

THE VIEW AT THE TOP OR SIGNING AT THE BOTTOM? WORKPLACE DIVERSITY RESPONSIBILITY AND WOMEN'S REPRESENTATION IN MANAGEMENT

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Women lag men in their representation in management jobs, which negatively affects women's careers and company performance. Using data from 81 publicly traded firms with more than 2,000 establishments, the authors examine the impact of two management structures that may influence gender diversity in management positions. The authors find no association between the presence of an HR executive on the top management team—a structure envisioned in practice as enhancing diversity but which could, instead, operate merely symbolically—and the proportion of women in management. By contrast, the authors show a strong, positive association between a previously unexamined measure of commitment to diversity—the hierarchical rank of the individual certifying the company's required, confidential federal EEO-1 report—and women's representation in management. These findings counter the common perception that the Equal Employment Opportunity Commission (EEOC) regulations are too weak to affect gender diversity. The authors discuss the implications for diversity scholarship, as well as for management practice and public policy.

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The attainment of a manager position is a critical career milestone, yet women lag men substantially in terms of their representation in management jobs in the United States (Powell 2011). Many factors influence whether a woman worker becomes a manager. Across the economics, sociology, psychology, industrial relations, and human resource (HR) management literatures, evidence has accumulated in support of both labor demand- and labor supply-related explanations for women's lower representation in management (Orser and Leck 2010; Blau, Ferber, and Winkler 2014). Demand-side factors encompass labor market conditions and organizational influences, such as gender-based employment discrimination. By contrast, supply-side explanations for women's lower representation cite differences in men's and women's human capital and job preferences, factors that limit the available "pipeline" of women into the managerial ranks.

Whereas both labor demand and labor supply are important to understanding women's upward career mobility, a company's Equal Employment Opportunity (EEO) responsibility structure for tracking women's representation and supporting women's progression into management positions may be particularly important to understanding establishment-level progress (or lack thereof) in gender diversity in management. Specifically, we are interested in where in the organization's job hierarchy the responsibility for EEO outcomes rests. In this study, we build on influential studies on the efficacy of workforce diversity-related practices on women's representation in management positions (e.g., Kalev, Dobbin, and Kelly 2006), as well as on studies examining managerial responsibility for diversity outcomes (e.g., Pfeffer, Davis-Blake, and Julius 1995), to consider two structures that might predict change in women's representation in management: the presence of an HR executive on the top management team (TMT) and the hierarchical level of the individual who certifies the firm's aggregate EEO-1 report that documents the demographic composition of the firm's workforce, including its management, across establishments.

The persistence of the gender managerial gap is especially notable given that large U.S. firms are subject to Title VII of the Civil Rights Act of 1964 dictating nondiscrimination and Federal Executive Order 11246, which mandates affirmative action efforts. These two areas of law and policy, while distinct, combine to create compliance pressure on employers to ensure equal opportunity for women, including representation in management positions in numbers that are approximately proportional to their availability in the relevant labor market (Stainback and Tomaskovic-Devey 2012). External EEO and affirmative action regulatory forces have been "managerialized" by employing organizations in the form of organizational structures, practices, and corporate norms and language, some of which overlap or have morphed into organizational diversity programs (Edelman, Fuller, and Mara-Drita 2001; Dobbin 2009). Corporate workforce diversity efforts tend to emphasize the inclusion of women and other demographic groups referred to in employment laws; in addition, they often couch such efforts

within a “business case” rationale, namely that workforce diversity internal to the firm supports creativity and innovation and mirrors marketplace diversity (Lockwood 2005). Albeit justified differently, firm activities that are aimed at narrowly adhering to EEO and affirmative action compliance requirements, and broader workforce diversity efforts, share the common goal of enhancing gender diversity (Berrey 2014).

These dual motives, yet common goal, raise an important question for managerial practice and public policy: What works in remedying the gap in women’s attainment of managerial roles? A number of studies have examined the efficacy of legal mandates on gender and racial staffing patterns, generally documenting progress for women and minorities over time but also finding varying effects across groups (Leonard 1985; Tomaskovic-Devey et al. 2006). A second stream of research examines diversity-related workforce practices, coined “identity-conscious” practices by Konrad and Linnehan (1995). This research found that some targeted practices—diversity committees/task forces and affirmative action plans, for example—tend to improve gender diversity in management (Konrad and Linnehan 1995; U.S. Glass Ceiling Commission 1995; Kalev et al. 2006), but that other interventions, such as diversity training, apparently do not (Kalev et al. 2006). A third branch of research examines “identity-blind” HR practices, such as the use of job descriptions to ensure that employment decisions are job-related (Konrad and Linnehan 1995; Reskin and McBrier 2000; Moore, Parkhouse, and Konrad 2001). Findings on these more neutral interventions are mixed in terms of whether the practices help, hinder, or have no effect on women’s representation, but generally they appear less efficacious than targeted, identity-conscious, diversity-related programs (Konrad and Linnehan 1995; Kalev et al. 2006; Kalev 2014).

As useful as the workplace practices literature has been in trying to identify what works to enhance gender diversity, difficulties abound in generalizing the expected efficacy (or non-efficacy) of particular practices from one setting to another (Ely and Padavic 2007), for several reasons. First, substantial within-company and within-establishment variation in obstacles to women’s career advancement may mean that diversity practices that are effective in some settings are less effective in others. Hence, even when individual practices are implemented across all establishments within a firm, they may not serve as effective solutions when disconnected from idiosyncratic, establishment-level problems. An additional difficulty for researchers studying—and practitioners seeking to implement—effective diversity practices is that reaping their benefits may require a systemic or synergistic approach. In the strategic HR management literature, multiple integrated HR practices (e.g., pay-for-performance, selective hiring, training investments) have been shown to be substantially more effective than any single HR intervention (Combs, Liu, Hall, and Ketchen 2006; Subramony 2009). Other than Kalev and colleagues (2006) who found that multiple diversity-

related interventions worked better than individual practices, research on systems of diversity practices is sparse.

In this article, we build on the literatures that explore the efficacy of diversity-related structures and practices by taking a step back to examine the hierarchical level at which responsibility for gender diversity rests, a structural option that enables or constrains women's careers (Beckman and Burton 2011). By adopting this approach we negate the need to identify and aggregate diversity efforts, which may, in their implementation, prove dissimilar across establishments and companies.

In general, assigning responsibility ensures attention to objectives and accountability for important firm outcomes (Lerner and Tetlock 1999; Ocasio 2011). Responsibility assigned at *higher levels* of the organization tends to be accompanied by the managerial discretion and flexibility necessary to achieve successful outcomes (Dobbin, Schrage, and Kalev 2014; Kalev 2014). By studying hierarchical level, we are still able to account for HR and diversity practices indirectly because high-ranking executives with workforce diversity-related responsibilities have the power to decide which practices to implement, the form the practices take, the level of resources invested in implementation, and the degree of integration with other company practices. Thus, the particular workforce diversity practices implemented may be less important than the hierarchical level at which overarching responsibility for such outcomes is assigned.

Examination of managerial responsibility for gender-related employment outcomes has the added advantage of shedding light on a serious debate among organizational scholars and public policymakers: Do responsibility structures indicate a substantive commitment to increasing the representation of women and/or minorities or, instead, are the structures highly public, symbolic gestures aimed at deflecting scrutiny and claims of bias (Edelman 1992; Dobbin 2009; Dobbin, Kim, and Kalev 2011)? To gauge the potential efficacy of responsibility structures, we examine and compare two hierarchical forms in which companies could vest responsibility for, and attention to, EEO outcomes. The first is the presence or absence of an HR executive on the TMT—information that is readily observable in our sample of publicly traded firms. The second is the hierarchical job level of the person who signs and certifies the firm's nonpublic annual EEO-1 form for the U.S. Equal Employment Opportunity Commission, a report that documents the demographics of the organization by occupation and job level. The presence of an HR professional on the TMT is visible to the public in company annual reports. Such visibility permits firms to manage impressions and assuage corporate stakeholders and regulatory bodies, while providing the option to decouple structures from firms' actual investments in cultivating a diverse workforce (Meyer and Rowan 1977; Oliver 1991). A basic premise of our article is that to better understand what works, we need to find ways to accurately disentangle companies' motives for adopting programs, because the depth of a firm's underlying commitment to diversity should influence the effectiveness of any individual practice or

combination of practices. Substantive adoption of a responsibility structure and diversity practices should yield actual gains in gender-related staffing outcomes, while symbolic use of a structure and associated workforce diversity efforts should not.

The article makes two primary contributions. First, our study builds on previous work on the efficacy of various affirmative action and EEO initiatives (e.g., Konrad and Linnehan 1995; Kalev et al. 2006) by examining hierarchical structure and accountability for workforce diversity. To our knowledge, we are the first researchers to examine the relationship between HR executives and gender diversity in management, despite assertions about HR executives' importance to firm performance and EEO outcomes (Lockwood 2005; SHRM 2005, 2006; Caldwell 2011).

Second, it appears that we are the first researchers to examine the effects of the hierarchical rank of the EEO-1 certifier. This confidential measure is unpublished and therefore, difficult for external audiences to obtain, and for additional reasons we will describe, it is immune to a firm's interest in manipulating the impressions of regulators and others external to the firm. Moreover, our examination of this relatively straightforward indicator of substantive attention to EEO compliance enables us to examine the potency of EEO policy in a unique way. If, after controlling for a host of other factors that could predict gender diversity in management, the hierarchical rank of the EEO-1 certifier has effects, our results would suggest that labeling current EEO policy as being weak warrants closer scrutiny. In addition, EEO compliance mechanisms would merit deeper consideration as a means to remedy workplace inequality.

By exploring these unique responsibility structures, our study will advance the literature on gender diversity in management and generate new implications for theory and practice. As our data suggest, enhancing women's representation in management may require closer attention to the features of individual establishments, by someone in the firm who has the power to gather and examine relevant establishment-level demographic data and to then craft multifaceted solutions to the problem.

Theory and Literature Review

Our study compares two different responsibility structures for gender diversity in management: the TMT status of the most senior HR professional in a firm and the hierarchical level of the certifier of the firms' required annual EEO-1 report to the U.S. Equal Employment Opportunity Commission (EEOC). Conceptually, the former could serve either substantive or symbolic purposes, or both. We argue that the latter, because of its nonpublic nature, can only serve substantive purposes.

Responsibility for EEO: HR Professionals on Top Management Teams

HR scholars and practitioners advocate placing a company's most senior HR professional on the TMT in order to most effectively utilize human

capital as a source of competitive advantage (SHRM 2005, 2006; Caldwell 2011; Rendell 2014). This view is relatively new, however (Legge 1978; Guest and King 2006). Historically, HR professionals performed the transactional aspects of employee management activities such as recruiting (e.g., posting job advertisements), hiring (e.g., conducting interviews), and compensation and benefits (e.g., designing pay systems) (Ulrich and Dulebohn 2015). Although important work, generally it was not strategic in nature, and HR was not a function that was regarded as a primary contributor to business results. Over the past 30 years, however, companies have increasingly relied on their HR functions to contribute HR management expertise to corporate strategy development and execution (Kelly and Gennard 2007; Ulrich and Dulebohn 2015), the primary responsibility for which rests with individuals on the TMT. By 2004, 54 to 59% of U.S. companies' most senior HR professionals were members of their companies' TMTs, reporting directly to the CEO or president of the company (Bureau of National Affairs 2004; Dooney and Smith 2005).¹

Perhaps recognizing the inherently greater power afforded to managers who are situated higher in corporate hierarchies, U.S. enforcement agencies and the courts sometimes require structural remedies for offending companies. For example, the EEOC required Outback Steakhouse to "employ a human resource executive in the newly created position of Vice President of People" to remedy a class action, gender-related promotion lawsuit (U.S. EEOC 2009, bullet 2). Underpinning both the increasingly strategic nature of the HR profession and the courts' settlement terms is the assumption that upper echelons (i.e., positions higher in the corporate hierarchy), sometimes represented by the HR function, have greater resources, power, and managerial discretion with which to effect change and achieve corporate performance goals.

Upper echelons theory emphasizes the importance of the TMT composition to understanding strategic organizational decision making (Hambrick and Mason 1984). For an HR executive on the TMT, this would mean maximizing returns to the firm's investment in its human resources as well as the firm's overall performance. According to upper echelons theory, executive demography proxies for the underlying characteristics, beliefs, attitudes, cognitions, and assumed behaviors of those on the TMT (Carpenter, Geletkanycz, and Sanders 2004). TMT functional specialties and backgrounds (e.g., finance, human resources, and so forth) reflect executives' formal education and training, work experiences, and positions held, all of which are posited to influence the ways in which executives scan and process a range of complex internal and external information (Bantel and Jackson 1989).

¹The Bureau of National Affairs (2004) source was the earliest published or publicly available data on HR reporting relationships we could locate in our extensive search.

Diversity in the functional backgrounds of TMT members is a key starting point for ensuring variation in knowledge-based inputs to strategic decision making (Boone and Hendriks 2009). Because of the people-related focus of their education, career experience, and the nature of HR work, HR professionals should have a greater knowledge of and sensitivity to the importance of diversity-related issues, as compared to professionals in other functions (Wimbush 2008). The Society for Human Resource Management (SHRM), which administers HR professional certification programs, identifies Global and Cultural Effectiveness as a required competency for successful HR professionals. For proficiency at the senior executive level, one must be able to demonstrate “the return-on-investment of a diverse workforce” and to “set[s] the vision that defines the strategic connection between diversity and inclusiveness practices for employees and organizational success,” among other behaviors (SHRM 2016, Competency Model). On the academic side, textbooks designed for aspiring HR professionals devote considerable attention to the topic of workforce diversity (Graham, Kennavane, and Wears 2008). Employment law attorneys view EEO compliance as an essential HR responsibility as well (e.g., Mathiason and Barbeau 2005). No doubt, managing and leveraging workforce diversity can be done by those holding a variety of positions and at various levels of the organization. Generally speaking though, in large firms the personnel function rose in prominence partly because of the perceived ambiguity of EEO and affirmative action policy and the need to implement procedures that could forestall charges of discrimination (Dobbin 2009).

Although many executives have adopted a broad leadership view by the time they reach the executive suite (Kelly and Gennard 2007), they are also likely to possess and convey expertise relevant to their own functional backgrounds (Houghton and Neubaum 1994). Hence, TMTs that include HR professionals (versus those that do not) will be more likely to understand and address HR issues, including workforce diversity. HR professionals on the TMT may leverage TMT-related resources and power to enhance not only the operation of their own departments (Pfeffer 1992; Lawrence 2000; Sheehan, DeCieri, Cooper, and Brooks 2014) but also to ensure that workforce diversity is a key part of the company’s strategic HR system and business strategy (Lado and Wilson 1994; Lockwood 2005; McKinsey & Company 2015).

Having an HR professional on the TMT provides greater opportunity (compared to a lower, non-TMT position in the organizational hierarchy) to influence peer TMT members’ and the CEO’s identification of key strategic issues and corresponding action plans for the company as a whole. Dutton, Ashford, O’Neill, and Lawrence (2001), in a qualitative, empirical examination of the ways in which high-level managers “sell” issues upward, found that managers with greater relational, normative, and strategic knowledge reported greater success persuading TMT members to implement changes to organizational processes and priorities. Although we study the

TMT itself, it is easy to imagine the HR TMT member, hailing from what may be considered a relatively lower status function relative to other departments (Guest and King 2006), benefiting immensely from the unique relational, normative, and strategic information available to TMT members. Having the opportunity to “sell” HR management issues as an equal-status member of the TMT will make the HR executive’s arguments all the more successful.

Moreover, executives at high-level ranks in organizations have opportunities for reciprocal, collaborative sense-making processes, behavior modeling, and nonverbal communication with other TMT members, which can shape the beliefs that the peer executives hold and vice versa (Chattopadhyay, Glick, Miller, and Huber 1999). In other words, over time, TMT members’ views become more convergent. To summarize, TMTs with HR executives (in comparison to those without) will have a greater awareness of the strategic value of workforce diversity and strategic HRM systems, will possess more positive attitudes toward workforce diversity, and will have more resources and power to implement not only diversity interventions but also sound HR practices such as employee development (Blum, Fields, and Goodman 1994; Kossek, Dass, and DeMarr 1994; Rynes and Rosen 1995). In turn, these efforts can enhance the percentage of managers who are women (Pfeffer et al. 1995; Kalev et al. 2006).

Based on their educational background, functional expertise, and high rank, HR professionals on the TMT will likely view, and have the resources to promote, a gender-representative and gender-diverse management team as a desirable goal for their companies. Their responsibility as members of the TMT includes facilitating gender diversity for strategic reasons, such as serving customers, tapping new markets, attracting a wider pool of talent, or because they need better, more diverse decision making and innovation to compete. Substantial documentation supports the benefits of gender-diverse teams on these dimensions (Barber and Odean 2001; Catalyst 2010; van Dijk, van Engen, and van Knippenberg 2012). Finally, from a practical standpoint, having gender parity in managerial jobs relative to women’s availability in the relevant labor market can help HR professionals and their companies avoid the risk of EEO charges based on disparate impact discrimination.

Companies may have another motivation for having an HR executive on the TMT: the need to appear legitimate to key stakeholders, such as investors, regulatory agencies, potential employees, and customers (Suchman 1995; MacLean and Behnam 2010). In this vein, Edelman (1992) described the process of organizations “elaborating their formal structures to create visible symbols of compliance” (p. 1531). One form of such elaboration is the creation of new offices and positions, such as a vice president of human resource management. In at least some of these cases, the presence of an HR executive on the TMT and other easily observed structures are used to create an impression that companies are operating within business and

legal normative parameters—for purposes of avoiding unwelcome scrutiny and negative publicity concerning workforce diversity issues, or for influencing the courts for more lenient treatment—without in fact making substantive efforts to improve gender diversity (Oliver 1991; Edelman 1992; Edelman and Petterson 1999; Edelman et al. 2011).

Our research is one of the few empirical studies of effects of HR TMT members on firm outcomes (Menz 2012). A study by Welbourne and Cyr (1999), based on a sample of initial public offering firms, found some support for a relationship between HR executive presence and firm financial outcomes. Moore et al. (2001) found that top management support for equal employment opportunity was associated with a greater proportion of women in management, although their focus was not on HR executives. We anticipate finding a relationship between HR on the TMT in the context of diversity-related outcomes; however, we acknowledge that firms may utilize this structure for both substantive and symbolic reasons. Finding a relationship between the presence of an HR executive on the TMT and enhanced women's representation in management lends support for the view of HR playing a substantive role in ongoing workforce diversity. By contrast, finding no relationship lends support for the predominance of solely a symbolic role. Hence, we hypothesize:

Hypothesis 1: Firms with a human resource professional on the TMT will have a subsequently higher percentage of women in management than firms that do not.

Responsibility for EEO: EEO-1 Certifiers in High-Ranking Positions

Although the purview of HR professionals and the strategic importance of human resources has grown in U.S. firms, the value of the U.S. EEOC remains contested. (The EEOC is the federal agency created by Title VII of the Civil Rights Act of 1964 to evaluate employee discrimination complaints and to bring charges of systemic discrimination when warranted.) At the crux of the debate is whether an agency that has limited resources and that places relatively weak demands on firms can trigger greater access to employment opportunities for women and minorities. The EEOC requires all private-sector firms that employ 100 or more full-time or part-time employees, and federal contractors with 50 or more employees and at least \$50,000 of business with the government, to submit an annual EEO-1 report detailing the demographics of the firm by job category.² Companies must file EEO-1 forms for each establishment, and then figures from the establishment reports are aggregated into a single consolidated report for the entire company, which is certified and signed by a company official. Hence

²A complete description of the entities required to file the EEO-1 report are listed in the Instruction Booklet for the EEO-1, provided in Appendix A. This booklet also contains a sample EEO-1 form. See EEO-1 documents in Appendix A online at ilr.sagepub.com/supplemental.

the completion and certification of the annual EEO-1 report submitted to the EEOC is a legally mandated responsibility of covered firms.

Because the EEOC stipulates no requirements as to who can verify EEO-1 data, firms have (and actively exercise) great latitude in terms of designating the certifier of these critical federal reports. For example, the EEOC does not require a particular rank, title, or set of responsibilities associated with the certifier of the firm's consolidated EEO-1 report. The EEO-1 report signer can be—and often is—an individual without any official diversity responsibilities or who holds a position relatively low in the company hierarchy.

Such latitude in designating a certifier can be seen as supporting Edelman's (1992: 1536) critique that the meaning of EEO compliance is ambiguous and that EEO enforcement mechanisms are weak. Based on such criticism, one might expect there would be no effect of the EEO-1 reporting process, including rank of the report certifier, on demographic change in organizations. It is, after all, merely a report to fulfill a legal requirement; the EEOC does not dictate how the report should be used as a tool or specify changes that must follow from its contents.

Alternatively, one could argue that this seemingly innocuous report can be a powerful tool for change. In its report on best practices aimed at increasing women's representation in management, McKinsey & Company (Barsh, Devillard, and Wang 2012: 8–9) described four key priorities for “committed leaders” in order to foster gender diversity, including asking for and talking about the data on “pain points in the pipeline [for women] by business, geography and function.” Evidence suggests that the mere process of receiving data in aggregate form is significant in helping decision makers discern discriminatory patterns in the treatment of women and minorities (Twiss, Tabb, and Crosby 1989; Cordova 1992; Rutte et al. 1994). Hence, the very nature of the EEO-1 data-reporting requirements—establishment level, which mirrors the McKinsey recommendation, *and* aggregated, which research suggests eases recognition of discrimination—may provide report signers with particularly salient, user-friendly information on gender staffing patterns.

Certifiers at higher levels in the organizational hierarchy will benefit additionally from working with and evaluating EEO-1 data because they are in a better position to act on the data, which is a key component of attentional engagement: the focus of “time, energy and effort on a selected set of environmental stimuli, *repertoire of action responses*, and the relationships between them” (Ocasio 2011: 1288; emphasis added). Individuals who have progressed to higher levels in the organization will likely have more education and work experience with which to make sense of the data. In addition, they will likely have more authority and power, as compared with signers who work in lower-ranked positions, to act on the information they receive (Pfeffer et al. 1995) through processes similar to those described above for the HR professional on the TMT: access to resources, executive networks, and the opportunity to help craft corporate strategy. Put another way, when

the EEO-1 signer is of higher rank, accountability for the gender diversity data and any gaps that these data reveal, as well as the power and discretion to craft solutions to the problem, cohere in the same person.

It could be inferred that firms that choose to place accountability for the EEO-1 report at a higher level in the organization's hierarchy have an overall more substantive corporate commitment to—and likelihood of achieving—gender diversity in management (Lawrence 2000). Furthermore, the fact that the signer is personally certifying a legally mandated report to the U.S. government adds pressure to remedy any underrepresentation of women highlighted in the report (Zhang and Wiersema 2009). To summarize these arguments, despite the seeming innocuous nature of the certifier rank, change in management demographics may be hastened when a high-ranking individual has access to and accountability for fine-grained EEO-1 data at the establishment and company levels.

At first glance, it might appear that, like the HR executive's presence on the TMT, the rank of the individual signing the EEO-1 report could be employed symbolically, to give the impression to the EEOC, shareholders, or others that the firm is more focused on diversity efforts than is actually the case. The EEO-1 signer variable, however, has a unique role in disentangling substantive from symbolic diversity efforts. Because the EEO-1 report is confidential to the EEOC (i.e., not publicly available), the rank of the signer is unobservable. Moreover, although EEOC officials do have access to the report and hence, the signer's rank, and they could use the signer's rank to target firms for additional investigation, the EEOC does not routinely scrutinize this variable. So, firms would have little expectation that a signer's rank could be used strategically to ward off EEOC scrutiny. Furthermore, unlike survey-based research that elucidates firms' substantive commitment to diversity through specific practices or structures (e.g., questions asking whether the firm engages in diversity training), EEO-1 signer rank is a nonreactive measure of diversity commitment. The variable is provided in archived reports that are not subject to the manipulation or mistaken recall that may be more likely in informant-based accounts of diversity efforts (Webb, Campbell, Schwartz, and Sechrest 2000). Hence, by examining a measure of EEO compliance that is publicly unavailable and therefore, unobservable—a measure that firms would have no ability or incentive to manipulate—we are uniquely able to separate substantive commitment to diversity from the potentially symbolic, publicly observable existence of a corporate EEO office, EEO/affirmative action officer, or HR presence on the TMT (Edelman 1992). This point is particularly important as more and more firms adopt such publicly observable accountability structures as means to avoid or defend charges of discrimination (Edelman et al. 2011). For these reasons, we hypothesize:

Hypothesis 2: Firms that utilize those in higher-ranking positions to certify their EEO-1 reports will have a subsequently higher percentage of women in management than firms that do not.

Although we expect that both HR professionals on the TMT and high-level EEO-1 certifiers will enhance the proportion of women in management, these two responsibility structures differ in one key respect. As already noted, in contrast to the identities of the TMT of publicly traded companies, the names and titles of the EEO-1 certifiers are not reported in publicly available annual Securities and Exchange Commission (SEC) 10-K reports, nor is this information scrutinized routinely by the EEOC. Hence, firms do not use the certifier's identity or rank to manage the EEOC's impression of the firm's commitment to equal employment. With the exception of professionals involved in EEO compliance, we surmise that few outside observers will have any idea of the existence of the EEO-1 form or knowledge of its purpose. Thus, this measure is unlikely to elicit a firm's impression management concerns or efforts and is not subject to social desirability biases that can alter organizational self-reports of diversity practices.

By contrast, publicly traded firms likely recognize that the composition of their TMT will be scrutinized by investors, regulators, and potential employees, because the identities of the TMT are publicly available (DiMaggio and Powell 1983; Edelman 1992; Suchman 1995). Firms may respond to this scrutiny by having an HR executive on the TMT in order to signal a broader strategic focus on the workforce, as well as to symbolically communicate the importance to the firm of EEO compliance and workforce diversity efforts. Relative to placing an HR executive on the TMT, we argue that the hierarchical rank of the certifier of the EEO-1 report uniquely captures a firm's substantive commitment to monitoring (and modifying) its workforce gender composition. We offer our final hypothesis:

Hypothesis 3: The use of high-level signers to certify and sign EEO-1 reports has a greater effect on the percentage of women in management, as compared to the presence of an HR professional on the TMT.

In summary, we expect a positive association between the presence of an HR professional on the TMT and the proportion of women managers in a firm. We also expect a positive, but comparatively larger association between the hierarchical level of the EEO-1 signer and the proportion of women managers. We summarize in Table 1 the possible patterns of results and their corresponding interpretations.

Method

Overview

We test our hypotheses using company and establishment data from three sources: annual company filings of the required EEO-1 form with the EEOC, annual company filings of the required 10-K form with the SEC, and corporate voluntary annual reports, sometimes referred to as supplements. The EEO-1 form summarizes data on nine categories of employees:³

³Beginning in 2007, the EEOC expanded this to 10 job categories by dividing the officials and managers into two levels, as displayed in the form online in Appendix A.

Table 1. Interpretation of Hypothesis Support Patterns (Yes = hypothesis supported; No = hypothesis not supported)

<i>Interpretation of HR presence on TMT</i>	<i>H1 HR on TMT → % Female management</i>	<i>H2 Executive certifier → % Female management</i>	<i>H3 Executive certifier > HR on TMT → % Female management</i>	<i>Explanation</i>
1. Substantive	Yes	No	No	1. The HR executive is at least partly substantive because of the positive association of an HR professional on the TMT with the proportion of women in management, in the context of no executive certifier effect where one might be expected. 2. The HR executive is at least partly substantive because not only is there an association of HR on the TMT but also the magnitude of association exceeds that of the executive EEO-1 certifier, whose primary focus is demographic staffing patterns in the firm.
2. Substantive	Yes	Yes	No	3. The HR executive is at least partly substantive because of the positive association of an HR professional on the TMT with the proportion of women in management, but also partly symbolic because the executive certifier effect is larger.
3. Substantive and Symbolic	Yes	Yes	Yes	4. The combination of no association of HR on the TMT and a significant positive association of an executive HR certifier with the proportion of women suggests that a substantive role for HR executives was possible but that it did not occur. 5. We would expect to see a certifier effect even if the HR on TMT was entirely symbolic.
4. Symbolic	No	Yes	Yes	
5. Data issues, lack of statistical power	No	No	No	

Notes: The other three combinations of the hypotheses are not theoretically possible: (1) H1: Yes, H2: No, H3: Yes; (2) H1: No, H2: No, H3: Yes; (3) H1: No, H2: Yes, H3: No. HR, human resources; TMT, top management team.

officials and managers, professionals, technicians, sales workers, office and clerical, craft workers (skilled), operatives (semi-skilled), laborers and helpers (unskilled), and service workers; as well as by sex, race, and ethnicity for companies as a whole and for companies' establishments, which are defined as the separate locations or plants. The 10-K form is an annual disclosure form of financial and business information for publicly traded companies. The 10-K reports contain information on firms' business strategies, business risk, financial information, and a list of executives, but they have almost no information about employees below the executive level. Finally, many companies voluntarily produce their own annual reports, apart from the annual 10-K. Such reports tend to be colorful, glossy publications targeted to a wider audience, providing the 10-K results but with a more promotional focus. Note that voluntary annual reports are more likely than 10-K reports to discuss corporate HR management and workforce diversity efforts.

For the analyses, we model the proportion of women managers in our sample of companies in 2005. The independent variables (and most of the control variables) are measured in 2002 to strengthen causal inferences about the relationship between our predictors and proportion of females in management. A strength of our data is the multitude of establishment- and company-level control variables available from the three data sources.

Sample

We drew an initial random sample of 200 companies from a list of all publicly traded companies in the United States in 2002. In general, private-sector employers with 100 or more employees are required to file EEO-1 reports, as are federal contractors with 50 or more employees. We were able to locate 2005 EEO-1 annual filings for 94 of these companies; the majority of companies with missing EEO-1 data were foreign companies or companies with fewer than 100 employees, which are not required to file EEO-1 reports.⁴ We eliminated 13 additional companies that did not report required executive information on their 2002 10-K annual reports or that did not file the reports for that year.

Our final sample consisted of 81 companies with 2,015 establishments. The companies spanned multiple industries: manufacturing, 37%; transportation, communication, and utilities, 14%; wholesale and retail trade, 12%; and services, 37%; these proportions approximately match the population of public companies in the United States.⁵ The average company in our sample had 7,256 (SD = 13,878) employees and 31 (SD = 67)

⁴For all public companies in 2002, 57% had fewer than 100 employees or were foreign owned or both. Thus, our sampling dropout rate approximates what would be found in the overall population of U.S. public companies. The remaining population of publicly traded companies was of comparable size to our final sample.

⁵For all public companies the industry breakdown was 34% for manufacturing, 9% for transportation, communications, utilities; 9% for wholesale and retail trade; and 48% for services.

establishments. The average establishment in our sample had 225 (SD = 513) employees, including an average of 27 (SD = 86) managers. Fifty-two percent ($n = 42$) of companies in the sample had an HR executive on the TMT, which is comparable to the percentage reported in larger corporate samples (Bureau of National Affairs 2004; Dooney and Smith 2005; SHRM 2005).

Measures

Dependent Variable

The dependent variable is the percentage of managers in an establishment who are women, as reported on the 2005 EEO-1 reports for each of the company's establishments. For example, in a company with 15 establishments, there would be 15 separate EEO-1 reports filed and therefore 15 observations of the proportion female dependent variable. The percentage is calculated by dividing the number of women "officials and managers" by the total number of officials and managers in an establishment. In our sample, the mean percentage of female managers is 26% (SD = 25%).

Independent Variables

Our two predictor variables of interest are HR executive presence on the TMT and EEO-1 certifier hierarchical level. We measured whether the top HR management professional in a company is an executive on the TMT with a dummy variable, with 1 indicating the presence of an HR executive on the TMT and 0 indicating no HR executive. TMT members, including their job titles, are reported in companies' 2002 annual 10-K reports or companies' annual proxies, both filed with the Securities and Exchange Commission.⁶ We reviewed job titles as well as brief executive biographies in the 10-K report to ensure that the executives were in fact responsible for or representing HR management on the TMT. Jobs that had some human resources responsibility but were not considered to be primarily HR-focused (e.g., chief financial officer) were coded as 0.⁷ We supplemented the 10-K information with listings of TMT executives in companies' voluntary 2002 annual reports. While most companies reported the same list of executives in both the 10-K and the voluntary reports, 16 companies listed a TMT HR executive only in the voluntary annual report. Since conceptually we are trying to code individuals with hierarchical power in an organization but

⁶We also examined the 2003 and 2004 annual reports of companies to see if any companies added an HR executive to the TMT after 2002, but before 2005. We found that four companies added HR professionals to the TMT in 2003 or 2004; companies that did not have these positions in 2002. Regression results were substantially the same when we included these companies with the others having HR on the TMT in 2002.

⁷Of the companies' HR executives on the TMT, 18.5% were women. Results remained the same when a variable for gender of the HR TMT member was included in the model, and the coefficient on this variable was not significant. For parsimony, we did not include this variable in the final model.

whose title and presence could also serve symbolic purposes, we created the HR on the TMT variable using both sources. The two most common titles for HR executives on the TMT across both the 10-K and voluntary annual reports were Vice President of Human Resources and Senior Vice President of Human Resources.

The EEO-1 certifier variable reflects the hierarchical level of the signer of the firm's consolidated EEO-1 report (officially, Standard Form 100, Employer Information Report EEO-1). The hierarchical rank of the EEO-1 certifier serves as a nonreactive (or unobtrusive), and in this case publicly unobservable, measure of commitment to workforce diversity. Nonreactive measures are considered to be an innovative approach to data collection that does not rely on the self-reports of informants and is not subject to modification or manipulation (Webb et al. 2000). EEO-1 reports are archival and cannot be altered because of positive or negative changes in workforce diversity, or by other influences.

Actual certifier job titles were gleaned from the 2002 consolidated EEO-1 report for each company in our sample. For EEO-1 data to be accepted by the EEOC, certifiers are required to check a box indicating that the EEO-1 report is accurate and to provide their name, job title, contact information, and a signature. These requirements are spelled out in the EEO-1 form and instructions presented in our online Appendix A. The EEOC does not specify who should certify and sign the consolidated EEO-1 form in these instructions.⁸

We coded the job titles of the EEO-1 certifiers according to their hierarchical level in the organization. One author of this study developed the coding scheme based on typical job structures in large companies, identifying four distinct types of job titles: executives (e.g., vice president and above), directors, managers, and non-management. A second author checked the coding scheme and independently coded the job titles; the two coders agreed 90% of the time, with any discrepancies discussed and resolved.

We formulated and tested three versions of the EEO-1 certifier variable. First, we grouped EEO-1 certifiers according to two levels of responsibility: executives and non-executives. Our second measure again assessed two categories of responsibility: managers and above, and non-management. For our third measure of EEO-1 certifier hierarchical level we divided the job titles according to three levels of responsibility: executives, managers and directors, and non-management. For the companies in our sample, 12% used executive signers of the EEO-1 reports, 22% had director-level signers, 41% had manager-level signers, and 25% had non-management signers. Because of the conceptual difficulties in aggregating director and manager titles across firms, we combined the two titles into one category. Results

⁸We did not have access to the names and therefore, the gender, of the EEO-1 signer/certifiers.

from the analyses were robust regardless of the number or form of the hierarchical levels specified.

Establishment-Level Control Variables

Five establishment-level control variables were included in our models. We controlled for establishment size as measured by the natural log of the number of employees in each establishment. These data came from each establishment's 2002 EEO-1 form. Establishments with greater numbers of employees may have greater resources to devote to workforce diversity and more openings for women to be hired into. The other four control variables were used to hold constant the relevant labor markets of the establishments, which directly affect the availability of women to work there. The first of these control variables was the proportion of women in each establishment's industry in 2003, as indicated by the establishment's 3-digit NAICs industry reported on the EEO-1 form. Second, we controlled for the percentage growth in the establishment's 3-digit NAICs industry between 2003 and 2005 as gleaned from the U.S. Current Population Survey. Third, we constructed an indicator variable to capture whether the establishment's 3-digit NAICs industry experienced a decline in employment between 2003 and 2005 (1 = yes, 0 = no), also from the Current Population Survey.⁹ Finally, we included dummy variables for nine establishment regions in the United States, based on the zip codes reported on the establishments' 2002 EEO-1 reports.

Parent Company-Level Control Variables

We controlled for a number of company-level variables that could potentially affect the proportion of women managers in companies' establishments. Similar to the establishment level, we included two controls that proxy for the relevant labor market. First, we created dummy variables for four broad industry sectors at the 1-digit SIC level, coded and provided by the EEOC: manufacturing; transportation, communications and utilities; wholesale and retail trade; and services.¹⁰ Second, we calculated the average proportion of women in each company's set of establishments in 2002, thereby holding constant companies' initial gender diversity levels and serving as a critical proxy for each company's access to potential female managers. These figures were calculated from companies' 2002 EEO-1 reports.

We also controlled for whether a company is a federal contractor (1 = yes, 0 = no), as indicated on the 2002 EEO-1 report. Federal contractors are required to compile and submit affirmative action reports and develop

⁹Data for 2002 were unavailable because of the transition between the Standard Industrial Code (SIC) system and the NAIC system.

¹⁰Because we had only 81 companies in our sample, we were unable to analyze industry at a more detailed level.

action plans for hiring members of underrepresented groups (e.g., women managers) to the U.S. Department of Labor Office of Federal Contract Compliance Programs, and they face potential EEO audits and termination of federal contracts for failing to do so.

Another control was company age (years), since companies with earlier founding dates may have a stronger legacy of practices that exclude or treat women differently from men. Company age information was found on company websites, SEC 10-K reports, and companies' annual reports. Company size and company growth were controlled to account for organizational slack and access to resources to devote to workforce diversity, as well as potential opportunities to promote women into management. Company size was measured as the natural log of the number of employees in the company in 2002, from the firm's 2002 EEO-1 report. The company growth variable was the difference in employment between the 2002 and 2005 EEO-1 reports, with companies that reduced employment coded as a 0. An additional control was an indicator variable for whether the company experienced an overall decline in employment between 2002 and 2005, with 1 = yes and 0 = no.

We controlled for workforce centralization at the company level because a greater concentration of employees into fewer establishments could permit more control by top management over company hiring policies, and by extension, the demographic diversity of its employees at the establishment level. We measured this variable with a conventional index of dissimilarity, which indicates the proportion of employees who would need to change jobs to reach parity in employee numbers across establishments. For our purposes this variable was reverse coded, such that higher values of this variable indicate greater centralization. We also controlled for the number of years a company had an HR executive in place, to distinguish companies that have longstanding versus more recent HR presence on the TMT.

Finally, we developed three proxy measures to assess the construct of diversity culture, or the degree to which companies' internal environments appeared to be conducive to the career advancement of women, minorities, and other historically underrepresented groups. This construct was critical to control for because it helps rule out unobserved heterogeneity, or the possibility that other predictors (i.e., diversity culture) are what really influence not only the dependent variable but also the accountability structures we examine (i.e., HR on TMT, EEO-1 signer hierarchical level). Our three measures of diversity culture were as follows.¹¹

¹¹We also tried to measure the presence of diversity personnel in the company (1 = yes, 0 = no), but these data were not available historically in company databases in academic libraries. Instead, we searched for any job title with the word "diversity" in it in the Lexis/Nexis database for 2015 for the companies in our sample, reasoning that if no diversity professionals were included at present, then it is less likely they had such professionals in 2002. Using this approach, we found that only seven companies had diversity professionals listed in Lexis/Nexis in 2015. When this variable was included in our models, it was not a significant predictor of percent female in management in 2005, and we did not include it in the final models.

First, we measured the diversity content of companies' 2002 voluntary annual reports with a simple count of pictures and words that reflected workforce diversity, following in the tradition of other scholarly research using annual reports (Vuontisjarvi 2006). We counted pictures that contained two or more individuals of different genders or race/ethnicities. We also counted pictures of single individuals who were women or minorities, with the assumption that most companies' managerial ranks were underrepresented in these two categories. For the word count, we searched for the following terms: cross cultural, diverse, diversity, ethnic, gender, inclusion, mother, race, racial, work family, and work life;¹² and we assessed each of the found terms in the context in which they were used. For example, "diverse workforce" was counted, but "diverse businesses" was not. The final version of this measure combined the diversity picture and word counts.

Our second proxy for diversity culture was percentage of females on the TMT in 2002, gleaned from SEC 10-K reports and company annual reports. When individuals had gender-neutral names, we searched for them on Google and were able to determine the gender of all of these individuals. We expected that companies with greater proportions of women on their TMTs would have more women available to serve as powerful mentors and allies to women workers. In addition, women's presence on the TMT signals a work culture in which women have opportunities to advance in that company.

Our third proxy for diversity culture was the percentage of females on the board of directors in 2002, gleaned from SEC 10-K reports and company annual reports. Like the proportion of women on the TMT variable, we searched using Google for any director with a gender-neutral name to ensure the coding was accurate. We expected a potential positive relationship between this variable and our dependent variable, the proportion of women managers in 2005, because women on the board of directors may be more likely than men to observe and raise questions about the proportion of women in management in the company. Also, similar to the previous variable, women's presence on boards of directors signals the degree to which women play important roles in the company.

Analysis

We analyzed the data using multilevel modeling, sometimes referred to as hierarchical linear modeling, which accounts for the fact that the establishments in our data are nested within parent companies and therefore are not independent observations (Raudenbush and Bryk 2002). We specified a model of fixed effects for the establishment control variables since we did

¹²Perusal of multiple company annual reports prior to developing this list of words revealed that the report images and text tended to focus on gender or race/ethnicity. We did not find any reports with pictures of individuals with visible disabilities or references to the LGBTQ community.

not expect these effects to differ by company. All of the other control and predictor variables are by definition fixed effects, since they are second-level variables, the highest measurement level in our data set (Neupert 2013). We specified a random intercept, which permits the intercepts to vary by company (Singer 1998). Multilevel models generate chi-squared statistics rather than F statistics to assess overall model significance. They also utilize the Akaike Information Criterion (AIC) statistic as an indicator of model fit, rather than R -squared values.

We used three baseline estimating equations, which differ based on the measurement of the EEO-1 certifier variable:

$$(1) P_{ij} = \gamma_0 + \gamma'_1 X_i + \gamma'_2 Y_j + \gamma_3 HRexec_j + \gamma_4 Exec_CERT_j + \varepsilon_{ij},$$

$$(2) P_{ij} = \beta_0 + \beta'_1 X_i + \beta'_2 Y_j + \beta_3 HRexec_j + \beta_4 Man_CERT_j + \nu_{ij},$$

$$(3) P_{ij} = \alpha_0 + \alpha'_1 X_i + \alpha'_2 Y_j + \alpha_3 HRexec_j + \alpha_4 Exec_CERT_j + \alpha_5 Man_CERT_j + \zeta_{ij},$$

where $P_{ij} \in (0, 1)$ reflects the proportion of managers in establishment i and company j that are women; X_i are establishment-level regressors, such as size and establishment industry characteristics; Y_j are company-level regressors, such as the company industry and percent female in the company; $HRexec_j = 1$ if the HR executive is a member of the TMT (0 otherwise); $Exec_CERT_j = 1$ if the EEO certifier is a high-level executive (0 otherwise); $Man_CERT_j = 1$ if the EEO certifier has a rank of manager (0 otherwise); and ε_{ij} , ν_{ij} , ζ_{ij} are the corresponding random error terms for the three specifications. We note that presenting our models in a single equation is equivalent to specifying separate models for the Level 1 and Level 2 analyses (Singer 1998; Neupert 2013).

Results

Descriptive and correlational information on the study variables are reported in Tables 2A and 2B for the establishment-level and company-level variables, respectively. The simple correlation between the presence of an HR executive on the TMT and the proportion of women managers at the establishment level in 2005 is -0.18 , indicating that 18% fewer company managers are women when HR professionals are on the TMT, as compared with when they are not ($p < .01$). For the EEO-1 certifier level variable, the simple correlation with the dependent variable is 0.00 (NS). These simple cross-level correlations are not presented in the tables. We caution against over-reliance on the simple correlations rather than the coefficients in the full multilevel regression models presented in Table 3, because the simple correlations do not take into consideration the lack of independence between establishments within companies, whereas the regressions do.

Prior to running our fully specified models, we examined the null, or unconditional, model of the percentage of women managers in 2005 on random company intercepts (Singer 1998). The random effects, as

Table 2A. Correlation Matrix of Establishment Variables with Means (standard deviation) on Diagonals

<i>Establishment variable</i>	1	2	3	4	5
1. Proportion female in management (2005)	0.26 (0.25)				
2. Size – (ln) number of employees (2002)	0.19	4.93 (0.82)			
3. Industry proportion female (2002)	0.56	0.06	0.40 (0.17)		
4. Industry proportion growth (2003–2005)	–0.16	–0.09	0.04	0.06 (0.16)	
5. Industry recent downsizing (2003–2005) (1 = yes, 0 = no)	0.21	0.25	0.01	–0.31	0.41 (0.49)

Notes: *n* = 2015 establishments.

Correlations of | 0.04 | or greater are significant at *p* < .05; correlations of | 0.06 | or greater are significant at *p* < .01.

indicated by the covariance parameter estimates, are significant: 0.0316 (*p* < .01) for the between-company variance and 0.0293 (*p* < .01) for the within-company variance. From these figures, we calculated the intra-class correlation coefficient (ICC) of 0.52 (i.e., 0.0316/(0.0316 + 0.0293), which indicates that 52% of the random effects occur between companies, confirming the need for multilevel modeling at two levels: establishment (Level 1) and company (Level 2).

Multilevel regression results are presented in Table 3, with the coefficients presented in raw metrics. Raw metric scaling produces the same results as grand mean centering of the variables, but since our predictor and control variables have meaningful zeroes, the use of raw coefficients aids in the interpretation of the regression coefficients (Hofmann and Gavin 1998). Model 1 regresses the proportion of women in management dependent variable on the control variables and the two predictor variables, HR on the TMT and the EEO-1 certifier hierarchical level. Model 2 is similar but substitutes an alternative two-category measure of EEO-1 certifier level. Model 3 reports the results of the full model using the three-category specification of the EEO-1 certifier variable. The chi-squared statistics for all models are significant, and the low AIC statistics indicate a good degree of fit. We also estimate a model of control variables only on the dependent variable, which is not presented in Table 3, and results on the control variables for this model are substantially similar to the results on the control variables in the fully specified models.

Random effects for the full model, as indicated by the covariance parameter estimates, are 0.0020 (*p* < .05) for the between-company, or Level 2, variance and 0.0280 (*p* < .01) for the within-company, or Level 1, variance, for model 1. By comparing the covariance estimates from the null model to the full model, we find that the predictor and control variables account for

Table 2B. Correlation Matrix of Company Variables with Means (standard deviation) on Diagonals ($n = 81$)

Industry dummy variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Manufacturing	0.37 (0.49)																
2. Transportation, Communications, Utilities	-0.29	0.12 (0.33)															
3. Wholesale and Retail trade	-0.30	-0.15	0.14 (0.34)														
4. Services	-0.59	-0.28	-0.30	0.37 (0.49)													
5. Average proportion female in establishments	-0.47	-0.12	-0.14	0.65 (0.18)	0.28												
6. Federal contractor (1 = yes, 0 = no)	0.17	0.16	-0.18	-0.14	-0.06	0.59 (0.49)	0.14	47 (40)									
7. Age of company (years)	0.10	-0.19	0.05	0.00	-0.07	0.11	0.28	7.8 (1.5)									
8. Size - (ln) number of employees	-0.03	0.03	0.21	-0.14	-0.05	0.11	0.28	7.8 (1.5)	0.00	0.14 (0.21)							
9. Percentage growth (2002-2005)	-0.14	0.06	0.19	0.05	0.29	0.07	-0.04	0.00	0.14 (0.21)								
10. Recent downsizing (1 = yes, 0 = no) (2002-2005)	0.27	0.00	-0.10	-0.20	-0.36	-0.09	-0.02	0.09	-0.65	0.49 (0.50)							
11. Workforce centralization	0.15	0.03	-0.20	-0.03	-0.13	0.18	0.17	0.33	-0.32	0.23	0.25 (0.16)						
12. Years with HR executive on TMT	0.17	-0.06	-0.02	-0.11	-0.11	0.20	0.46	0.41	-0.03	0.02	0.25	3.0 (4.1)					
13. Diversity content in annual reports	-0.15	-0.07	-0.20	0.34	0.19	0.11	0.27	0.35	0.00	0.01	0.22	0.13	2.4 (4.4)				
14. Proportion women on TMT 2002	-0.30	-0.15	0.27	0.21	0.31	-0.25	-0.05	-0.05	0.16	-0.08	0.39	0.04	-0.09	0.11 (0.11)			
15. Proportion women on board of directors, 2002	-0.09	-0.05	0.28	-0.07	0.05	-0.14	0.01	0.04	0.22	-0.11	-0.29	0.17	-0.05	0.36 (1.6)	0.26		
16. HR executive on TMT (1 = yes, 0 = no)	0.07	-0.01	-0.05	-0.03	-0.01	0.06	0.40	0.40	-0.02	0.06	-0.04	0.71	0.22	0.10 (0.50)	0.11	0.52	
17. Hierarchical status of EEO-1 certifier (1 = executive, 0 = non-executive)	-0.29	0.20	0.09	0.20	0.27	0.20	-0.02	-0.08	0.12	-0.09	0.14	-0.17	0.20	0.16	0.07	-0.08	0.35 (0.48)

Notes: TMT, top management team; EEO, Equal Employment Opportunity.

Correlations of $|0.22|$ or greater are significant at $p < .05$; correlations of $|0.29|$ or greater are significant at $p < .01$.

94% of the between-company variance (i.e., $(0.0316 - 0.0020)/.00316$) in our full model.¹³

Control Variable Results

Regression results for the number of employees in an establishment is in the expected direction, with larger establishments exhibiting significantly higher proportions of women in management, all else equal. As expected, the establishment's proportion of women in its 3-digit industry is significantly and positively related to the dependent variable. This control is important because it captures the availability of women workers in establishments' industries. The coefficient on the proportion of growth in the establishment's 3-digit industry is negative, the opposite direction from expected, although the effect is quite small. No significant effect of recent industry downsizing is seen on the proportion of women in management. Thus, economic cycles for the previous two years appear to have minimal effects on the proportion of women in management at the establishment level.

Fewer significant effects appear for company-level control variables. Models 1 to 3 indicate 8 to 10% fewer women managers in manufacturing as compared to services ($p < .05$) and about 15% fewer women managers in wholesale and retail trade industries ($p < .01$) than the services industry. The average percentage female in company establishments in 2002 is substantially and significantly related to the proportion of women in management in 2005, with similar results across the three models. Clearly, companies with more women employees have a major advantage toward achieving greater proportions of women in management. We note that this is a critical variable in our analyses, as it controls for the companies' internal labor supply of women in 2002.

The degree of workforce centralization (i.e., workers are concentrated into fewer establishments) is associated weakly with a greater proportion of women in management in model 1 ($B = 0.138$; $p < .10$), perhaps capturing greater consistency in hiring practices and workforce diversity efforts. Of the diversity-related control variables, only the annual report diversity content is significantly related to the proportion of women in management in model 1, and in the opposite direction than expected ($B = -0.005$; $p < .05$). No other company-level control variables are significant, although they are necessary for our interpretation of the predictor variables, as discussed next.

Independent Variable Results

Consistent with an interpretation of HR executives serving in symbolic rather than substantive roles, we find no effect of having an HR executive

¹³Similar analyses were done for models 2 and 3, each of which explained 92% of the variance between companies.

on the TMT in any of the three models. In models 1, 2, and 3, the coefficients on the HR TMT variable (1 = yes, 0 = no), are 0.014, 0.018, and 0.018, respectively; none are statistically significant. We also ran these regressions without the control variable for the number of years that the company had an HR on the executive team. Regression coefficients are slightly higher (i.e., approximately 0.005 greater) for all three models, but again, none are significant. Thus, Hypothesis 1 is not supported.

As shown in all three models presented in Table 3, the data provide strong support for Hypothesis 2 in the form of a substantial, positive effect of EEO-1 certifier level on the proportion of women in management. The coefficient of 0.065 ($p < .01$) on the certifier variable in model 1 indicates that an increase in hierarchical level from a non-executive to an executive-level signer is associated with a 6.5% higher proportion of women in management. For an average establishment in our sample, this would mean the difference between 26% women in management and 32.5% women in management. Model 2 indicates that assigning EEO-1 responsibility to someone in management is associated with a 5.1% greater proportion of women in management, as compared to a non-manager having this responsibility ($p < .05$). Model 3, which compares three hierarchical levels of EEO-1 responsibility, indicates that assigning responsibility to an executive is associated with an 8.4% greater proportion of women in management as compared to a non-manager ($p < .05$). The coefficient on the director/manager category is associated with 4.5% more women in management as compared to non-manager signers ($p < .10$). Estimating model 3 with the middle category omitted (not displayed in the table) indicates that the effect of the executive signer is not significantly different from the director/manager effect in model 3.

Although our findings reveal a significant positive relationship between managerial, not just executive, certifier rank and the proportion of women in management, we consider the possibility that executive signers may also have held “chief diversity officer” or similar titles. If that were true, our “executive” rank findings might be proxying for effects already documented in the EEO literature (Pfeffer et al. 1995). Only five companies in our sample of 81 have certifiers with diversity- or EEO-related titles, however, and examination of a diversity title dummy variable in the multilevel models reveals no significant effects. Note as well the analyses described in footnote 11. Hence, our findings are novel, indicating the power of the locus of attention to a firm’s EEO-1 data.

In addition, despite the consistency in the HR executive parameter estimates across models (i.e., regardless of which measure of EEO-1 signer we include), we carefully examine our data to consider whether the results on the HR variable are attributable to confounding with the EEO-1 certifier variable. Because we do not have access to EEO-1 signer identities, we cannot discern with certainty whether the HR executive (where present) is also the EEO-1 signer in those cases where the firm’s signer had an executive

Table 3. Multi-Level Regression Results for Proportion of Women Managers

<i>Model Components</i>	<i>Model 1 Coefficients (standard error)</i>	<i>Model 2 Coefficients (standard error)</i>	<i>Model 3 Coefficients (standard error)</i>
Intercept	0.023 (0.082)	-0.006 (0.086)	0.042 (0.098)
Establishment-level controls			
Establishment size – (ln) number of employees	0.016** (0.006)	0.016** (0.006)	0.016** (0.006)
Industry % female	0.004** (0.001)	0.004** (0.001)	0.004** (0.001)
Industry % growth	-0.001* (0.000)	-0.001 + (0.000)	-0.001* (0.001)
Industry downsizing (1 = yes, 0 = no)	0.010 (0.014)	0.012 (0.015)	0.009 (0.015)
Parent company-level controls			
Company industry/sector			
Manufacturing	-0.084* (0.036)	-0.099** (0.038)	-0.094* (0.039)
Transportation, Communications, Utilities (TCU)	-0.007 (0.039)	-0.022 (0.040)	-0.019 (0.041)
Wholesale and Retail trade	-0.146** (0.043)	-0.150** (0.047)	-0.146** (0.048)
Services (omitted category)	—	—	—
Average % female in company establishments	0.576** (0.090)	0.582** (0.094)	0.582** (0.095)
Federal contractor (1 = yes, 0 = no)	-0.013 (0.021)	-0.011 (0.023)	-0.006 (0.023)
Company age (years)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Company size – (ln) number of employees	-0.004 (0.008)	0.001 (0.009)	-0.001 (0.010)
Company % growth in employees	0.068 (0.067)	0.019 (0.070)	0.016 (0.071)
Company downsizing (1 = yes, 0 = no)	0.000 (0.025)	0.000 (0.026)	-0.001 (0.027)
Workforce centralization	0.138+ (0.080)	0.054 (0.085)	0.084 (0.091)
Years with an HR executive in place	0.001 (0.002)	0.001 (0.003)	0.001 (0.003)
Diversity culture			
Annual report diversity content	-0.005* (0.002)	-0.003 (0.002)	-0.003 (0.002)
Top management team % female	0.051 (0.117)	0.013 (0.123)	0.018 (0.125)
Board of directors % female	0.009 (0.008)	0.009 (.008)	0.009 (.008)
Direct effects (company-level)			
HR executive on TMT (1 = yes, 0 = no)	0.014 (0.026)	0.018 (0.027)	0.018 (0.028)
Hierarchical level of EEO-1 certifier (measure 1)			
Executive	0.065** (0.022)		
Non-executive (omitted category)	—		
Hierarchical level of EEO-1 certifier (measure 2)			
Manager or above		0.051* (0.025)	
Non-management (omitted category)		—	

(continued)

Table 3. Continued

<i>Model Components</i>	<i>Model 1</i> <i>Coefficients</i> <i>(standard error)</i>	<i>Model 2</i> <i>Coefficients</i> <i>(standard error)</i>	<i>Model 3</i> <i>Coefficients</i> <i>(standard error)</i>
Hierarchical level of EEO-1 certifier (measure 3)			
Executive			0.084* (0.041)
Director / Manager			0.045+ (0.026)
Non-management (omitted category)			—
Number of establishments/companies	2015 / 81	2015 / 81	2015 / 81
AIC fit statistic	-1,249	-1,250	-1,260
Model likelihood ratio test – Chi-square	16.68**	23.39**	23.45**

Note: Regressions also include controls for nine establishment regions.
Significance levels: + $p < .10$; * $p < .05$; ** $p < .01$

rank. This possibility is reduced, however, because only 13 (16%) companies and 534 (26%) establishments had an HR professional on the TMT and an executive-level EEO-1 certifier. More persuasively, having an HR executive on the TMT is not significant in a model that omitted the EEO-1 certifier variable (not presented in Table 3). Nevertheless, we conduct a post hoc examination of the interaction of the HR on TMT by certifier hierarchical level interaction in all three models. We find some weak support for this interaction, but only in model 1, with the combination of an HR professional on the TMT and an executive certifier level resulting in 6.8% more women as compared to the other combinations of these variables ($p < .10$). Adding this interaction to model 1 explains an additional 1% of the random effects occurring between firms, and the AIC statistic indicates a slightly better fit.

Discussion

This study examines forms of responsibility and accountability for improving managerial gender diversity in organizations, relying on theory-based inferences to understand the effects of hierarchical rank on the proportion of women in management. We break new ground by examining two unique indicators of organizational responsibility: the presence or absence of an HR professional on the TMT, and the hierarchical level of the certifier of a firm's annual EEO-1 report to the U.S. EEOC. We draw on a solid body of research that accounts for both demand- and supply-side explanations for women's career success to construct the comprehensive models with which we test our hypotheses (Orser and Leck 2010; Blau et al. 2014). In addition, we rely upon upper echelons theory (Carpenter et al. 2004), theories of power and issue selling (Pfeffer 1992; Dutton et al. 2001), and the changing nature of the HR function (Ulrich and Dulebohn 2015) to understand the processes by which senior HR presence on the TMT might affect gender diversity in management. We consider theories of power, accountability,

and attentional engagement to propose mechanisms by which a higher-ranking individual taking responsibility for the firm's establishment- and aggregative-level EEO-1 data could translate into enhanced gender diversity in management. In so doing, we complement and augment previous studies on the efficacy of firms' diversity-related HR management interventions (Konrad and Linnehan 1995; Kaley et al. 2006), and we answer calls for greater attention to the effect of organizational structures on gender diversity in management (Beckman and Burton 2011; Skaggs, Stainback, and Duncan 2012).

We also contribute to the equal employment, organizational theory, and gender diversity literatures by conducting a rare empirical test of the potential duality of purposes (i.e., symbolic versus substantive) for organizational structures (Edelman 1992). We lay out possible patterns of results in Table 1 to help clarify the conclusions that might be drawn from the empirical findings. Our findings correspond to interpretation number four in Table 1—that HR TMT status appears to play a purely symbolic, and not a substantive, role in its relationship to EEO outcomes, while the EEO-1 certifier hierarchical rank operates quite substantively. This conclusion reinforces earlier empirical findings from a study by Edelman and Petterson (1999) that examined the symbol versus substance question. Consistent with their results, we find that the more general responsibility structure (in our case, HR presence on the TMT) operates symbolically, whereas the more focused and unobservable structure (in our case, higher-level EEO-1 certifier) is associated with substantive increases in gender diversity in management.

The potential gender diversity benefits of the HR professionals on the TMT are not realized in our sample of large, publicly traded companies, despite the widespread belief that the TMT status of HR professionals matters (SHRM 2005, 2006; U.S. EEOC 2009; Caldwell 2011; Rendell 2014). We note that many of the establishments in our sample had room for improvement, with only 26% of managers being women. Given the TMT decision making and influence processes suggested by upper echelons theory, peer-level relationships with other TMT members, and the relatively greater resources and power that are accorded to positions higher in company hierarchies, we might have expected HR TMT members to advocate for the HR function and to generate support for HR issues of strategic importance, such as gender diversity in management (Dutton et al. 2001). Thus, the upper echelons-based findings that TMT composition (Hambrick and Mason 1984; Carpenter et al. 2004) and HR executive presence (Welbourne and Cyr 1999) matter for firm performance do not appear to translate to the gender diversity in management context. Overall, our results are consistent with the interpretation that HR executives' diversity responsibilities have been decoupled from TMT status, favoring the pursuit of organizational legitimacy over substantive EEO efforts (DiMaggio and Powell 1983; Edelman 1992; Suchman 1995).

On the EEO-1 certifier variable, we find a significant, positive relationship between the hierarchical level of the EEO-1 certifier and the proportion of women in management. We attribute this effect to two sources. First, EEO-1 certifiers with jobs at higher levels in the organizational hierarchy have access to power, resources, networks, and managerial discretion that their coworkers lower in the hierarchy do not have (Pfeffer 1992). With these advantages, high-ranking EEO-1 certifiers are likely to possess a more comprehensive understanding of the impact of diversity on the organization; they can more effectively convey EEO problems to key decision makers; and they can fund, introduce, and develop establishment-based interventions to remedy the underrepresentation of women in management. Second, EEO-1 certifiers' focused attention on equal opportunity staffing outcomes, including the proportion of women in management, appears to render them effective stewards of diversity (Lawrence 2000; Ocasio 2011). The work involved in accurately completing the EEO-1 form results in intimate knowledge of establishment and company staffing data, including areas of underrepresentation of particular groups relative to their availability in the labor market. With this detailed understanding of, and responsibility for, the firm's demographic issues, high-ranking EEO-1 certifiers can remedy any problems and participate in setting new demographic staffing targets for the future—and, as noted above, they will have the discretion and access to resources to achieve those results.

Interpretation of the EEO-1 signer variable is aided by the fact that having an executive-level EEO-1 certifier possesses no symbolic value, because the name and job title of the certifier is confidential, and because the EEOC does not routinely monitor the content of EEO-1 reports. Companies are not likely to use the EEO-1 certifier as a symbolic gesture to the EEOC or other enforcement agencies, investors, or potential employees. Instead they should prefer more visible alternatives, such as placing the senior HR professional in a firm on the TMT.

Although we examine the EEO-1 signer's rank as a responsibility structure that may be associated with gender diversity in management, it is important to distinguish our focus from prior research on EEO/affirmative action offices or managers. As already noted, EEO-1 report signers are not required to be dedicated diversity professionals, and in the majority of cases, they are not. Several studies of EEO/affirmative action professionals suggest that they positively influence gender-related staffing outcomes. Kalev et al. (2006) found that the presence of diversity staff was associated with a substantial increase in women's representation in management. Pfeffer et al. (1995) considered the effects of high-ranking diversity staff using the chief affirmative action officer's salary as a proxy for the officer's ability to wield power and create change. They found that higher internal salaries of the affirmative action officers were positively related to women's representation in university administration. Lawrence (2000) documented how EEO professionals in the United Kingdom believed not only that a high hierarchical

rank signified management commitment to diversity but also that occupying a senior-level position enhanced the ability of the EEO official to enact diversity-related change (see also Edelman and Petterson [1999] on the importance of authority allocated to EEO structures). Our study's examination of EEO-1 signers augments this stream of research by demonstrating that a responsibility structure that is neither publicly observable nor identified as "Diversity"- or "EEO"-focused might, nonetheless, achieve the goals of EEO law and policy.

Our study complements important work on the efficacy of EEO compliance and workforce diversity practices (Konrad and Linnehan 1995; Reskin and McBrier 2000; Kalev et al. 2006; Dobbin 2009) by examination of more distal structural determinants of gender diversity in management. The use of EEO-1 certifiers from higher ranks appears to have similar positive effects as targeted workforce diversity initiatives (Pfeffer et al. 1995; Kalev et al. 2006) and some neutral HR practices (Reskin and McBrier 2000). Moreover, the EEO-1 certifier findings raise the possibility that companies' responsibility structures are behind the mixed results generated by previous studies on workforce diversity programs (Kossek et al. 1994). In other words, hierarchical responsibility may be the missing macro-contextual layer for understanding "why" EEO and diversity practices work (Beckman and Burton 2011). One might even argue for the supremacy of structure over practice to the extent that hierarchy enables those with EEO responsibility access to the resources and power necessary to implement effective strategic diversity staffing plans, regardless of their form (Pfeffer et al. 1995; Pfeffer 2013; Sheehan et al. 2014). We caution that our results will generalize most closely to large, publicly traded corporations in the United States, and the cultural and regulatory context of the United States. That said, we believe the issues of companies using organizational structures for symbolic and substantive purposes are universal but will manifest differently in other cultural and regulatory contexts.

Implications for Public Policy

Our findings underscore the importance of enforcement officials considering empirical evidence, or the lack thereof, on the efficacy of workforce diversity practices and responsibility structures in their screening and enforcement activities (Dobbin 2009). It appears that structural and other workforce diversity solutions are being used as injunctive relief in employment discrimination cases (Hegewisch, Deitch, and Murphy 2011), without much research on whether the interventions do in fact help underrepresented groups. Our results suggest that structural mandates, such as an HR executive on the TMT, may be a relatively weak symbolic step to take, as compared to compelling an organization to assign responsibility for the firm's EEO-1 report to a higher-ranking individual.

In firms that utilize a high-ranking EEO-1 certifier, the required filing of the annual EEO-1 form stimulates not only establishment-level and aggregate-level data collection and reporting but also efforts to improve the proportion of women in management. Based on our results, we suggest that the EEOC scrutinize the certifier data in its EEO-1 reporting database to help identify potential systemic violators of EEO law. We also recommend stronger, more specific requirements for who can serve as a company EEO-1 certifier. EEO enforcement agencies should consider examining additional unobtrusive measures of companies' progress on gender diversity in management. For example, the actual budgets of EEO or workforce diversity offices may be a better indicator of a firm's substantive commitment to enhancing the proportion of women in management than is the presence of the HR function on the TMT.

Ironically, over time, an initially effective structural innovation such as the level of the EEO-1 certifier may lose its efficacy, as its purpose shifts from substantive indicator of diversity commitment to symbolic gesture, and as the innovation diffuses throughout an industry (Tolbert and Zucker 1983; Edelman et al. 2011). Thus, public policymakers should understand the dynamic nature of EEO compliance and be prepared to innovate in terms of discrimination detection methods and the modification of EEO laws.

The strong results on our EEO-certifier variable suggest that criticisms of EEO reporting as ineffective and unnecessary are misplaced. That is, the EEOC's collection of firm-level data on workplace staffing appears to be working, at least among firms that approach compliance seriously and substantively. This finding bodes well for the potential efficacy of the EEOC's proposal to collect pay data on its EEO-1 form (Final Comment Request: Revision of the Employer Information Report [EEO-1] 2016). Like the current EEO-1 form that requires staffing data collection and directs attention toward within-firm staffing disparities, this change has the potential to focus attention and corrective actions on any within-firm pay disparities based upon gender, race, and ethnicity highlighted in the reports. At the same time, like the current EEO-1 staffing data, raw disparities should not be considered direct evidence of discrimination but rather as information on when and where to devote enhanced public policy and corporate attention.

Managerial Implications

We suggest that companies carefully consider who has responsibility for certifying their annual EEO-1 form. As discussed, the hierarchical level of the position responsible for the company's EEO-1 form embodies the firm's substantive attention and resources devoted to demographic diversity. Simply put, signers higher in the organizational hierarchy gain valuable insight from the EEO-1 report into the locus of diversity problems, and they likely have more authority and discretion to redress any problems that

surface in the EEO-1 reports. In addition, the most effective strategies might be establishment-specific; a person in a position of authority can more resourcefully attack the problem.

Management should be aware of pressures on their firms to utilize the HR executive position for symbolic purposes and be prepared to counter that and/or add substantive function to the role. Underscoring this point is the possibility that the symbolic use of HR structures for external audiences may overtake firms' truly substantive EEO and workforce diversity efforts (MacLean and Behnam 2010).

We also urge managers to be critical consumers of initiatives to enhance gender diversity in management. Implementation of HR best practices such as investments in worker training and development may enhance the career advancement possibilities for all workers; however, the more general interventions appear to be less effective than gender-targeted HR practices (Konrad and Linnehan 1995), and it is possible that general HR practices could themselves become gendered over time (Hirsh 2014). Finally, we caution managers who are evaluating diversity-related HR practices that program design and organizational context, in the form of responsibility structures, may be the keys to the efficacy of these programs.

Limitations and Future Research

We acknowledge a number of limitations of our study. First, the study provides evidence that a company's EEO-1 signer rank is related to greater managerial gender diversity, but support for causal inferences could be stronger. We make an effort to address this concern empirically by lagging the status of our two key predictors of HR presence on the TMT in 2002 and EEO-1 certifier in 2002 relative to the proportion of women managers in 2005. Almost all of our control variables are from 2002 as well, including two critical ones for inferring a hierarchical structure influence on women in management rather than the reverse: 1) the average percentage of the workforce that is female in the company's establishments in 2002, and 2) the proportion of women in the establishment's relevant industrial labor market in 2002. We note as well the absence of a negative relationship between the predictor variables and gender diversity in management, which we might expect to find if there was reverse causality. Nevertheless, our design is less powerful for reaching causal conclusions than a longitudinal data set with observations over many years would be.

Second, we do not have access to information on specific workforce diversity and EEO practices, which would have permitted direct comparisons with previous research (e.g., Kalev et al. 2006). This is less of a concern, however, given that we are interested in assessing the responsibility structures that might precede and serve to predict the implementation of diversity practices. We posited that one reason the EEO-1 signer's rank exerts such influence on gender diversity in management three years later is that

the signer can use the EEO-1 establishment data to craft diversity initiatives specific to the nature of the problem in a given establishment. An interesting direction for future research might be to test this proposition.

Finally, we are unable to include in our models the gender of the EEO-1 signer. Gender information may have yielded important insights (Kossek et al. 1994); unfortunately, information on the certification status is unavailable. That said, in their study of establishments nested within Fortune 100 firms, Skaggs and colleagues (2012) found that the gender diversity of company board members, but not the gender diversity of company executives, was associated with greater representation of women in management at the establishment level.

Conclusion

The significant contribution of this research is its examination of the effects of company-level hierarchical structure, a factor previously unexamined in the literature on the efficacy of workforce diversity practices. The results represent a bad news/good news story for ways to enhance gender diversity in management. We find that HR professionals on TMTs appear to serve symbolic rather than substantive roles in terms of women's representation in management. This trend suggests that the inclusion of HR professionals on TMTs is not an efficacious means to increase the proportion of women in management. The more hopeful news is that our findings on the relationship between EEO-1 signer/certifier rank and women's representation in management suggest that substantive attention focused on establishment-level workforce demographics data may stimulate organizations to undertake and sustain diversity efforts that improve women's representation in management. In short, initiating change in women's advancement to management positions may be less a matter of who sits visibly at the top of the company hierarchy and more a matter of who signs at the bottom of the EEO-1 form.

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