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# The Corporate Governance of Environmental Sustainability: A Review and Proposal for More Integrated Research

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*As corporations' environmental impact comes under greater scrutiny by global financial, regulatory, and societal stakeholders, management scholars have increasingly focused on the role of corporate governance as a tool for driving environmental initiatives. Still, we lack a comprehensive and systematic understanding of this emergent body of inquiry and a holistic agenda for future research. To address this gap, our integrative framework relates the key corporate governance actors to environmental sustainability outcomes from the extant literature and highlights its main methodological approaches and theoretical arguments. Our framework provides a critical analysis of what we know and points to the knowledge gaps around owners, boards of directors, CEOs, top management teams, and employees as corporate governance actors. We then highlight limitations in the existing literature as significant opportunities for further research to resolve its ambiguous conceptualizations of environmental sustainability constructs, various methodological and theoretical challenges, incomplete engagement with the global dimension of environmental sustainability, and limited analysis of*

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*how corporate governance actors may interact to shape environmental sustainability outcomes. We conclude by proposing novel approaches for addressing these issues, which we believe could generate a better way forward on studying the corporate governance of environmental sustainability.*

***Keywords:*** *corporate governance; environmental sustainability; ownership; boards of directors; CEO; top management team; employees*

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> Taxpayers' money should not be used to boost hurricanes, spread drought and heat waves, and melt glaciers . . . . What we need is a rapid and deep change in how we do business, generate power, build cities and feed the world. And the past decade has shown that we have the tools to tackle the climate crisis. We can save lives and property, breathe less polluted air, access cleaner water and protect biodiversity. (A. Guterres, United Nations Secretary General, 2019)

Possibly nothing is more important today for business and society than the management of local and global environmental changes that are degrading every dimension of life—a trend at risk of worsening for future generations. Accordingly, government, civil society, and business leaders are increasingly speaking out about the urgent importance of governance for environmental challenges, as exemplified by Theresa May's (2019) statements in her departing hours as head of the U.K. government, Pope Francis's (2015) encyclical *Laudato Si'*, Al Gore's Nobel Peace Prize acceptance speech on global warming, then-16-year-old Greta Thunberg's (2018) TED Talk on acting right now on climate change, and BlackRock's annual shareholder letters (Fink, 2020) on firms' need to focus more on long-term issues.

In turn, management scholars increasingly recognize that decisions around environmental sustainability are dictated by corporate governance arrangements, or how firms allocate decision making, to tackle this grand challenge (Walls & Berrone, 2017). Such attention is warranted as environmental initiatives often require substantial investments with long-term strategic implications and significant multilevel coordination among various corporate actors who are competing for firm resources. We define *corporate governance* (CG) as the distribution of rights and responsibilities within the firm, which entails allocating power and resources to different corporate actors and managing the inevitable tensions among these actors (i.e., owners, management, board, and employees; Aguilera & Jackson, 2003). *Environmental sustainability* refers to the set of corporate behaviors and strategies that "mitigate a firm's impact on the natural environment," which include "implementing products, processes, and policies that reduce energy consumption and waste, us[ing] ecologically sustainable resources, and employ[ing] environmental management systems" (Walls, Phan, & Berrone, 2011: 73). Accordingly, we define *CG of environmental sustainability* as those behaviors and strategies that reflect a firm's distribution of rights and responsibilities around environmental sustainability issues. These behaviors include, to name a few, shareholder tactics for influencing corporate environmental disclosure, board diversity to stimulate active mindsets and avoid group thinking on environmental investments, executive pay as a mechanism to align financial and environmental firm outcomes, and empowering employees to voice their interests in environmental decisions about day-to-day operations or pension funds' investment allocations. As CG addresses different strategic issues, these various actors' interests in environmental sustainability are often in conflict, where some are more financially oriented than others. Thus, a key challenge in designing CG practices for environmental sustainability is to minimize conflict.

In this review, we synthesize and critically assess the growing body of research at the intersection of CG and environmental sustainability. Such an effort is important because we still lack a comprehensive and systematic understanding of this emergent body of inquiry and a holistic agenda for future research. Previous reviews touch on related issues, such as corporate social responsibility (CSR; Aguinis & Glavas, 2012; Jain & Jamali, 2016) or sustainability (Bansal & Song, 2017; Mura, Longo, Micheli, & Bolzani, 2018), that encompass areas beyond the natural environment. Other reviews focus on environmental sustainability but are limited to specific disciplines, such as human resource management (Renwick, Redman, & Maguire, 2013), innovation (Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2016), and entrepreneurship (Hall, Daneke, & Lenox, 2010). Our review addresses this gap by developing a novel integrative framework that synthesizes the diverse literature on the CG of environmental sustainability involving the locus of decision making across different CG actors and multiple dimensions of environmental sustainability. Given the disciplinary heterogeneity in the extant literature and its focus on specific CG actors, we use them as main building blocks for our framework (i.e., owners, boards of directors [BODs], top management teams [TMTs], CEOs, and employees). We then discuss different disciplinary lenses, theoretical frameworks, and methodologies of the "siloed" research on each actor to take stock of what we have learned.

In doing so, we make three main contributions. First, we conceptualize the field of CG of environmental sustainability, identify its dominant themes, and conduct a comprehensive review of research on this topic. Second, we take stock of the theoretical lenses, underlying mechanisms, and research designs that have been deployed in the literature. In doing so, we show the extant literature's key insights about the roles and responsibilities of different CG actors in firms' environmental sustainability outcomes and that multiple areas need further attention. These include limitations in conducting actor-specific research, ambiguous conceptualizations of environmental sustainability constructs, various methodological issues, limited engagement with the global dimension of environmental sustainability issues, and limited analysis of how the interactions among different CG actors influence environmental sustainability outcomes given their potential conflicting interests. Third, we propose several suggestions for tackling these issues and advancing our understanding of the CG of environmental sustainability.

## Scope and Method of the Review

To conduct our review of the literature, we modeled the scope and structure of our methodology on other reviews published in the *Journal of Management* (e.g., Aguinis & Glavas, 2012). This includes the development of an analytical framework aimed at effectively summarizing extant research on the CG of environmental sustainability; a discussion of this literature's key questions, theoretical frameworks, methodological approaches, and findings; and the identification of gaps that could be leveraged as opportunities for future research (Cropanzano, 2009; Short, 2009).

To develop a comprehensive review of the literature, we searched the *Financial Times* Research Rank list of top 50 journals (FT50), which includes a wide range of business disciplines.[1] After collecting a first wave of articles, we used a snowballing technique and collected all relevant articles that were cited in the retrieved articles. In this step of the data collection effort, we also included additional journals beyond those on the FT50 that specialize in CG and environmental sustainability issues. After searching 55 journals, we sampled 124 articles from 21 journals during the years 1997 to 2020. Table A (available in the Online

Appendix) summarizes the sampled articles by explaining their key CG actors and themes, environmental sustainability concepts, theories, topics, samples, and main findings. Our review of the literature indicates that the number of articles examining the CG of environmental sustainability has grown significantly over time—from five published articles on this topic between 1990 and 2000 to well over 100 between 2010 and 2020.

As we searched and reviewed the literature, we took detailed notes on the articles' key findings and theoretical insights. All authors met regularly to discuss our preliminary findings about the literature's key themes. As the work progressed, we focused our assessment on key CG actors and themes, environmental sustainability concepts, theories, and mechanisms and mapped key relationships from the extant literature. This process led us to develop a framework to summarize extant research about the CG of environmental sustainability and identify the gaps in the available research, which we then leveraged to discuss future research opportunities.

## Analysis of the Literature

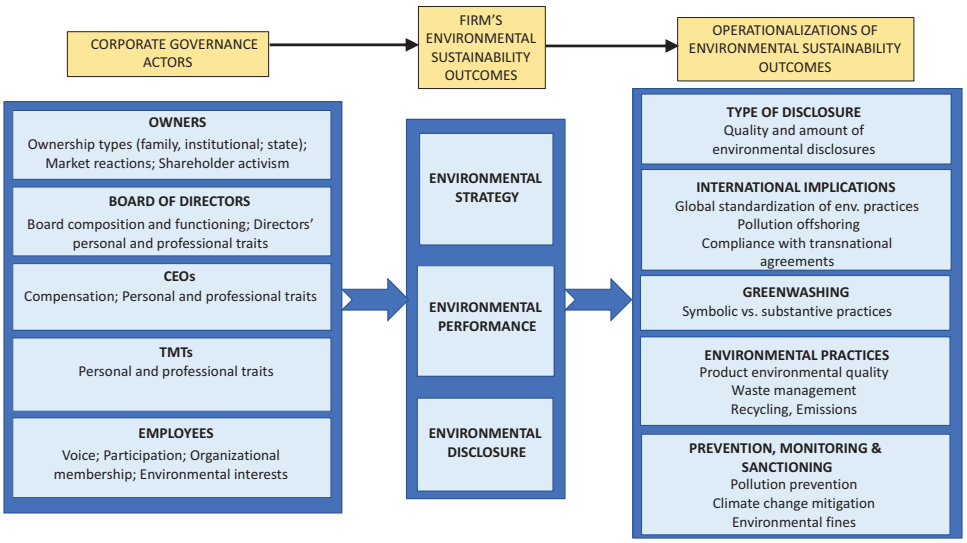
Our analysis indicates that most of the extant research examines environmental sustainability outcomes from the point of view of five key CG actors, namely, (a) owners, (b) BODs, (c) CEOs, (d) TMTs, and (e) employees; in the synthesizing Table A in the Online Appendix, we merge research about CEOs with that about TMTs. Figure 1 offers a graphical summary of extant research on CG of environmental sustainability. As shown in this figure, the three most common environmental sustainability outcomes in the literature include *environmental strategy*, which refers to firms' overall approaches for dealing with the natural environment (e.g., "reactive," "proactive," and "environmental leadership strategies"; Aragón-Correa, Hurtado-Torres, Sharma, & García-Morales, 2008); *environmental performance*, which captures corporate environmental impacts (e.g., $CO_2$ emissions, scores on various sustainability indexes); and *environmental reporting/disclosures*, which refers to the public provision of information about a firm's environmental impact and initiatives. Figure 1 also lists some of their most common operationalizations.

To provide an overview of the extant research about the CG of environmental sustainability, we start by identifying the predominant theoretical lenses and underlying mechanisms of this area of inquiry. Next, we discuss the many important insights that have been developed about the roles and responsibilities of each CG actor vis-à-vis environmental sustainability issues. We conclude with a critical assessment of the predominant research designs.

### *Theories and Underlying Mechanisms*

Agency, resource dependence, upper echelons, and institutional theories are the most common theoretical perspectives in extant research about the CG of environmental sustainability. Agency theory–driven research sees firms as inhabited by CG actors with conflicting goals (Fama & Jensen, 1983), such that managers, especially risk-averse ones, may avoid pursuing environmental sustainability outcomes since they require significant investments into upgrading a firm's productive capabilities, equipment, and employee training while producing dividends only in the long term. This research usually focuses on mechanisms that reduce managerial opportunism and its negative impact on environmental sustainability outcomes, such as monitoring powers of BODs and large shareholders (e.g., Calza, Profumo, & Tutore, 2016; De Villiers, Naiker, & Van Staden, 2011; Kassinis & Vafeas, 2002; Post, Rahman, & Rubow, 2011), executives' compensation (Berrone & Gomez-Mejia, 2009a,

**Figure 1**
**Corporate Governance of Environmental Sustainability**




2009b; Flammer, Hong, & Minor, 2019), and insiders' versus outsiders' control of the firm (e.g., Seaborn, Olsen, & Howell, 2020).

Research in the resource dependence tradition is mostly focused on how powerful corporate actors wield resources (Pfeffer & Salancik, 1978), in particular, boards. Much of this line of inquiry considers how board composition and directors' personal and professional traits affect their use of knowledge, legitimacy, connections to other organizations, and resources that shape environmental sustainability outcomes (e.g., De Villiers et al., 2011; Dixon-Fowler, Ellstrand, & Johnson, 2017; Post et al., 2011).

Upper echelons theory–driven works are interested in executives' and BODs' impacts on environmental sustainability outcomes through "personalized interpretations of the strategic situations they face," which are a function of their "experiences, values, and personalities" (Hambrick, 2007: 334). These traits are usually proxied through executives' and directors' personal characteristics (Hambrick, 2007: 335), including gender (e.g., Brough, Wilkie, Ma, Isaac, & Gal, 2016; Hunter, Hatch, & Johnson, 2004), education (e.g., Lewis, Walls, & Dowell, 2014), tenure (Dahlmann & Brammer, 2011), and professional background (e.g., Henry, Buyl, & Jansen, 2019), among others.

Last, institutional theory–inspired research tends to examine how dimensions of firms' social environments drive CG actors to consider environmental sustainability as a means of maintaining legitimacy (DiMaggio & Powell, 1983). This perspective is often used in combination with other theoretical lenses to investigate the impact of formal rules, norms, and cognition on firms' environmental sustainability outcomes. Some works in this tradition conceptualize institutions as factors that moderate the relationship between CG mechanisms and firms' environmental sustainability outcomes (e.g., boards' monitoring effects; Pucheta-Martínez, Gallego-Álvarez, & Bel-Oms, 2019; directors' resources; Elmagrhi, Ntim, Elamer, & Zhang, 2019). Others conceptualize CG characteristics (e.g., CEO attributes) as filters that shape how firms respond to institutional forces (e.g., Lewis et al., 2014).

Interestingly, even though institutional theory is a widespread theoretical lens in the broader environmental sustainability research (Berchicci & King, 2007), it is less prominent in the literature about the CG of environmental sustainability. Researchers have also largely avoided the resource-based view in studying the CG of environmental sustainability even though it is the main theoretical lens in the environmental sustainability literature, in particular for "pays-to-be-green" research (S. Hart & Dowell, 2011).

Next we turn to our review of the literature about the roles and responsibilities of each CG actor vis-à-vis environmental sustainability issues.

### *Owners*

Ownership is at the core of CG and the type, percentage, and control of different owners is quintessential to firm strategy and, in turn, firm engagement, responses, and reporting of environmental sustainability. Research shows that the presence of minority shareholders negatively affects the level of environmental disclosure (D'Amico, Coluccia, Fontana, & Solimene, 2016), that private versus publicly traded firms behave contrarily in adopting granular environmental/ecological reporting (Gallo & Christensen, 2011), and that employees and shareholders react differently to what is material for sustainability reporting (Reimsbach, Schiemann, Hahn, & Schmiedchen, 2020). In terms of environmental performance, firms with concentrated ownership do not perform beyond compliance on environmental sustainability issues due to potential costs (Walls, Berrone, & Phan, 2012), and dual-class firms tend to underperform because of the lack of accountability (Seaborn et al., 2020).

*Types of shareholders.* Research on how different types of owners influence a variety of environmental sustainability outcomes has received a great deal of attention, possibly because it is a natural extension from the broader CG literature. The bulk of this research focuses on the three most common types of owners worldwide: families, state, and institutional investors. For *family firms* (FFs), Sharma and Sharma (2011) develop a conceptual framework based on how the dominant family coalitions predict the drivers of proactive environmental strategy (PES). Dou, Su, and Wang (2019) continue this interest and show with a sample of Chinese private firms that FFs will promote PES only if there is family commitment and long-term orientation. Richards, Zellweger, and Gond (2017) examine FFs' disclosure and certification efforts and find that different levels of sustainability certifications are contingent on whether firms are first- or multigeneration family-owned companies, due to their different moral approaches. Finally, some research has developed inconclusive results on the differences in environmental performance between FFs and non-FFs. Research on this topic is challenging because FFs can have different meanings across countries. Another contributing factor could be that these studies use different dimensions of environmental sustainability. For example, Berrone, Cruz, Gomez-Mejia, and Lazarra-Kintana's (2010) study relies on a U.S. sample and finds that FFs have lower on-site emissions than their nonfamily counterparts. Conversely, Rees and Rodionova's (2015) study uses a cross-national sample of 46 countries and finds that family ownership is negatively associated with environmental, social, and governance (ESG) rankings, and Dangelico, Nastasi, and Pisa's (2019) qualitative study of Italian firms finds no difference across the two ownership types on green innovation.

There is significant interest in *institutional investors*, either alone or in comparison to other types of owners. Eccles and Klimenko (2019) propose six reasons why institutional investors focus on sustainability and what is holding them back. Finance scholars have also held an important debate on this topic. For example, Dyck, Lins, Roth, and Wagner (2019) study non-U.S. firms from 41 countries and show that institutional investors drive firms' environmental investment and that the relationship is shaped by countries' social norms and whether they are signatories of the United Nations Principles for Responsible Investment. Similarly, Hartzmark and Sussman (2019) find that mutual fund investors collectively see sustainability as a positive fund attribute, especially when they score higher in the Morningstar Sustainability Rating. Other studies analyze the consequences of institutional investors on specific environmental practices, such as ISO 14001 (Wahba, 2010) and facility toxic release (I. Kim, Wan, Wang, & Yang, 2019).

We could find only a handful of studies considering how *state* owners influence firm environmental outcomes. Most were conducted in China and reveal the following trends: Chinese state-owned firms achieve higher environmental performance (Chang, Li, & Lu, 2015) and have higher environmental responsiveness (Yu, Lo, & Li, 2017) than private Chinese firms, their environmental disclosure is shaped by regulatory enforcement (Meng, Zeng, & Tam, 2013), and they seem to pay lower environmental levies (Maung, Wilson, & Tang, 2016). Moreover, a study of European firms found that state-owned firms had stronger green proactivity, attributing this result to their greater ability to absorb externalities (Calza et al., 2016).

*Shareholder reactions and firm performance.* Several studies explore the different shareholder reactions to firms' sustainability initiatives, mostly using the event study methodology. Some show that investors react positively to media news on firms' environmental initiatives (Flammer, 2013), negatively to adverse CSR events (Krüger, 2015) and firm initiatives involving environmental improvements in manufacturing processes and products (Gilley, Worrell, Davidson, & El-Jelly, 2000), and neutrally to announcements about environmental performance (Jacobs, Singhal, & Subramanian, 2010). The effects of firms' inclusion in prominent sustainability indexes, such as the Dow Jones Sustainability Index (DJSI), on environmental sustainability outcomes have also attracted research attention. For example, there is an interesting dialogue between Hawn, Chatterji, and Mitchell (2018), who find only limited financial materiality or investors' reactions to the inclusion in the DJSI, and Durand, Paugam, and Stolowy (2019), who find that it improves analysts' views and increased commitment by long-term investors. This contrasts with positive reactions to firm inclusion in the recently launched socially responsible investment indexes in Brazil, China, and South Africa (Zou, Wang, Xie, & Zhou, 2020). Grewal, Riedl, and Serafeim's (2018) study of market reactions to environmental disclosure finds that markets reacted negatively to the 2014 European Union's directive mandating more nonfinancial disclosure. Finally, one marketing study examines the wide set of suppliers' reactions to Walmart's new sustainability mandate, showing that such mandates have highly nuanced firm-specific impacts (Gielens, Geyskens, Deleersnyder, & Nohe, 2018).

There is also a set of studies focusing on how environmental initiatives contribute to firm financial performance. In the accounting discipline, Clarkson, Yue, and Richardson (2004) show that there are increasing economic benefits associated with environmental capital investments by low-polluting firms. In marketing, scholars tend to combine social

and environmental issues in studies of how strategic marketing levers (such as advertising and R&D) interact with social and environmental performance to improve financial performance (Luo & Bhattacharya, 2009; Mishra & Modi, 2016). Similarly, finance scholars have contributed significantly to the discussion of how a firm's environmental and social performance influence firm performance (Deng, Kang, & Low, 2013; Dyck et al., 2019). One of the main schools of thought (using agency theory) claims that controlling shareholders and managers act on environmental issues at the expense of minority shareholders (Cronqvist & Yu, 2017). Other scholars argue that sustainability investments can help product market differentiation and act as risk insurance. For example, O. Hart and Zingales (2017) insist that companies should maximize shareholder welfare, not value, and that profit should not be put above all else.

*Shareholder activism.* Some research considers how environmental outcomes depend on the interaction between shareholder activists and companies' communicative style (Ferraro & Beunza, 2018), the features of the shareholder activists (Perrault & Clark, 2016), the effectiveness of the shareholder resolutions (T. Chen, Dong, & Lin, 2020; Reid & Toffel, 2009), or success in firms' pollution management practices (Lee & Lounsbury, 2011). In addition, poor environmental performance seems to put firms at risk of attacks from activists (Walls et al., 2012). In recent times, large activists and active shareholders have become more vocal about this issue and are willing to vote against management on issues around climate-change resolutions. As O. Hart and Zingales (2017) note, until a few years ago, institutional investors had two complaints: excessive executive pay and lack of board independence. Now, according to Eccles and Klimenko (2019), about half of the S&P companies discuss ESG topics in their quarterly calls with investors and analysts, and the percentage of shareholder resolutions focused on environmental and social issues has grown from 33% in the period between 2006 to 2010 to almost 50% by the end of 2017—with climate change and other environmental issues as leading topics. Activist hedge funds, such as the well-known ValueAct Spring Fund, are increasingly deploying their aggressive shareholder engagement tactics in the area of sustainable investing.

### *BODs*

Environmental strategy has been increasingly recognized as one of the board's important duties because environmental issues can create "physical, regulatory, reputational and litigation risks, which may threaten the firm's competitive advantage and ultimately harm its financial performance" (Ben-Amar & McIlkenny, 2015: 708). Much research in this area applies traditional CG questions and theories about boards to the environmental sustainability domain, with particular emphasis on boards' composition and functioning and directors' individual traits. We review the main theories and findings of these two streams of work.

*Board composition and functioning.* There is substantial evidence that larger boards tend to be beneficial to a firms' environmental sustainability outcomes (De Villiers et al., 2011), and only a limited number of studies present counterarguments (Amran, Lee, & Devi, 2014). For instance, scholars have used the resource dependence perspective to argue that larger boards are more likely to enhance firms' ability to form relevant connections to their environment and secure important resources, including specialized knowledge, connections,

and legitimacy. These enhanced resources translate into greater capabilities for more environmentally responsible behavior, leading to a lower likelihood of environmental litigation (Kassinis & Vafeas, 2002), and better environmental performance (De Villiers et al., 2011). Studies have also shown that board environmental committees positively affect firms' environmental performance by enabling access to specialized environmental knowledge as well as deeper and more extensive ties with relevant environmental constituencies (Dixon-Fowler et al., 2017).

Following an established line of inquiry in the broader CG research, some works have shown that board independence typically leads to improved quality of environmental disclosures and performance (e.g., De Villiers et al., 2011; Hussain, Rigoni, & Orij, 2018; Jizi, 2017; Walls et al., 2012) and avoidance of environmental litigation (Kassinis & Vafeas, 2002). From an agency perspective, independent directors are likely to be more effective in managing and monitoring management in the environmental arena thanks to their outsider perspectives. By the same token, studies have shown that CEO duality, which limits CEO monitoring, negatively impacts environmental sustainability outcomes (e.g., De Villiers et al., 2011) by helping CEOs to maximize short-term financial gains at the expense of investments into environmental initiatives.

*Directors' traits.* A number of studies address classic resource dependence research questions about the impact of directors' background on environmental sustainability outcomes. For example, directors who are also active CEOs of other firms can help strengthen firms' environmental capabilities because of their deeper social networks and understanding of the strategic opportunities associated with various environmental issues (De Villiers et al., 2011). Directors who are lawyers (De Villiers et al., 2011) and environmental experts (Homroy & Slechten, 2019) also positively affect environmental performance for similar reasons. Moreover, boards' interlocks lead to stronger reputations and ranges of experiences and knowledge for directors, which helps firms address environmental problems (Ortiz-de-Mandojana, & Aragón-Correa, 2015) and avoid environmental litigation (Kassinis & Vafeas, 2002).

Another sizable body of research investigates the role of women directors in improving firms' environmental sustainability outcomes (e.g., Ben-Amar, Chang, & McIlkenny, 2017; Post et al., 2011). Most of this research shows that women directors improve firms' environmental sustainability outcomes. To explain these effects, resource dependence–, upper echelons–, and agency-based explanations emphasize women directors' distinctive traits relative to their male counterparts, including their greater passion for environmental and social issues (Nielsen & Huse, 2010); different values, experience, and backgrounds (Li, Zhao, Chen, Jiang, Liu, & Shi, 2017); and better monitoring capabilities (Ben-Amar et al., 2017).

### *CEOs*

Research about CEOs' impacts on environmental sustainability outcomes emphasizes their central roles in interpreting environmental trends and choosing issues and stakeholders to prioritize (Lewis et al., 2014; Walls & Berrone, 2017). Studies show that CEOs are active in impacting green innovation (Galbreath, 2019), environmental performance (Y. Chen, Tang, Jin, Li, & Paillé, 2015), environmental strategy (Dahlmann & Brammer, 2011), and environmental disclosures (Lewis et al., 2014).

*CEO compensation.* There is some limited, albeit growing, research that examines traditional CG research questions about executive compensation to understand how financial incentives linking CEOs' pay to long-term environmental performance work (Berrone & Gomez-Mejia, 2009a, 2009b; Eccles, Ioannou, & Serafeim, 2014). So far, the evidence on whether it pays for CEOs to be green is mixed. Some studies have found that poor environmental performance is often rewarded (Coombs & Gilley, 2005; Stanwick & Stanwick, 2001) or that CEO compensation negatively impacts environmental sustainability outcomes because financial incentives are ineffective at motivating CEOs that already have altruistic motives and non-self-interested environmental goals (Francoeur, Melis, Gaia, & Aresu, 2017). Other research weakly supports a positive link between pay-for-environmental-performance schemes and environmental sustainability outcomes (Russo & Harrison, 2005), while others find it has the intended effect on expanding environmental initiatives, reducing emissions, and green innovation (Flammer, Hong, & Minor, 2019). This mixed evidence suggests that research should consider how other CG and contextual factors may also contribute to explain these findings.

*Personal traits.* Drawing on upper echelons theory, some studies examine the impact of CEOs' personal traits on environmental outcomes. The predominant focus to date has been on gender and political ideology. In general, women CEOs show greater support than men for environmentally responsible practices (Hunter et al., 2004) and broader CSR outcomes (Manner, 2010) but not consistently for environmental sustainability outcomes (Birindelli, Iannuzzi, & Savioli, 2019; Glass, Cook, & Ingersoll, 2016). CEOs' political ideologies and underlying values also shape their perceptions about the business case for firms' social and environmental initiatives and their preferences for implementing them (Chin, Hambrick, & Treviño, 2013). More politically liberal CEOs see social and environmental initiatives as beneficial and intrinsically desirable and thus are more likely to promote them relative to their conservative counterparts (Chin et al., 2013).

*Professional background.* There is a set of studies examining how CEOs' professional traits may affect corporate environmental outcomes. For instance, Lewis et al. (2014) rely on upper echelons theory to uncover that CEOs' education and tenure significantly affect their decision to engage in environmental disclosures, while legal background deters them. In addition, CEOs with shorter tenures are more likely to promote environmental disclosures because they have greater open-mindedness about running organizations (Dahlmann & Brammer, 2011; Shahab, Ntim, Chen, Ullah, Li, & Ye, 2020). CEOs' research background, financial expertise, and foreign exposure also strengthen their likelihood of promoting investments into environmental initiatives and related disclosures (Shahab et al., 2020). Last, CEOs' power (Daily & Johnson, 1997; Finkelstein, 1992; Haynes & Hillman, 2010) shapes their impact on environmental emissions as well as firms' effectiveness at mobilizing resources toward specific strategic environmental outcomes. For example, Walls and Berrone (2017) draw on social theories of power to examine when and why CEOs use their managerial discretion to affect environmental performance. They show that CEOs' informal power derived from their environmental expertise can significantly help reduce corporate environmental impacts, especially when CEOs have formal power over the BOD. They also show that formal and informal CEO power help shareholder activism improve environmental impact. CEO power can also

strengthen the positive affect of CEOs' political liberalism on social and environmental performance (Chin et al., 2013).

### *TMTs*

Beyond CEOs, a small body of research looks at how other executives impact corporate environmental outcomes (Reimer, Van Doorn, & Heyden, 2018). Some studies examine the role of chief sustainability officers (CSOs) as the individuals tasked with overseeing all environmental initiatives within the corporation. Scholars generally argue that the presence of a CSO should lead to better environmental outcomes because of their understanding and engagement of sustainability initiatives and their capabilities for monitoring firms' sustainability behaviors (Fu, Tang, & Chen, 2020; Peters & Romi, 2014). While some research supports this assertion (Peters & Romi, 2014), other studies find conflicting evidence (Henry et al., 2019; Kanashiro & Rivera, 2019; Peters, Romi, & Sanchez, 2019), suggesting that the appointment of a CSO may at times reflect a symbolic rather than substantive commitment to environmental protection.

*TMTs' personal traits.* Following an established line of inquiry in the broader CG research, a few studies examine how specific TMTs' personal traits affect their firms' environmental sustainability outcomes. They tend to rely on upper echelons theory and focus on gender, seniority and beliefs. Thus, a rather small body of research examines the influence of TMTs' gender diversity on environmental outcomes, drawing on arguments similar to those in studies about diversity on boards and CEOs' gender (e.g., Palmer, Marquis, & Kimball, 2012; Kumar & Paraskevas, 2018). A second set of studies shows that older TMTs are more likely to yield proactive environmental strategies. For example, Kumar and Paraskevas (2018) argue that older TMTs have more developed social networks, which enable complex decision making around environmental issues within the firm's supply chain. And another line of work shows that TMTs' environmental beliefs strengthen their firms' ability to identify environmental initiatives as a source of competitive advantage, understand competitors' strategies and stakeholders' expectations, and communicate companies/initiatives in this area (Colwell & Joshi, 2013; Wijethilake & Lama, 2019).

*TMTs' professional background.* Researchers have also examined how TMTs' professional background shapes environmental sustainability outcomes. For example, extending established CG research about TMT functional diversity's association with cognitive complexity (e.g., Bantel & Jackson, 1989), Henry et al. (2019) argue that higher levels of functional diversity within TMTs strengthen their firms' ability to deal with the strategic challenges and trade-offs related to social and environmental sustainability outcomes by increasing their ability to examine environmental problems from multiple perspectives, process new information, and see linkages among different sustainability domains. Similarly, research shows that TMTs endowed with deeper supply chain management expertise are more likely to lead their firms towards more environmentally proactive strategies (Kumar & Paraskevas, 2018).

### *Employees*

Employees can play a significant role in corporate governance in some parts of the world (Aguilera & Jackson, 2003; Blair & Roe, 2000), mostly through three mechanisms:

their voice at the governing table (board co-determination), their power in collective bargaining rights, and their collective representation (right to organize). However, notwithstanding the declining power of traditional organized labor (unions) in the United States, employees are still at the center of important reform initiatives, such as the proposed Warren's Accountable Capitalism Act of 2018, where employees would elect at least 40% of the board members (Allegaert, 2019). All in all, employees and unions have received very little attention in the business literature on environmental sustainability (Aguilera, Rupp, Williams, & Ganapathi, 2007). The relationship between employees and the other governance actors is complex and dependent upon the power and resources of the different actors, the degree of importance that employees place on environmental issues, and the tactics that they use to achieve their goals. Davis (2020: 1) stresses how important it is to revive employee power, as he implores, "If we want the corporations . . . to behave themselves, the surest path is more democracy: greater worker control from below, and more effective state regulation from above."

There is a fairly extensive field of labor environmentalism in industrial relations that focuses on workers' and unions' agency in the realm of environmental initiatives (Hampton, 2015; Thomas & Doerflinger, 2020) and a field of green human resource management that studies how managers can support employees to engage in sustainability practices (De Stefano, Bagdadli, & Camuffo, 2018; Renwick, Jabbour, Muller-Camen, Redman, & Wilkinson, 2016; Taylor, Osland, & Egri, 2012). In this section, we narrow our focus to explicitly discuss the key findings from the literature on employee involvement in governance as it relates to their decision making toward environmental sustainability issues and close by discussing research about employees' relation to environmental behavior and work.

*Employees' voice and participation.* Employees and unions have been "reluctant stakeholders" in the environmental sphere debate, mostly because, from organized labor's point of view, environmental initiatives are seen as likely to divert resources from employees and as mostly aimed at enhancing the image of managers and owners (Preuss, 2008). For example, Boodoo (2020), looking at firms on the *Financial Times* Stock Exchange 100, finds that at low levels of unionization, there seems to be a substitution between employee-oriented CSR and non-employee-oriented CSR. However, at higher levels of union density, companies seem to be able to complement both types of CSR. Interestingly, most research shows that environmental clauses are rarely a significant part of collective bargaining agreements. For instance, Markey and McIvor (2019) examine the incidence of environmental issues in the content of Australia's collective enterprise bargaining and conclude that these clauses are rare—except for some isolated and very motivated unions that follow a radical approach to environmental protection.

Only in jurisdictions where labor has a legitimate voice in the BOD through co-determination rights and work councils, there is an opportunity to influence environmental sustainability strategies. Under co-determination, the board includes directors who are representatives of employees, which requires that the board considers expanded time frames and broader sets of actors. In this regard, Scholz and Vitols (2019) explore the relationship between the strength of co-determination, measured as how internalized the practice is, and firms' social and environmental sustainability practices. Looking at German firms, they show that firms with weak co-determination tend to engage with symbolic environmental practices, such as joining the United Nations Global Compact, while firms with strong co-determination adopt

substantive environmental practices, such as the adoption of targets for emissions reduction. This distinction in the nature of co-determination to be able to influence environmental outcomes is also noted by Veldman (2019), who examines these issues from a legal point of view. Using the Volkswagen case, he argues that for co-determination to consider labor interests and mitigate long-terms risks (including environmental ones), companies need a successful implementation of this highly path-dependent practice (where power struggles are constant) as well as a close fit between corporate-level and state-level arrangements.

Research also shows that unions and organized labor are resorting to new repertoires of contention. For example, Gold, Preuss, and Rees (2020) show that several European trade unions use environmental arguments as "pressure points" to help support their labor interests, such as stopping plant relocations. Relatedly, Jackson, Doellgast, and Baccaro (2018) discuss how unions are building coalitions with external social actors, such as new social movements and nongovernmental organizations (NGOs), to jointly advocate for their causes with management and boards. An example of these alliances is the "just transition" between climate justice organizations and trade unions created in 1997 and taken up by the 2017 Paris Agreement on Climate Change and the International Trade Union Confederation (Clarke & Sahin-Dikmen, 2020). Clarke and Sahin-Dikmen (2020: 405) define "just transition" as "the process of transition, be this at national, regional or company levels, to green and decent jobs in a net zero emission economy, a process managed through dialogue between governments, workers and employers." Their study shows that the European-level "just transition" directives played out very differently for the construction industry in four European settings, ranging from minimal acknowledgement to broad support along the lines of ecological modernization to radical transformation, and this was explained by the different state-level regulations.

*Employees as organizational members.* As firms increasingly adopt environmental management systems and policies (EMS), research has looked at how organizations attract, develop, and retain employees to participate in these initiatives and align them with the organizational environmental goals. One focus has been on identifying barriers to implementing EMS. First, employees may be wary of adopting and internalizing EMS because doing so is usually outside of the scope of their duties and task performance; thus, for firms to successfully implement them, employees need corporate support (e.g., specialized training, motivation-enhancing practices, formal and informal feedback; Martínez-del-Río, Céspedes-Lorente, & Carmona-Moreno, 2012) and expert orientation (Rothenberg, 2003). Second, employees often lack information on their firms' environmental impacts, meaning that they are unlikely to understand the environmental issues they are tasked with addressing through their engagement in EMS. Enhanced internal communication can help address this by allowing employees to identify sources of pollution that EMS is supposed to tackle and by encouraging employees to share ideas about how to effectively engage in these initiatives (Aragón-Correa, Martín-Tapia, & Hurtado-Torres, 2013; Boiral, 2007; Brunton, Eweje, & Taskin, 2017). However, this research has also found a tension between employees' rights to know and voice their opinion (a CG tool that they are equipped with) and corporate preferences regarding how much to share. Third, employees often require financial and nonfinancial incentives to wholeheartedly and legitimately commit to EMS, even when they get moral satisfaction from doing so, as it rarely allows them to relinquish other job duties. Research has shown that incentives linked to environmental outcomes can be effective at motivating

stronger employee engagement in EMS (Berrone & Gomez-Mejia, 2009a; Russo & Harrison, 2005). In sum, employees can have positive environmental impact in their organizations when they are informed and empowered.

*Employees' environmental interests.* Like directors, owners, and managers, not all employees are equally interested in being informed or participating in their organization's environmental decisions. Most of the literature on the antecedents of employee environmental behavior (EEB) focuses on individual characteristics that influence their interest in being involved, with particular emphasis on psychological factors. Research shows that personal environmental attitudes drive employees to behave responsibly at work if they perceive that their actions can make a difference (Paillé, Morelos, Raineri, & Stinglhamber, 2019). Intuitively, individuals who give thought to moral considerations are more engaged with environmental issues at work (Flannery & May, 2000; A. Kim, Kim, Han, Jackson, & Ployhart, 2017). Similarly, the desire to follow one's conscience also drives EEB, especially when it is voluntary and not part of fulfilling task performance (A. Kim et al., 2017). Moreover, research shows that EEB also depends on employees' perceptions about their teams' values, because teams are often essential collaborative vehicles for EEB, with the team supervisor and the employee peers (A. Kim et al., 2017) playing critical roles.

## *Research Design*

We conclude our overview of the literature on CG of environmental sustainability by examining its predominant methodological approaches. First, like most management research, it tends to rely on quantitative methods and regression analysis. A noteworthy exception is Boiral (2007), who used interviews to develop grounded theory on the process through which ISO 14001 was decoupled from daily managerial practices with compliance-first mandates. Another example is Rothenberg (2003), who used interviews to show how combinations of external, intraorganizational, and employee knowledge were critical in driving environmental improvements.

Our review also suggests that most studies rely on archival sources for CG and environmental sustainability data. CG data are typically drawn from databases, such as Execucomp, LexisNexis, Risk Metrics (Thomsen Reuters), and the Securities and Exchange Commission's EDGAR database. A few articles use more unique data sources, such as Chin et al. (2013), who rely on data from the U.S. Federal Election Commission and Center of Responsible Politics to measure CEOs' political donations as a proxy of their political ideology. Some studies generate primary data via surveys (e.g., Eccles et al., 2014; Ramus & Steger, 2000) or interviews (Boiral, 2007). Most data for environmental performance are collected from analyst ratings, such as Risk Metrics, IRRC, KLD, and Asset4. Some directly capture environmental sustainability outcomes, including the Toxic Release Inventory (TRI; e.g., Berrone et al., 2010), or governmental data on enforcement actions against firms (e.g., Kassinis & Vafeas, 2002).

Extant empirical works usually sample limited numbers of countries. A large plurality of studies in our review are U.S.-centric, likely due to data access for analysts' ratings of CG or environmental sustainability. Many of the remaining studies use multicountry samples that adopt a comparative CG approach to explain environmental sustainability. We applaud scholars for this analytical angle as there is strong evidence that different national governance

systems and varieties of capitalism favor different sets of CG arrangements in affecting firm behavior (Aguilera, Desender, Bednar, & Lee, 2015), including practices related to environmental sustainability (Prado-Lorenzo & Garcia-Sanchez, 2010; Ramus & Steger, 2000; Surroca, Aguilera, Desender, & Tribó, 2020). Finally, while early studies rely on limited sampling histories (1–6 years), more recent ones display much lengthier time frames. For example, Eccles et al. (2014) use a 16-year period to consider how CG practices, like executive compensation, are associated to sustainability outcomes.

## Discussion and Future Research

In this section, we suggest specific avenues for future research on the CG of environmental sustainability by drawing on some of the gaps and limitations that emerged from our review of the literature. We start by discussing ways for advancing actor-specific research. Then, we present suggestions for improving methodological and theoretical rigor and tapping into the unrealized opportunities to explore the global nature of environmental sustainability. We conclude by discussing how to make research about the CG of environmental sustainability more integrated.

### *Future Research at the CG Actor Level*

One of the early takeaways of our review is that much extant research asks traditional CG questions in the environmental sustainability domain and that there are many other CG topics that could be explored. Therefore, as we detail next, we believe that substantive cross-fertilization could occur within the boundaries of research about specific CG actors by expanding the range of examined research questions.

*Owners.* There are at least three unexplored features of owners that could certainly have a strong influence on how firms handle environmental sustainability. First, firms with owners with excessive control through dual-class preferred shares have little accountability to non-voting shareholders and stakeholders, which could impact decisions on environmental strategies and behavior because of the weak (or lack of) shareholder voice (Seaborn et al., 2020). This ownership structure is common in technological and professional firms and in emerging markets dominated by business groups. Given the limited work in this area, we suggest future research further examines the implications of dual-class shares on environmental sustainability outcomes. Second, limited attention has been given to how institutional investors, such as asset managers, sovereign wealth funds, index funds with common ownership, or private equity, influence environmental sustainability. Such owners are deploying new shareholder activism tactics, such as publicly stated calls (e.g., BlackRock's letter to shareholders or the Business Roundtable call to also attend to stakeholders' needs) and explicit requests (e.g., Norway's sovereign wealth fund's 2012 request for better corporate governance), that are potentially influential given their widespread presence on the global market. Future research could shed further light on these emerging trends by examining and comparing their impacts on environmental sustainability outcomes.

Finally, as global economic and digital integration continues to unfold, we believe research could focus more on how foreign ownership shapes environmental sustainability decisions in the firm's home and host markets as well as on how these effects may be contingent on the

stringency of local environmental standards (Aragón-Correa, Marcus, & Hurtado-Torres, 2016). For example, research has shown that multinational corporations (MNCs) adopting stringent global corporate environmental standards have higher market values than those using lax environmental regulations (Dowell, Hart, & Yeung, 2000) and that emerging-markets MNCs' listing on advanced-market stock exchanges can shape the intensity of their social and environmental disclosures (Marano, Tashman, & Kostova, 2017). Since this research is nascent, future research opportunities on this topic may be fertile ground.

*BODs.* While there is growing evidence of boards' crucial role vis-à-vis firms' environmental sustainability initiatives (e.g., Kiron, Kruschwitz, Haanaes, & Reeves, 2015; United Nations Environment Programme Finance Initiative [UNEP FI], 2014), our understanding of the processes through which they elicit environmental stakeholders' interests remains limited. Anecdotal evidence indicates that stakeholder engagement processes range from informal mechanisms, such as ad hoc face-to-face meetings, to formal mechanisms, such as alliances with NGOs, stakeholder advisory bodies, or public forums (Zollinger, 2009). Future research could investigate the varying effectiveness of such engagement tactics for building relationships and trust with different environmental stakeholder groups. For example, ad hoc meetings may be particularly helpful in the early stages of engagement to gather important information and identify appropriate representatives of a given stakeholder group, but more formal mechanisms may be better suited to maintain ongoing relationships with specific groups over longer periods of time (Zollinger, 2009).

In addition, there has been limited research attention on how specific boards' characteristics may have dissimilar impact on different environmental sustainability outcomes, such as environmental strategy, performance, and disclosures. This is surprising because, while these three areas of corporate environmental sustainability are related, they represent unique dimensions of firm's environmental behavior. For example, researchers could examine the impact of boards' decision-making behavioral dynamics on corporate environmental disclosures, environmental performance, and proactive environmental strategy. Such an investigation could help shed new light on the extent to which specific board-related practices may simultaneously contribute to shape firms' more symbolic environmental commitments and their more substantive impacts in this area.

*CEOs.* The focus of much of the extant research about CEOs has been on "the visible part of the iceberg," or their demographics and tangible traits, and how they affect firms' environmental efforts. Much less attention has been devoted to the specific behaviors or psychological processes that underlie their decision-making process, relationships with the TMT, or other aspects of behavioral corporate governance, such as group thinking or bounded rationality (Westphal & Zajac, 2013). Thus, future research could develop more in-depth assessments of the cognitive bases of CEOs and how social structural relationships, institutional processes, and social cognition shape their ability to make sense of environmental sustainability issues.

*TMTs.* TMTs have received little attention in research on the CG of environmental sustainability. Therefore, future research should seek to develop a more expansive assessment of how TMTs' characteristics shape firms' environmental sustainability outcomes. To this end, researchers could further explore how TMTs' educational background, tenure, foreign

experience, political ideology, and power impact their approach to corporate environmental outcomes. In addition, looking beyond the visible TMTs' traits, researchers could examine the relationships between organizational leaders and specific external constituents (Westphal & Zajac, 2013). For example, it would be interesting to examine how TMTs use symbolic action, impression management through press releases, or other explicit public behavior and communications to positively affect their legitimacy with external environmental stakeholders. Similarly, we need better understandings of how managerial discretion differences across countries (Crossland & Hambrick, 2007, 2011) and industries (Hambrick & Abrahamson, 1995; Wangrow, Schepker, & Barker, 2015) influence the implementations of sustainability initiatives, particularly those related to strategy and environmental performance.

*Employees.* We believe that researchers could devote more attention to the potential reactions from employees working in firms with complex environmental track records and how these reactions subsequently affect environmental sustainability outcomes. For instance, it would be interesting to examine how employee-led boycotts on climate change–related issues (such as those that recently occurred at Amazon and Google) change the CG of environmental sustainability. Moreover, we think that more attention should be devoted to the role of trade unions in their role as large collective investors in responsible pension funds and as vehicles for collective employee action in driving environmental behavior.

In terms of employee voice and exit, research shows that firms committed to environmental sustainability are more attractive to talented job seekers (Jones, Willness, & Madey, 2014; Turban & Greening, 1997), raise employee morale (Lamm, Tosti-Kharas, & King, 2015), and increase retention rates of key employees (Flammer & Kacperczyk, 2019). In this line of work, research could explore what governance practices and employee incentives might be effective to align employee behavior with the firms' environmental sustainability strategies and how to effectively reward those employees. At the country level, cross-national comparisons could also account for the significant differences in labor market institutions, particularly in emerging markets, in the digital economy, and across different subsidiaries of multinational firms and yield insights into how institutions empower or disenfranchise employees to have a voice in the firms' environmental sustainability strategies.

### *Methodological Recommendations*

We have several recommendations for strengthening the methodological rigor of research about the CG of environmental sustainability. First, regression-based strategies could take extra steps to clearly establish causality between individual CG mechanisms and environmental sustainability. Our review indicates that while some studies use state-of-the-art regression methods (i.e., panel data methods with endogeneity controls), most research in the area relies on limited time frames. As noted by Eccles et al. (2014), the impact of CG on environmental sustainability can take several years to manifest. As a result, studies relying on them may fail to detect unfolding effects. Limited time frames can also make it difficult to establish causality, control for omitted variables, or prevent spurious findings as well as make results sensitive to temporary macroeconomic or policy conditions. Our review also indicates that many studies with multiple years of data use cross-sectional regression techniques (i.e., ordinary least squares regression, logit analysis), which can overstate effects' significance and size.

Second, we see that only a limited number of regression-based studies take explicit steps to address the potential endogeneity of their CG mechanisms (e.g., Deng et al., 2013; De Villiers et al., 2011; Eccles et al., 2014; Kassinis & Vafeas, 2002). However, we believe addressing endogeneity is important for at least two main reasons. First, studies on the related topic of the CG–CSR nexus have found this relationship to be recursive, where firms' social commitments may cause and be caused by certain CG practices (e.g., El Ghoul, Guedhami, Wang, & Kwok, 2016; Harjoto & Jo, 2011). Since environmental sustainability, like CSR, involves the provision of public goods, it follows that its relationship with CG could also be bidirectional (Deng et al., 2013). Second, omitted-variable bias is a frequent issue in CG research as there are numerous contextual, firm-level, and individual-level factors that can spuriously drive CG results if unmeasured (Huang, Louwers, Moffitt, & Zhang, 2008). We therefore advocate for more research using techniques like instrumental variables regression or propensity score matching.

Third, our review shows that there are several issues with how environmental sustainability is operationalized. In particular, measures of environmental sustainability in this research stream have had issues with construct validity. Unlike CG variables, which are often directly observable in reliable ways, environmental sustainability requires proxies because it is difficult to observe and measure (Berchicci & King, 2007). This has led scholars to operationalize environmental sustainability using a variety of proxies to capture the main constructs in the area (strategy, performance, and disclosures/reporting) in somewhat unreliable ways by mixing and matching operationalizations of different dimensions (e.g., measuring both environmental strategy and performance by content-analyzing environmental disclosures). These research designs, if not properly validated, affect the underlying theory and findings as well as the comparability of results across studies (Rowley & Berman, 2000).

In addition, many scholars use measures developed by analysts and ratings organizations that rely heavily on firm sustainability disclosure data from firms themselves (e.g., KLD, Asset4, Carbon Disclosure Project) as opposed to actual environmental performance measures (e.g., TRI). We concur with sustainability scholars, like Whiteman, Walker, and Perego (2013), who favor the latter type of metrics because they directly capture firms' impacts on the natural environment and are less biased by decoupling or greenwashing. We recognize that analysts' ratings of environmental performance are often the best available metrics for research and believe that a key challenge for this area of inquiry is the lack of unvarnished data. For this end, we encourage scholars to continue to develop environmental sustainability data that more directly capture a firm's impacts. Finally, we note that scholars can face difficult choices about which data sources to use for environmental sustainability measures. For example, researchers interested in sustainability disclosures face a crowded field of incompatible standards, like the Sustainability Accounting Standards Board and the Global Reporting Initiative. This complicates the task of developing valid constructs and measures.

### *Extending Theory on Decoupling Through the CG of Environmental Sustainability*

As discussed already, research at the intersection of CG and environmental sustainability generally assumes that a positive effect size implies substantive improvements and, by extension, practices that are worth institutionalizing. However, outside of the CG area, sustainability scholars are increasingly concerned that these improvements are in fact shiny artifacts

that distract from worsening ecological conditions broadly (Hoffman & Jennings, 2018; Whiteman et al., 2013). Thus, the decoupling of environmental practices is a challenge, both in practice and research. This issue is especially relevant for the CG of environmental sustainability, since decoupling and symbolic management are pervasive at all CG levels (Westphal & Park, 2020).

Researchers can take several steps to move beyond inadvertently studying decoupling. First, as discussed earlier in our methodological recommendations, they can seek outcome variables that are clear benchmarks of critical ecological indicators, like freshwater conservation, biodiversity preservation, ecosystem restoration, and/or pollution reduction (Kurland & Zell, 2011; Wackernagel & Rees, 1997; Whiteman et al., 2013), and move away from reliance on environmental strategy, disclosure, and analyst assessments of performance, which are more vulnerable to subjectivity and decoupling since they often are derived from firms' annual reports and legally required disclosures. Such metrics include independent assessments, like the aforementioned TRI, greenhouse gas emissions, water and land usage, pollution generation and mitigation, and impacts of biodiversity.

Second, scholars could focus more on studying the underlying mechanisms of how CG practices specifically enable or deter environmental sustainability decoupling. For example, they could unpack how CG impacts several forms of environmental practice decoupling, including evasive decoupling (where CEOs make bold environmental sustainability claims but fail to equip organizational follow-through; Crilly, Zollo, & Hansen, 2012), greenwashing (highlighting environmental efforts while creating environmental harm; Delmas & Burbano, 2011), emergent decoupling (when institutional complexity prevents well-intentioned firms from properly internalizing environmental practices; Crilly et al., 2012), and means-end decoupling (where strict environmental standards preclude firms from effectively adapting practices to their socioecological contexts; Wijen, 2014). We believe that each of these decoupling types is fertile ground for CG researchers to refine existing theory.

Finally, it would be fruitful to develop a process model of the CG of environmental sustainability, perhaps via qualitative methods, that considers how the predominant outcomes in this literature—namely, environmental strategy, performance, and disclosures—might be interrelated in ways that lead to substantive behavior or decoupling. It would seem intuitive to consider how different CG variables may produce environmental sustainability strategies and disclosures, which would then drive the adoption of substantive environmental practices that improve corporate environmental performance or symbolic practices that lead to decoupling. However, as discussed earlier, extant literature treats strategy, performance, and disclosure as distinct environmental sustainability outcomes and thus overlooks this potential process. Thus, future research could unpack the pathways of influence between these constructs to better account for the mechanisms linking CG to substantive or symbolic environmental sustainability behavior.

### *The Global Dimension of the Corporate Governance of Environmental Sustainability*

Our analysis also indicates that existing literature has mostly focused on firms based in the United States and other advanced economies, providing limited cross-national evidence about the validity of the presented findings. This suggests that our understanding of

the relationship between CG and environmental sustainability may be geographically bounded. We see this gap as an opportunity for researchers and suggest multiple ways for addressing it.

In particular, there are significant opportunities for additional cross-country analysis that includes firms from Asia, Africa, and South America. These studies would benefit from integrating CG theories (such as agency, resource dependence, and stakeholder perspectives) and research questions from a comparative CG approach, which have provided strong evidence that home-country institutions contribute to shape firms' CG arrangements (Aguilera & Jackson, 2010; Aguilera, Marano, & Haxhi, 2019). This would remediate some of the limitations stemming from the application of the traditional Anglo-American model of CG to countries with different national governance systems, where typical principal-agents problems may be less relevant (Desender, Aguilera, Crespi, & Garcia-Cestona, 2013). For example, future research could examine the interaction of home-country governance institutional features and different CG characteristics (such as, for example, boards' gender diversity, high contingent managerial compensation, or family ownership) on various environmental sustainability outcomes (such as, for example, degree of greenwashing, integrated triple-bottom-line reporting, or waste management innovation).

Moreover, while researchers have started to identify some of the unique CG characteristics of emerging-market firms (Aguilera & Haxhi, 2019), extant research on emerging-market firms is limited. We believe that future research could address numerous questions about firms based in these markets. For example, does contingent and noncontingent pay of executives have similar impact on the environmental sustainability outcomes of advanced-economy versus emerging-market-based firms? Which CEO and TMT characteristics matter the most for emerging-market firms' environmental sustainability outcomes? Do BODs' size, proportion of outside directors, and CEO ownership have similar effects on the environmental sustainability outcomes of advanced-economy and emerging-market firms? Do national institutions impact the effectiveness of certain CG of environmental sustainability characteristics and practices and make them more prone to results in substantive environmental behavior or decoupling (Marano et al., 2017; Tashman, Marano, & Kostova, 2019)?

Last, our review points to the field's limited engagement with broader environmental sustainability debates about the private sector's role in addressing the grand environmental challenges of our time (Aragón-Correa, Marcus, & Vogel, 2020). Many of these challenges are global in nature because they result from planetary-scale processes (Winn, Kirchgeorg, Griffith, Linnenluecke, & Guenther, 2011). These challenges largely stem from the planet's rising temperatures and range from increases in droughts, floods, and other types of extreme weather events to sea-level rise and loss of biodiversity as well as decreased food and water security and increased migration and poverty across many countries (Intergovernmental Panel on Climate Change, 2018). Thus far, management scholars have highlighted how corporations are both key sources of environmental degradation and agents for mitigating or solving the "wicked" challenges, like climate change (Hoffman & Jennings, 2018; Howard-Grenville, Buckle, Hoskins, & George, 2014; Wright & Nyberg, 2017). To date, however, research on the CG of environmental sustainability has mostly shied away from these debates.

We believe that this gap creates promising future research opportunities. For instance, researchers could build on recent insights about "collective environmental entrepreneurship" (CEE) initiatives (Doh, Tashman, & Benischke, 2019) and their role for addressing the grand

environmental challenges of our time. CEE refers to cross-sector alliances between firms, the public sector, and NGOs focusing on "the process of discovering, evaluating, and exploiting economic opportunities that are present in environmentally relevant market failures" (Dean & McMullen, 2007: 58). These cross-sector alliances require different CG actors across business, government, and NGOs to "combine their sector-specific competencies to discover, develop, and scale innovative adaptive responses to environmental challenges" (Doh et al., 2019: 451). We believe exploring such stakeholder-centric governance approaches, which move away from an exclusive emphasis on shareholder interests, would be beneficial to address some of today's grand environmental challenges. In addition, future research could also examine how other global societal challenges impact the relationship between CG and environmental sustainability–related outcomes. For instance, one timely question is, What happens to the CG–environmental sustainability relationship when a firm must deal with external issues threatening its existence (e.g., COVID-19 pandemic)?

### *Overcoming the Fragmented Nature of Extant Research*

A key takeaway from our review is that the effects of CG actors on environmental sustainability are mostly studied in silos. A few articles analyze the impact of multiple CG dimensions on environmental sustainability outcomes (e.g., De Villiers et al., 2011; Haque & Ntim, 2018; Kock, Santaló, & Diestre, 2012). Still, virtually no attention has been paid to how different CG factors may interact to affect such outcomes. As we further discuss later, an important exception is the study by Walls et al. (2012). Therefore, we urge future research on the CG of environmental sustainability to adopt a more integrated approach at each level of analysis in the firm. For example, it is important that we understand how environmental interests of investors, such as pension funds, are incorporated into boards' investment and operational decision making, integrated into CEOs' decisions about strategy, and then implemented by managers and employees. It is likely that these CG actors' interests are misaligned, and thus it is important to understand how such conflicts arise and are resolved at each step of the decision-making and implementation chain.

Such an integrated approach to the study of the CG of environmental sustainability is appropriate for at least three reasons. First, CG and environmental sustainability practitioners have long advocated for corporations to adopt more integrated approaches to the CG of environmental sustainability. For instance, UNEP FI implores corporations to adopt an "integrated governance model" involving a system of CG practices in which "sustainability issues are integrated in a way that ensures value creation for the company and beneficial results for all stakeholders in the long term" (UNEP FI, 2014: 35). Such an approach would require "a holistic integration of sustainability in the corporate strategy" (UNEP FI, 2014: 38) so that each board member would be tasked with considering sustainability outcomes. Other elements of this prescribed approach include boardrooms' independence both at the individual and at the group level, adoption of integrated financial and sustainability reporting, aligned financial incentives, and long-term active investors. Moreover, a number of prominent corporations, such as Danone, Biogen, and Intel, have started to display integrated corporate governance traits (UNEP FI, 2014). Therefore, future research should address this emerging practical trend.

Second, extant CG research already shows that individual governance mechanisms often work in combination and systematically and that there is equifinality in configurations of

governance mechanism that lead to organizational effectiveness (e.g., Aguilera et al., 2015; Bell, Filatotchev, & Aguilera, 2014; Misangyi & Acharya, 2014). Third, and related, our review suggests that a few scholars have started to embrace this more integrated approach by providing evidence that the CG of environmental sustainability involves configurations of mechanisms. For example, Walls et al.'s (2012) study about the impact of a constellation of CG factors on environmental performance sought to examine how the interrelationships among firms' owners, managers, and BODs may affect environmental performance. Importantly, their findings suggest that CG affects environmental performance through the interplay of various governance structures that complement and substitute each other in ways that will "deserve closer attention in the future" (Walls et al., 2012: 902).

Since Walls et al.'s (2012) call is yet to be properly addressed, we believe that future research could explore how different CG dimensions complement and substitute for each other in CG systems for environmental sustainability. For this end, we urge scholars to consider configurational approaches, as they allow to unpack different combinations of relationships that may lead to specific environmental sustainability outcomes (Misangyi, Greckhamer, Furnari, Fiss, Crilly, & Aguilera, 2017). Methodologically, such research could rely on qualitative comparative analysis to discover different configurations of CG characteristics and other firm-level factors that improve or harm environmental sustainability outcomes (Misangyi et al., 2017). Such an approach would help overcome the limitations of regression analysis, which excels at isolating individual effects but is ill suited for analyzing how different systems of CG practices are associated with the environmental sustainability of the firm.

Also, we see significant opportunities for more integrated research on how symbolic management and decoupling processes ripple through different authority levels of the organization. For example, research could take a configurational approach to studying how BODs' power, diversity, and independence impact CEOs' and TMTs' propensity to adopt symbolic environmental management practices or how CEOs' and TMTs' characteristics, ideologies, and agency influence the environmental sustainability claims and resource allocation decisions that employees have to implement. Such research would explore the checks and balances that govern how different CG actors interact and how environmental decisions are adopted. We also recommend that scholars consider how principal-agent problems and institutional conflicts between owners, boards, CEOs and TMTs, and employees can exacerbate different forms of decoupling with respect to the CG of environmental sustainability. Such research could help uncover optimal bundles of CG practices for resolving goal misalignment between different levels of the organization that would otherwise inhibit efforts to govern environmental sustainability.

## Conclusion

Corporations are increasingly seen as key agents for addressing the grand environmental challenges of our time (George, Howard-Grenville, Joshi, & Tihanyi, 2016). Accordingly, scholars have begun studying the CG mechanisms of environmental sustainability by investigating the rights and responsibilities of internal corporate actors, such as shareholders, BODs, CEOs, TMTs, and to some extent, employees, vis-à-vis a host of environmental sustainability issues. To systematize this growing body of work, we conducted a comprehensive literature review around key CG actors (i.e., owners, BODs, CEOs, TMTs, employees) and how they impact environmental sustainability outcomes as well as the predominant

theoretical and methodological approaches that have been used. We then identified several gaps in the literature as a basis for future research on individual CG actors' roles and responsibilities, the potential for certain CG arrangements to promote environmental sustainability decoupling, the global dimension of environmental sustainability, the integrated nature of the CG of environmental sustainability, and related methodological issues. We hope that our work will inspire others to continue exploring creative and productive ways for studying how corporate decision makers affect environmental sustainability.

## Note

1. Our literature searches combined the following corporate governance keywords (i.e., "corporate governance", "board of directors," "top management team," "CEO," "executive compensation," "ownership," "corporate control," "investors," "shareholders," "employees," "union," "labor," "employment relations," and "work council") and environmental sustainability keywords (i.e., "corporate environmentalism," "sustainability," "environmental performance," "climate change," "greenwashing," "environmental reporting"). We manually searched each journal by relying on databases EBSCOhost and Google Scholar.

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