed) but its weighted disclosure ratio would be 0.7.

3) Selective disclosure magnitude: *Selective disclosure magnitude* equals *absolute disclosure* ratio minus *weighted disclosure ratio.* In this example, if the company disclosed its greenhouse gas emissions but not its arsenic release, *selective disclosure magnitude* would equal 0.2, calculated as 0.5 minus 0.3. If it disclosed its arsenic release but not its greenhouse gas emissions, *selective disclosure magnitude* would equal -0.2, calculated as 0.5 minus 0.7. The lower (negative) number indicates less selective disclosure; that is, the company still disclosed one indicator and withheld another, but it disclosed the more important one rather than the less important one.

Selective Disclosure Examples 2 and 3: Extreme Cases

As an extreme example, suppose there are 100 environmental indicators relevant to the industries in which a company operates and that this company discloses 99 of them. Suppose further that the environmental impact cost associated with the one undisclosed indicator is 10,000 times the cost associated with the 99 that were disclosed.

1) *Absolute disclosure ratio* would be a (deceptively) impressive 0.99, calculated as 99÷100. The company would appear to have disclosed practically everything.

2) *Weighted disclosure ratio* would be a most unimpressive 0.01, calculated as ([99×1] ÷ [(99×1)+(1×10,000)]). The company disclosed many numbers but very little of the environmental impact it had actually caused.

3) *Selective disclosure magnitude* would be the extremely high value of 0.98 (0.99 – 0.01), nearly the maximum possible value of +1.

If, instead, the company disclosed the one really damaging indicator but not the other 99, its *absolute disclosure ratio* would be 0.01, calculated as 1÷100, but its *weighted disclosure ratio* would be 0.99, calculated as ([1×10,000]] ÷ [(99×1)+(1×10,000])). Thus, its selective disclosure magnitude would be -0.98 (calculated as 0.01 – 0.99), nearly the minimum possible value of -1. This scenario reflects a company disclosing the sole indicator that mattered most in terms of environmental harm.

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TABLE 1. Industry composition of sample

	Generic Visibility (sales)		
Domain-specific visibility (environmental damage)	**Low**	**Moderate**	**High**
High	**CELL 1** SIC 10. Metal mining SIC 13. Oil and gas extraction SIC 44. Water transportation	**CELL 2** SIC 16. Heavy construction other than building construction contractors SIC 28. Chemicals and allied products SIC 32. Stone, clay, glass, and concrete products	**CELL 3** SIC 20. Food and kindred products SIC 26. Paper and allied products SIC 29. Petroleum refining and related industries SIC 33. Primary metal industries SIC 45. Transportation by air SIC 49. Electric, gas, and sanitary services
Moderate	**CELL 4**	**CELL 5** SIC 34. Fabricated metal products, except machinery and transportation equipment SIC 35. Industrial and commercial machinery and computer equipment SIC 36. Electronic and other electrical equipment and components, except computer equipment SIC 47. Transportation services SIC 50. Wholesale trade--Durable goods SIC 58. Eating and drinking places	**CELL 6** SIC 15. Building construction, general contractors, and operative builders SIC 30. Rubber and miscellaneous plastics products SIC 37. Transportation equipment SIC 51. Wholesale trade--Non-durable goods SIC 53. General merchandise stores SIC 54. Food stores SIC 59. Miscellaneous retail
Low	**CELL 7** SIC 62. Security and commodity brokers, dealers, exchanges, and services SIC 65. Real estate SIC 67. Holding and other investment offices SIC 70. Hotels, rooming houses, camps, and other lodging places SIC 73. Business services SIC 79. Amusement and recreation services SIC 87. Engineering, accounting, research, management, and related services	**CELL 8** SIC 27. Printing, publishing, and allied industries SIC 38. Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks SIC 61. Non-depository credit institutions	**CELL 9** SIC 48. Communications SIC 60. Depository institutions SIC 63. Insurance carriers

Note: Splits represent 33th and 66th percentiles of industry averages of entire sample of all firm-years. This table lists the subset of industries with 30+ firms in the sample

TABLE 2. Industry composition of sample

Industry		Firms	Percent
SIC 10	Metal mining	69	2%
SIC 13	Oil and gas extraction	181	4%
SIC 15	Building construction, general contractors, and operative builders	80	2%
SIC 16	Heavy construction other than building construction contractors	37	1%
SIC 20	Food and kindred products	153	3%
SIC 26	Paper and allied products	42	1%
SIC 27	Printing, publishing, and allied industries	61	1%
SIC 28	Chemicals and allied products	299	7%
SIC 29	Petroleum refining and related industries	50	1%
SIC 30	Rubber and miscellaneous plastics products	30	1%
SIC 32	Stone, clay, glass, and concrete products	59	1%
SIC 33	Primary metal industries	87	2%
SIC 34	Fabricated metal products, except machinery and transportation equipment	40	1%
SIC 35	Industrial and commercial machinery and computer equipment	192	4%
SIC 36	Electronic and other electrical equipment and components, except computer equipment	271	6%
SIC 37	Transportation equipment	114	3%
SIC 38	Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks	125	3%
SIC 44	Water transportation	49	1%
SIC 45	Transportation by air	60	1%
SIC 47	Transportation services	35	1%
SIC 48	Communications	180	4%
SIC 49	Electric, gas, and sanitary services	220	5%
SIC 50	Wholesale trade—durable goods	101	2%
SIC 51	Wholesale trade—non-durable goods	72	2%
SIC 53	General merchandise stores	52	1%
SIC 54	Food stores	32	1%
SIC 58	Eating and drinking places	30	1%
SIC 59	Miscellaneous retail	43	1%
SIC 60	Depository institutions	271	6%
SIC 61	Non-depository credit institutions	42	1%
SIC 62	Security and commodity brokers, dealers, exchanges, and services	106	2%
SIC 63	Insurance carriers	148	3%
SIC 65	Real estate	129	3%
SIC 67	Holding and other investment offices	142	3%
SIC 70	Hotels, rooming houses, camps, and other lodging places	31	1%
SIC 73	Business services	314	7%
SIC 79	Amusement and recreation services	42	1%
SIC 87	Engineering, accounting, research, management, and related services	91	2%
Other	Other industries	404	9%
	Total firms	4,484	100%

TABLE 3. Headquarters composition of sample

HQ country	Firms	Percent
Australia	223	5%
Austria	25	1%
Belgium	29	1%
Brazil	51	1%
Canada	140	3%
Chile	9	0%
Colombia	3	0%
Denmark	38	1%
Finland	48	1%
France	104	2%
Germany	105	2%
Greece	28	1%
Hong Kong	111	2%
India	88	2%
Indonesia	27	1%
Ireland	27	1%
Israel	24	1%
Italy	70	2%
Japan	491	11%
Malaysia	65	1%
Mexico	23	1%
Netherlands	65	1%
New Zealand	14	0%
Norway	69	2%
Pakistan	16	0%
Peru	2	0%
Philippines	20	0%
Portugal	12	0%
Singapore	47	1%
South Korea	110	2%
Spain	55	1%
Sweden	87	2%
Switzerland	65	1%
Taiwan	130	3%
Thailand	37	1%
Turkey	14	0%
United Kingdom	737	16%
United States	1,275	28%
Total firms	4,484	100%

TABLE 4. Summary statistics

Variable	Mean	SD	Min	Max
Dependent variables				
Selective disclosure magnitude	-0.105	0.235	-0.944	0.627
Absolute transparency ratio	0.047	0.131	0.000	1.000
Weighted transparency ratio	0.153	0.310	0.000	1.000
Independent variables (organization-level)				
Environmental impact cost	2.123	2.076	0.000	9.359
Environmental impact cost ○	0.000	1.000	-1.022	3.485
Sales	7.494	1.833	0.003	12.833
Sales ○	0.000	1.000	-4.087	2.914
Moderator variables (country-level)				
Globalization index	0.718	0.223	0.000	0.929
Globalization index ◊	0.000	0.223	-0.718	0.212
Civil liberties and political rights	5.454	1.421	0	6
Civil liberties and political rights ◊	0.000	1.421	-5.454	0.546
Environmental NGOs per million population	0.540	0.484	0.000	1.980
Environmental NGOs per million population ◊	0.000	0.484	-0.540	1.440
Control variables (country-level)				
Kyoto Protocol	0.467	0.499	0	1
Environmental governance	5.209	0.553	2.191	6.794
Environmental stress	29.110	14.708	0.000	64.800
Per capita real gross domestic product	10.325	0.739	6.478	11.118
Press freedom	-10.322	9.074	-70.33	0
Accounting standards stringency	0.690	0.105	0.000	0.830
Control variables (organization-level)				
Percentage of sales to foreign countries	0.127	0.255	0.000	1.000
Listed on a foreign stock exchange	0.719	0.449	0	1
Return on assets	0.069	0.137	-2.706	1.364
Employment [standardized by country]	0.056	1.035	-1.058	29.476

N=14,262 firm-year observations pertaining to 4,484 firms headquartered in 38 countries.
○ denotes standardized variables. ◊ denotes mean-centered variables.

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TABLE 5. Correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) Selective disclosure magnitude	1.00																
(2) Absolute transparency ratio	-0.38	1.00															
(3) Weighted transparency ratio	-0.92	0.71	1.00														
(4) Environmental impact cost ○	-0.44	0.29	0.46	1.00													
(5) Sales ○	-0.26	0.24	0.30	0.50	1.00												
(6) Globalization index ◊	-0.09	0.09	0.10	-0.03	0.00	1.00											
(7) Civil liberties and political rights ◊	-0.07	0.06	0.07	-0.03	0.04	0.74	1.00										
(8) Environmental NGOs per million population ◊	-0.07	0.07	0.09	-0.12	-0.24	0.51	0.32	1.00									
(9) Kyoto Protocol	-0.12	0.13	0.15	-0.02	-0.06	0.10	-0.05	0.19	1.00								
(10) Environmental governance	-0.04	0.01	0.04	-0.04	-0.02	0.46	0.42	0.44	-0.05	1.00							
(11) Environmental stress	-0.06	0.06	0.07	0.11	0.09	0.39	0.23	0.09	0.07	-0.11	1.00						
(12) Per capita real gross domestic product	-0.02	0.03	0.03	-0.04	0.09	0.38	0.41	0.29	-0.19	0.58	-0.30	1.00					
(13) Press freedom	-0.06	0.05	0.07	-0.03	0.03	0.21	0.42	0.34	0.00	0.48	-0.12	0.65	1.00				
(14) Accounting standards stringency	0.00	-0.02	-0.01	-0.10	-0.11	0.22	0.20	0.29	-0.13	0.40	-0.25	0.46	0.24	1.00			
(15) Percentage of sales to foreign countries	-0.14	0.09	0.14	0.13	0.11	0.03	-0.04	0.17	0.20	0.10	0.14	-0.02	0.07	-0.12	1.00		
(16) Listed on a foreign stock exchange	-0.10	0.09	0.11	0.11	0.24	0.19	0.08	0.04	-0.16	0.05	0.12	0.31	0.14	0.03	0.05	1.00	
(17) Return on assets	0.00	-0.01	-0.01	0.04	0.03	-0.05	-0.05	0.02	-0.02	-0.07	0.04	-0.08	-0.06	0.00	0.00	0.00	1.00
(18) Employment [standardized by country]	-0.15	0.13	0.17	0.23	0.43	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.09	0.11	-0.02

N=14,262 firm-year observations pertaining to 4,484 firms headquartered in 38 countries.
○ denotes standardized variables. ◊ denotes mean-centered variables.

	(1)	(2)	(3)	(4)	(5)
Environmental impact cost ○		-0.111**	-0.112**	-0.111**	-0.113**
		[0.010]	[0.010]	[0.010]	[0.010]
Sales ○		-0.010	-0.007	-0.008	-0.005
		[0.011]	[0.010]	[0.010]	[0.009]
Globalization index ◊ × Sales ○			-0.081**		
			[0.015]		
Civil liberties and political rights ◊ × Sales ○				-0.011**	
				[0.003]	
Environmental NGOs per million population ◊ × Sales ○					-0.023+
					[0.013]
Globalization index ◊		-0.095	-0.052	-0.043	-0.073
		[0.062]	[0.060]	[0.062]	[0.061]
Civil liberties and political rights ◊		-0.012	-0.011	-0.018	-0.014
		[0.012]	[0.011]	[0.012]	[0.013]
Environmental NGOs per million population ◊		-0.043**	-0.049**	-0.050**	-0.046**
		[0.016]	[0.015]	[0.015]	[0.017]
Kyoto Protocol	-0.041**	-0.041**	-0.043**	-0.044**	-0.040**
	[0.009]	[0.012]	[0.012]	[0.012]	[0.013]
Environmental governance	-0.017	0.001	-0.000	-0.001	0.000
	[0.011]	[0.009]	[0.009]	[0.009]	[0.009]
Environmental stress	0.000	0.001*	0.001*	0.001*	0.001*
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Per capita real gross domestic product	0.017	0.038**	0.033**	0.036**	0.034**
	[0.011]	[0.012]	[0.011]	[0.011]	[0.012]
Press freedom	-0.001**	-0.001	-0.001	-0.001	-0.001
	[0.000]	[0.001]	[0.001]	[0.001]	[0.001]
Accounting standards stringency	0.011	-0.092	-0.100	-0.091	-0.092
	[0.081]	[0.117]	[0.119]	[0.119]	[0.119]
Percentage of sales to foreign countries	-0.075**	-0.026+	-0.024+	-0.027+	-0.023
	[0.013]	[0.014]	[0.014]	[0.014]	[0.014]
Listed on a foreign stock exchange	-0.050**	-0.031**	-0.029**	-0.030**	-0.031**
	[0.010]	[0.007]	[0.007]	[0.007]	[0.008]
Return on assets	-0.018	0.012	0.020	0.016	0.015
	[0.019]	[0.012]	[0.012]	[0.012]	[0.011]
Employment [standardized by country]	-0.031**	-0.002	-0.003	-0.002	-0.003
	[0.005]	[0.003]	[0.004]	[0.003]	[0.003]
Industry dummies (2-digit SIC codes)	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included
R-squared	0.140	0.260	0.264	0.263	0.262

OLS regression coefficients; brackets contain standard errors clustered by country. ** p<0.01; * p<0.05; + p<0.10. N=14,262 firm-year observations pertaining to 4,484 firms headquartered in 38 countries. ○ denotes standardized variables. ◊ denotes mean-centered variables. All models also include dummy variables denoting instances where missing values of the following variables were recoded to 0: the country's *globalization index*, *civil liberties and political rights*, *environmental NGOs per million population*, *environmental governance*, and *environmental stress* and the organization's *percentage of sales to foreign countries* and *employment*.

TABLE 7. Disclosure models

	(1) Absolute transparency ratio	(2) Weighted transparency ratio	(3) Absolute transparency ratio	(4) Weighted transparency ratio	(5) Absolute transparency ratio	(6) Weighted transparency ratio	(7) Absolute transparency ratio	(8) Weighted transparency ratio
Environmental impact cost ○	0.022**	0.133**	0.022**	0.134**	0.022**	0.133**	0.023**	0.136**
	[0.005]	[0.013]	[0.005]	[0.013]	[0.005]	[0.013]	[0.006]	[0.013]
Sales ○	0.020**	0.030+	0.019**	0.026	0.019**	0.027+	0.017**	0.022+
	[0.007]	[0.017]	[0.007]	[0.016]	[0.007]	[0.016]	[0.006]	[0.013]
Globalization index ◊ × Sales ○			0.042**	0.123**				
			[0.010]	[0.024]				
Civil liberties and political rights ◊ × Sales ○					0.005**	0.016**		
					[0.001]	[0.004]		
Environmental NGOs per million population ◊ × Sales ○							0.017+	0.040+
							[0.009]	[0.021]
Globalization index ◊	0.050**	0.146+	0.028	0.080	0.028	0.071	0.034	0.107
	[0.018]	[0.075]	[0.019]	[0.073]	[0.020]	[0.076]	[0.021]	[0.076]
Civil liberties and political rights ◊	0.016**	0.028*	0.015**	0.027*	0.018**	0.036*	0.017**	0.032*
	[0.005]	[0.014]	[0.005]	[0.013]	[0.005]	[0.015]	[0.006]	[0.015]
Environmental NGOs per million population ◊	0.020*	0.063**	0.023**	0.071**	0.023**	0.072**	0.022*	0.069**
	[0.007]	[0.020]	[0.008]	[0.020]	[0.008]	[0.020]	[0.009]	[0.023]
Kyoto Protocol	0.041**	0.082**	0.041**	0.084**	0.042**	0.086**	0.040**	0.080**
	[0.007]	[0.014]	[0.007]	[0.014]	[0.007]	[0.014]	[0.007]	[0.015]
Environmental governance	-0.004	-0.005	-0.004	-0.003	-0.003	-0.002	-0.004	-0.004
	[0.008]	[0.013]	[0.008]	[0.013]	[0.008]	[0.013]	[0.008]	[0.014]
Environmental stress	-0.000	-0.002*	-0.000	-0.002*	-0.000	-0.002*	-0.000	-0.002*
	[0.000]	[0.001]	[0.000]	[0.001]	[0.000]	[0.001]	[0.000]	[0.001]
Per capita real gross domestic product	-0.010	-0.047**	-0.007	-0.041*	-0.009	-0.045**	-0.006	-0.040*
	[0.007]	[0.017]	[0.006]	[0.015]	[0.006]	[0.015]	[0.007]	[0.016]
Press freedom	0.000	0.001	-0.000	0.001	-0.000	0.001	-0.000	0.001
	[0.001]	[0.001]	[0.001]	[0.001]	[0.000]	[0.001]	[0.001]	[0.001]
Accounting standards stringency	-0.013	0.079	-0.009	0.090	-0.014	0.077	-0.013	0.079
	[0.061]	[0.171]	[0.062]	[0.173]	[0.062]	[0.173]	[0.063]	[0.174]
Percentage of sales to foreign countries	0.003	0.029	0.002	0.026	0.003	0.031	0.000	0.023
	[0.008]	[0.020]	[0.008]	[0.020]	[0.008]	[0.020]	[0.008]	[0.019]
Listed on a foreign stock exchange	0.013*	0.043**	0.012*	0.041**	0.012*	0.042**	0.013*	0.043**
	[0.006]	[0.011]	[0.006]	[0.010]	[0.006]	[0.010]	[0.006]	[0.011]
Return on assets	-0.007	-0.019	-0.011*	-0.030+	-0.009	-0.025	-0.009	-0.023
	[0.006]	[0.017]	[0.005]	[0.015]	[0.006]	[0.016]	[0.006]	[0.015]
Employment [standardized by country]	0.004	0.006	0.004	0.007	0.004	0.006	0.004	0.008
	[0.003]	[0.006]	[0.003]	[0.006]	[0.003]	[0.006]	[0.003]	[0.006]
Industry dummies (2-digit SIC codes)	Included	Included	Included	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included	Included	Included	Included
R-squared	0.179	0.298	0.183	0.303	0.181	0.302	0.183	0.301

OLS regression coefficients; brackets contain standard errors clustered by country. ** p<0.01, * p<0.05, + p<0.10. For all models, N=14,262 firm-year observations from 4,484 firms headquartered in 38 countries. ○ denotes standardized variables. ◊ denotes mean-centered variables. All models also include dummy variables denoting instances where missing values of the following variables were recoded to 0: the country's *globalization index*, *civil liberties and political rights*, *environmental NGOs per million population*, *environmental governance*, and *environmental stress* and the organization's *percentage of sales to foreign countries* and *employment*.

FIGURE 1.

The sustainability reporting movement in five countries
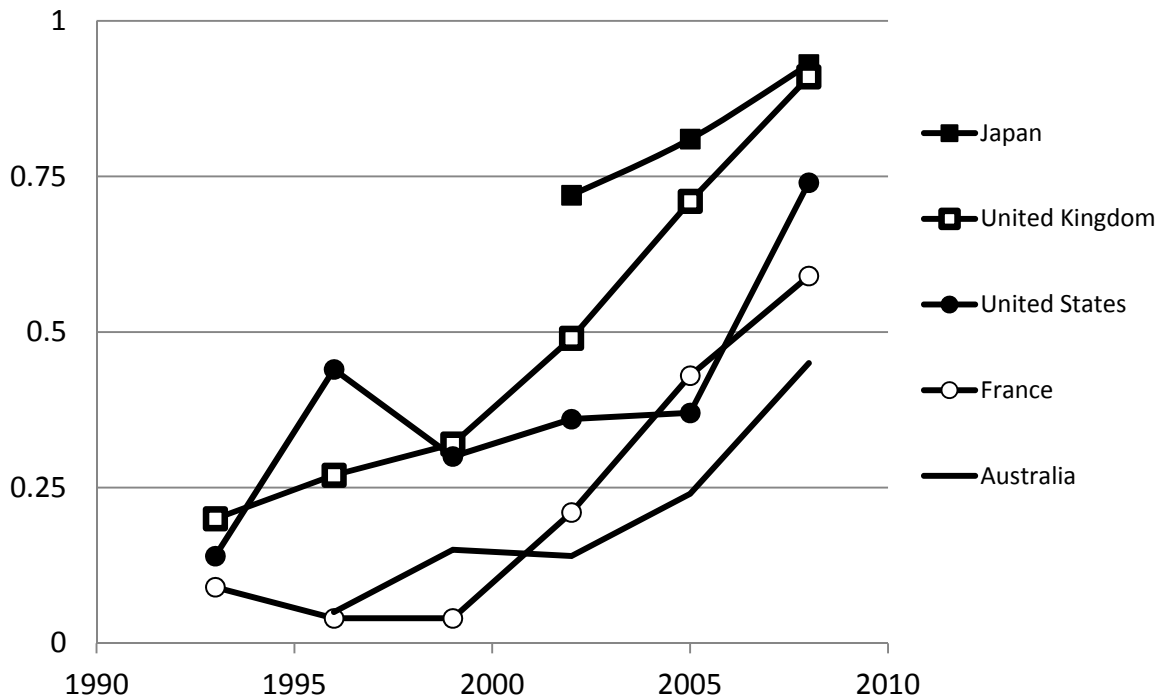
Note: This figure depicts the proportion of the 100 largest companies in each country that published a sustainability report in a given year. The surveys were conducted in 1993, 1996, 1999, 2002, 2005, and 2008 (KPMG, 2002, 2005, 2008; Kolk, 2004); Japan was not included in the surveys before 2002. Data for 2005 and 2008 include standalone corporate sustainability reports as well as those integrated into financial annual reports.

FIGURE 2.

A typology of symbolic compliance strategies

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┌─────────────────────────────────────────────┐
│        Symbolic Compliance Strategies        │
└─────────────────────────────────────────────┘
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Decoupling (Meyer and Rowan, 1977)

Organizations implement symbolic displays of institutionally prescribed practice. Internal practices unchanged.

For example, firms announce stock buy-backs but don't implement them (Westphal and Zajac, 1994).

Attention Deflection

Organizations implement alternative to institutionally prescribed practice to avoid full compliance.

Social Image Bolstering

Organizations adopting practices to enhance their social or environmental reputation and deflect attention from less admirable activities.

Companies' corporate social responsibility (CSR) programs deflect attention from a boycott (Morris and King, 2010).

Substitution (Okhmatovskiy and David, 2012)

Organizations create a less rigorous practice as a substitute to institutionally prescribed practice.

For example, chemical industry implements Responsible Care to avoid more stringent regulation (Gunningham, 1995).

Selective Disclosure

Organizations disproportionally disclose positive information to mask actual performance while creating the impression of transparency and compliance.
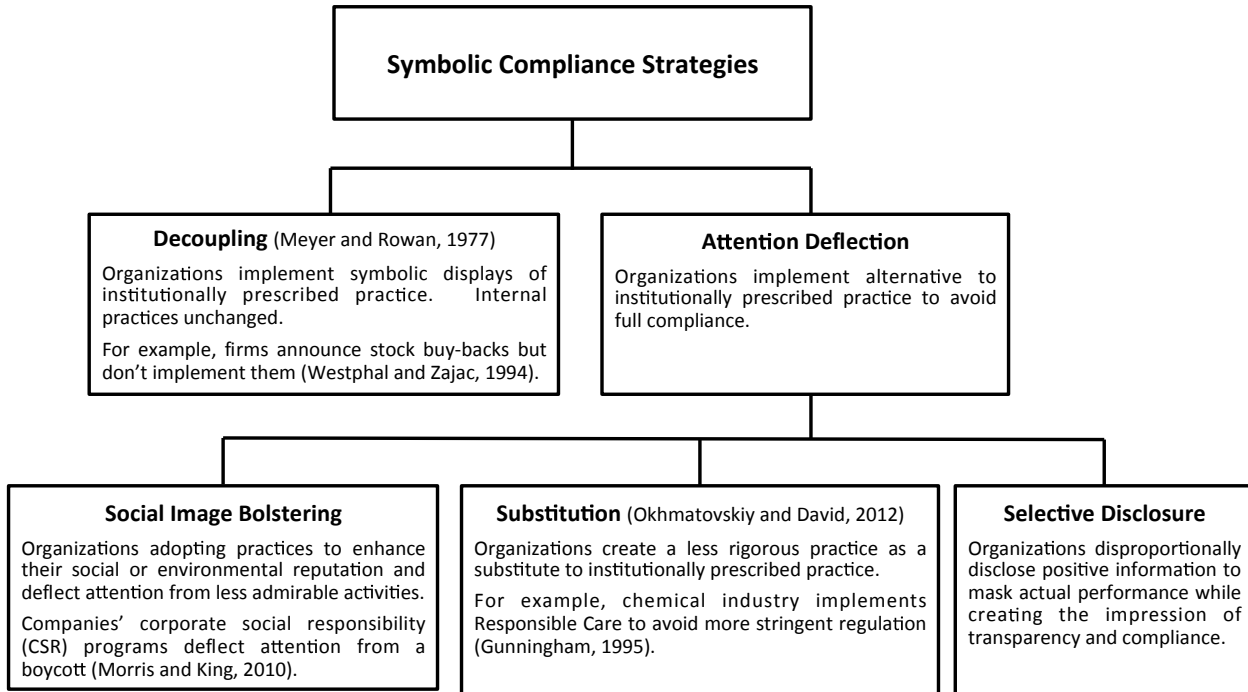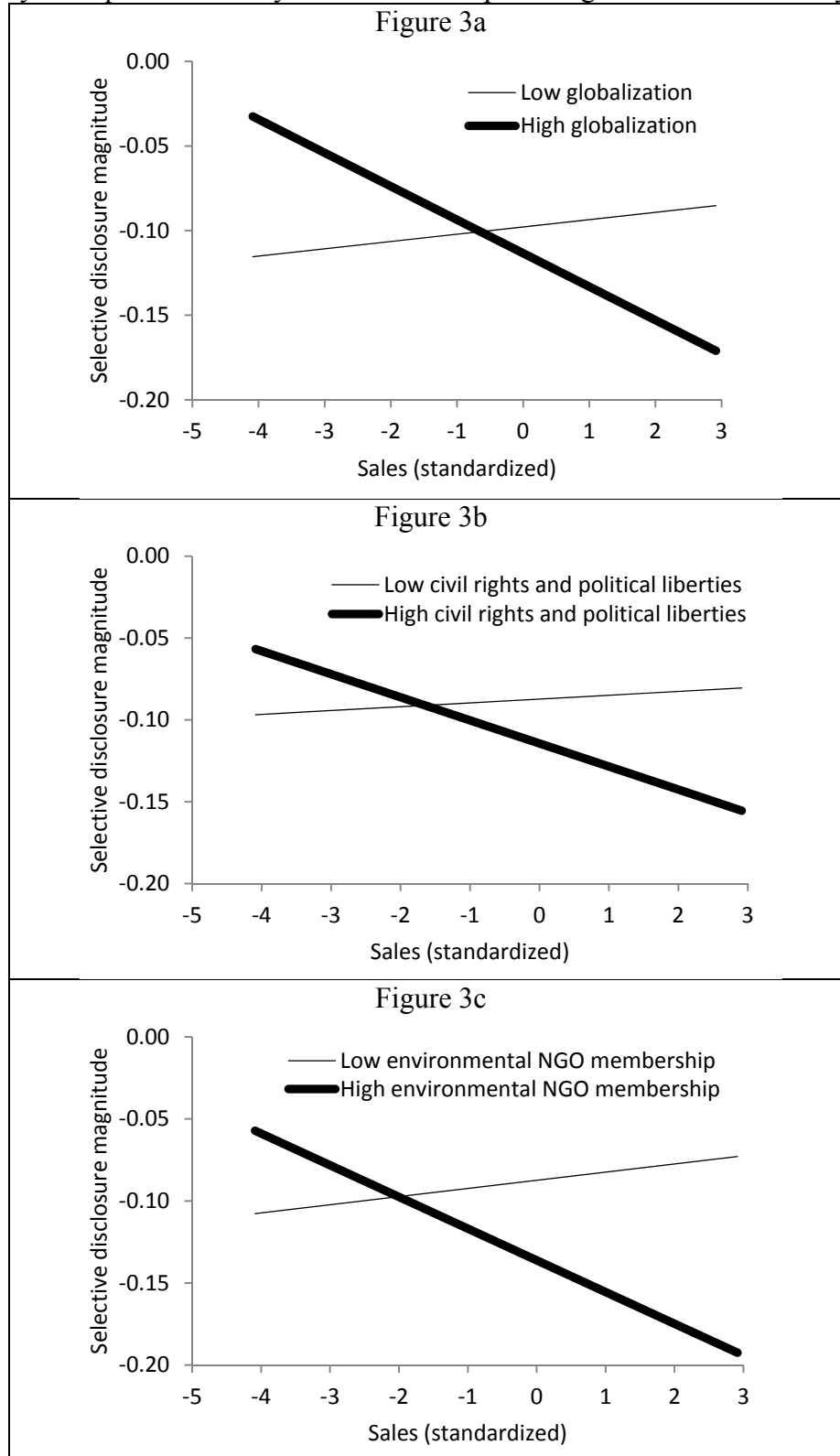
FIGURE 3.

More generically visible companies' propensity to selectively disclose is attenuated
by headquarters country institutions that provide greater citizen scrutiny.

Figure 3a

Figure 3b

Figure 3c

Note: Figures 3a-3c display average predicted values generated from Table 6, Models 3-5, respectively. The lines represent the average predicted values generated by each observation's actual values, except *generic visibility* is estimated at each decile and the moderators (*globalization index, civil liberties and political rights*, and *environmental NGOs per million population)* are estimated at their 10th percentile (low) and 90th percentile (high).