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Rage against the Iron Cage: The Varied Effects of Bureaucratic Personnel Reforms on Diversity

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Abstract

Organization scholars since Max Weber have argued that formal personnel systems can prevent discrimination. We draw on sociological and psychological literatures to develop a theory of the varied effects of bureaucratic reforms on managerial motivation. Drawing on self-perception and cognitive-dissonance theories, we contend that initiatives that engage managers in promoting diversity—special recruitment and training programs—will increase diversity. Drawing on job-autonomy and self-determination theories, we contend that initiatives that limit managerial discretion in hiring and promotion—job tests, performance evaluations, and grievance procedures—will elicit resistance and produce adverse effects. Drawing on transparency and accountability theories, we contend that bureaucratic reforms that increase transparency for job-seekers and hiring managers—job postings and job ladders—will have positive effects. Finally, drawing on accountability theory, we contend that monitoring by diversity managers and federal regulators will improve the effects of bureaucratic reforms. We examine the effects of personnel innovations on managerial diversity in 816 U.S. workplaces over 30 years. Our findings help explain the nation's slow progress in reducing job segregation and inequality. Some popular bureaucratic reforms thought to quell discrimination instead activate it. Some of the most effective reforms remain rare.

Keywords

organizations, inequality, gender, race, bureaucracy

What can employers do to counter the forces that produce workplace inequality? Studies of the causes of inequality are legion, but studies of remedies are rare. Weber (1978) argued that China's Mandarin system and France's absolutist state fought nepotism and favoritism with exam-based, bureaucratic career systems. Civil-rights leaders, human-resources managers, and structural theorists of inequality also advocate bureaucratic remedies to discrimination (Bielby 2000; Reskin 2000), yet feminists argue that bureaucracy merely provides cover for exclusion (Acker 1990; Ferguson 1984). Findings concerning bureaucracy's effects on diversity have been mixed (e.g., Kalev 2014; Reskin and McBrier 2000). Because bureaucratic personnel practices depend on managerial implementation, it is

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important to consider their effects on managers (Nishii 2015). We develop a theory specifying how different types of reforms influence managerial motivation, drawing on insights from the sociology of work and social psychology.

We posit that four groups of bureaucratic reforms that are thought to promote equity have distinct effects. A first group of reforms engages managers in promoting diversity and connects them with underrepresented groups. Cognitive-dissonance and self-perception theories (Bem 1967; Festinger 1957) suggest that by engaging managers in leading change, firms can increase managers' support of that change. Thus we expect that reforms of this sort—special recruitment outreach and management-training programs—will foster management support for diversity and increase workforce diversity.

A second set of reforms is thought to constrain managers' discretion to discriminate. Sociological studies of work autonomy suggest that "controlling" work environments lower commitment and elicit backlash (Gouldner 1954; Hodson 1996), and psychological studies of self-determination suggest that people resist external controls on their behavior (Kaiser et al. 2013). Thus we expect discretion-control initiatives—job tests for choosing workers, performance ratings for selecting promotion candidates, and grievance systems for stopping discriminatory managers—to spark managerial rebellion and decrease diversity.

A third type of bureaucratic reform is thought to increase transparency for job-seekers and hiring managers. We argue that transparency will promote diversity through two different mechanisms. First, as labor-market theorists argue, job-posting systems inform current workers of openings and job ladders spell out which jobs they may apply for; this should expand and diversify the applicant pool (Hodson and Kaufman 1982). Second, transparency makes managers accountable for their decisions by making job openings, eligibility for openings, and hiring and promotion decisions known to all (Castilla 2015). Accountability theorists find that people censor their own biases when they expect others to review their decisions (Kalev, Dobbin, and Kelly 2006; Tetlock 1992). We predict that these measures will advance diversity because they increase information for job-seekers and accountability for decision-makers.

A fourth type of reform establishes monitoring of diversity efforts through internal professionals or external regulators. Previous studies show that internal agents of accountability, such as diversity managers, can catalyze the effects of formal diversity programs (Kalev et al. 2006). We argue that external accountability to federal regulators will also improve the effects of bureaucratic reforms, many of which were popularized to comply with presidential affirmative-action edicts.

Our theory may help explain previous findings about diversity programs: engagement may be responsible for the positive effects of diversity taskforces and mentoring, and rebellion against external control may account for the poor results of managerial diversity ratings and diversity training (Kalev et al. 2006).

We examine the implications of our theory with observational data. Although we cannot view the operation of engagement, rebellion, transparency, or accountability directly, we gain analytic leverage by comparing effects of different reforms. Whereas previous studies examine a single bureaucratic reform or an index (Castilla 2008; Konrad and Linnehan 1995; Reskin and McBrier 2000), we scrutinize the pattern of effects across individual reforms. We compare our theory, which predicts different effects of different kinds of reforms, to three other theories which predict that all bureaucratic practices will show effects in the same direction, either positive or negative. First, structural theorists of inequality contend that all components of bureaucratic career systems help quash bias. Second, supply-side theorists argue that formal employment practices attract women and minorities, who prefer workplaces with meritocratic career systems. Third, feminists describe bureaucratic reforms as formalizing and legitimating biased employer traditions that harm women and minorities.

In quantitative analyses we examine how bureaucratic equity reforms affect the shares of white, black, Hispanic, and Asian men and women in management, following 816 private-sector workplaces over 32 years. We focus on managerial jobs because they have been the hardest to integrate (Stainback and Tomaskovic-Devey 2012). The findings hold implications for theories of inequality remediation and theories of management and regulation. They help explain the slow progress that private-sector employers have made in expanding opportunity: few firms use the managerial-engagement programs we expect to promote diversity, yet many embrace the discretion-control initiatives we expect to incite resistance.

BUREAUCRACY AND BIAS

Theories about the effects of personnel bureaucracy on inequality offer inconsistent predictions. Empirical findings are just as inconsistent (Bielby 2012; Castilla and Benard 2010; Kalev 2014; Kmec 2005; Konrad and Linnehan 1995; Reskin and McBrier 2000), we argue, because different bureaucratic practices have different effects. Thus, while diversity experts recommend both formal recruitment at historically black colleges and objective performance-rating systems, we argue that these two solutions have very different effects on managerial motivation. Recruitment engages managers in finding minority workers and, according to cognitive-dissonance theory, engagement generally fosters commitment. Performance ratings, by contrast, are thought to control managerial bias in promotion decisions and, according to sociologists studying job autonomy and psychologists studying self-determination, workplace controls generally elicit resistance. This leads us to predict that these practices will have different effects on diversity.

Yet particular theories treat quite different formal personnel practices as similar in their effects. First, structural theorists of inequality (Baron and Bielby 1980; Reskin 2000) argue that pervasive stereotypes and implicit associations infect personnel decisions with bias, from decisions about where to recruit workers to assessments of individuals for promotion (Bielby 2000; Cuddy et al. 2009; Fiske 1993; Greenwald and Banaji 1995; Greenwald et al. 2009). Hence, they prescribe both formal recruitment and formal performance ratings.

Second, supply-side theorists suggest that employers who adopt equity reforms attract members of historically disadvantaged groups (Barbulescu and Bidwell 2013; Kang et al. 2014). This is thought to account, in part, for the large number of minority workers in government jobs, which are ruled by highly codified civil-service systems (DiPrete 1989; U.S. Merit Systems Protection Board 1996). Both the structural and the supply-side arguments suggest that all bureaucratic reforms should promote diversity.

Third, feminists argue that bureaucratic systems simply reinforce inequality. In *The Feminist Case against Bureaucracy,* Ferguson (1984:7) argues that bureaucracy creates a veneer of fairness covering traditions that favor white men, a "scientific organization of inequality." Acker (1990:154) argues of bureaucracy: "Rational-technical, ostensibly gender-neutral, control systems are built upon and conceal a gendered substructure." Bureaucratic rules often favor men, as when job descriptions require years of uninterrupted service, excluding parents who take leaves, or when job ladders exclude female-dominated, entry-level jobs from promotion lines (DiPrete 1989:199). Feminists suggest that bureaucratic reforms stall progress.

Personnel managers have championed many bureaucratic reforms as equal-opportunity measures, including all of those we study. We argue that researchers and corporate executives have not accounted for the fact that bureaucratic reforms influence managers and job-seekers in different ways, through engagement, discretion control, transparency, and accountability.

Managerial Engagement: Special Recruitment and Training

Special recruitment and training programs were popularized after John F. Kennedy signed Executive Order 10925 on March 6, 1961, requiring all federal contractors to practice "affirmative action" in achieving equal opportunity by race (Gordon 2000). The idea was that existing recruitment and training systems targeting white men would have to be supplemented with programs for minorities (Dobbin 2009).

We argue that these programs engage managers in finding women and minority candidates for management or in training them. According to cognitive-dissonance and self-perception theories (Bem 1972; Festinger 1957; Festinger and Carlsmith 1959; Ito et al. 2006; Mori and Mori 2013), when people behave in accordance with certain ideas, their attitudes migrate toward support of those ideas (Cooper and Fazio 1984; Zanna and Cooper 1974). Festinger's insight was that when peoples' behavior conflicts with their beliefs, they face cognitive dissonance and are motivated to align actions and thoughts. Managers who participate in special recruitment and training programs should therefore come to favor—and champion—diversity.

Special recruitment programs. Annual recruitment of management talent has been part of the bureaucratic personnel toolkit since at least the 1930s, when over half of medium and large employers had formal high-school and college recruitment programs (Peirce School 1935). Soon after Kennedy's 1961 affirmative-action order, experts advised firms to recruit underrepresented groups just as they recruited white men. Lockheed-Marietta's personnel chief reported that he would "aggressively seek out more qualified minority group candidates" by visiting predominantly black high schools and colleges (Gordon 2000:7). Today, companies like Target Stores and General Mills have formal recruitment programs for women and minorities (DiversityInc 2010; Rodriguez 2007:69). Managers typically volunteer, or are dragooned by the talent acquisition team, to help. Facebook CEO Mark Zuckerberg and Chief Technical Officer Mike Schroepfer visit Stanford's introductory computer science class every year to encourage women to apply (DiversityInc 2010). In our survey we asked whether, for management jobs, employers had "special programs for recruiting minorities, such as sending recruiters to historically black colleges or black communities," and whether they had "special programs for recruiting women, such as sending recruiters to women's colleges."

Management training and targeted nomination of women and minorities. Management training has also been part of personnel's long-standing toolkit, and many firms added management-training programs after passage of the Civil Rights Act in the hope of attracting women and minorities (Boyle 1973; Holzer and Neumark 2000). Training sessions covering leadership, managing change, financial planning, and so on can be spread out over months or concentrated in a few days or weeks. Supervisors usually nominate trainees. When firms found that white men took most of the seats (Knoke and Ishio 1998), some created special nomination systems, appealing to supervisors to put forward names of women and minorities. In 1979, the Supreme Court found targeted nominations and quotas for training programs to be legal (Stryker 1996). In most companies, women and minorities participate in the regular training programs, but a number of companies also create special curricula. Some firms recruit new hires directly to management training (http://www.hyatt.jobs/university-recruiting/mgmt-training-program/). These programs engage managers in diversity efforts by encouraging them to nominate women and minorities and then to serve as instructors in training modules.

We suggest that these programs will increase support for diversity among participating managers by engaging them in recruiting, nominating, and training women and minority management trainees. Cross-sectional evidence suggests that both programs are associated with greater racial, ethnic, and gender diversity (Holzer and Neumark 2000; Konrad and Linnehan 1995).

> *Hypothesis 1:* Special recruitment and management-training initiatives will promote management diversity.

Managerial Discretion Control: Performance Ratings, Job Tests, and Grievance Systems

A second group of reforms fights discrimination in a very different way: by trying to prevent managers from practicing discrimination. Personnel managers who advocate these reforms often look to principles that unions advocated in the 1930s to shield leaders from retaliation (Baron and Bielby 1980; Dobbin et al. 1993; Jacoby 1984; Kochan, Katz, and McKersie 1994). Sociologists of organizations argue that employers can "reduce attribution errors by routinely collecting concrete performance data and implementing evaluation procedures in which evaluators rely exclusively on these data" (Reskin and McBrier 2000:233; see also Bielby 2000). Job tests and performance ratings provide quantitative rubrics for making hiring and promotion decisions. To quash bias in personnel decisions, employers stipulate that hiring managers must choose from among top-scoring candidates. Grievance systems provide a way for employees to challenge discrimination and for firms to discipline offending managers. In discrimination suit settlements, judges and plaintiff attorneys have favored job tests, performance evaluations, and grievance systems (Edelman et al. 2011; Schlanger and Kim 2014).

All three practices are thought to limit managers' discretion. Following job-autonomy and self-determination theories, we argue that such practices can backfire. Sociologists of work find autonomy and the absence of intrusive controls on work to be key predictors of job satisfaction and performance (Hodson 1996; Judge et al. 2001; Lamont 2000). Workers who lack autonomy try to assert control through sabotage, goldbricking, and resistance to organizational goals (Gouldner 1954; Hodson 1991a, 1991b; Roy 1952). In the lab, self-determination theorists find that constraints on autonomy elicit resistance and rebellion. People routinely subvert external controls to assert personal control (Brehm and Brehm 1981; Silvia 2005). Managers are often hemmed in by the kinds of rules and regulations thought to elicit backlash (Dobbin and Boychuk 1999).

In laboratory studies, whites resist external controls on racial prejudice (Galinsky and Moskowitz 2000; Plant and Devine 2001). Legault, Gutsell, and Inzlicht (2011) examine whether prejudice-reduction interventions actually reduce prejudice. When subjects are encouraged to reduce prejudice and led to think that they are externally motivated, both explicit (conscious) and implicit (subconscious) prejudice actually increase. In half a dozen experiments, Kaiser and colleagues (2013) find that whites and men become blind to discrimination—and react more harshly against claims of it—when they are told their employers have anti-discrimination practices (see also Castilla and Benard 2010; Plaut, Thomas, and Goren 2009). Practices designed to control managerial prejudice may thus backfire.

Job tests. Mandatory job tests for external and internal candidates were popularized as a means of ensuring that managers select employees based on ability, not race or gender. Early job tests were criticized by personnel psychologists as biased against women and blacks (Bayroff 1966; Bureau of National Affairs 1967), and the Supreme Court directed firms to use scientific methods to eliminate test bias (*Griggs v. Duke Power Company*, 401 U.S. 424, 431–32 [1971]). Validated job tests became a legally certified weapon against discrimination (Stryker, Docka-Filipek, and Wald 2012). For management jobs, most employers use standardized paper-and-pencil tests, and some add role-playing or tests embedded in interviews (Berry, Clark, and McClure 2011).

However, evidence suggests that hiring managers resist the formal control of job tests by administering tests selectively or ignoring results. At Swift meatpacking in the 1950s, white managers would tell black workers they had failed without scoring the test and then promote white workers without administering it (Purcell 1953). In the 1960s, some Boston firms instituted job tests as a way to rebuff black applicants, telling all blacks they had failed (Puma 1966:36, 154). A study of recent complaints to the Ohio Civil Rights Commission found managers using tests to reject black applicants. When a black equipment operator charged promotion discrimination, his managers testified that multiple-choice tests were scored subjectively and, by company policy, destroyed after scoring (Mong and Roscigno 2010:10).

Performance evaluations. Performance evaluations date back to the 1920s (Baron, Dobbin, and Jennings 1986). Since the 1960s, personnel managers have argued that firms can quash discrimination by using performance evaluations that provide a quantitative scorecard for each employee in pay, promotion, layoff, and discharge decisions (Peskin 1969:130). Scores submitted by direct supervisors prevent hiring managers from favoring their low-scoring friends. In 1974, a *Personnel* article championed objective metrics to promote fairness and efficiency: "Performance reviews should . . . be based on solid criteria available to all concerned parties." This would allow more efficient use of talent, which "coincidentally . . . ties in with the intent of [federal equal-opportunity] guidelines" (Froehlich and Hawver 1974:64). Evaluations may include objective measures of production output or sales, but in many firms rubrics also include subjective scores covering efficiency, leadership, and teamwork.

Field and laboratory research shows that supervisors rebel against the control of performance ratings. In firms that use mathematical formulas to link compensation to objective ratings, managers have been shown to interpret the scores subjectively to pay their cronies more (Castilla 2008; Shwed and Kalev 2014). Studies of subjective scoring rubrics show that supervisors resist by giving higher scores to workers who share their race, ethnicity, and gender (Hamner et al. 1974; Heilman 1995; Kraiger and Ford 1985; Oppler et al. 1992; Pulakos et al. 1989; Roth, Huffcutt, and Bobko 2003; Tsui and Gutek 1984). This may be due to unconscious in-group bias, but some studies suggest that managers deliberately circumvent evaluation systems to favor particular groups (Auster and Drazin 1988) or to justify discriminatory decisions (Roscigno 2007). White men typically benefit from in-group bias because white men fill out most evaluations (Bartol 1999; Elvira and Town 2001; McKay and McDaniel 2006; Roth et al. 2003).

Civil-rights grievance procedures. Formal grievance systems were pioneered in union firms in the 1930s to protect union leaders from managerial retaliation (Dobbin 2009). From the early 1970s, personnel experts advised firms to put in non-union grievance procedures for workers with complaints of race, ethnic, and sex discrimination (Marino 1980:32). Complaints go to a tribunal with the power to discipline managers, overturn their decisions, and compensate complainants (Edelman et al. 2011:919).

Managers appear to rebel against grievance systems, which threaten their autonomy by opening them to rebuke (Edelman 1992:1543). Edelman, Uggen, and Erlanger (1999) find that grievance systems do not reduce civil-rights complaints to the government, concluding that employers often circumvent them when charges arise. Courts have found that firms facing complaints sidestep civil-rights and sexual-harassment grievance procedures (*Burlington Industries v. Ellerth,* 524 U.S. 721 [1998]; *Faragher v. City of Boca Raton,* 524 U.S. 775 [1998]). Federal discrimination filings suggest that managers retaliate when workers do complain. Almost 40 percent of the 99,412 charges the Equal Employment Opportunity Commission (EEOC) received in 2012 cited retaliation for the complaint (http://www.eeoc.gov/eeoc/statistics/enforcement/charges.cfm; see also Mong and Roscigno 2010; Roscigno 2007).

We argue that discretion-control initiatives may elicit resistance and rebellion and thereby have adverse effects on managerial diversity. For instance, if managers react to efforts to control them by hiring white friends without administering job tests, lowballing women on performance evaluations, or retaliating against workers who file civil-rights grievances, we expect management diversity to decline.

> *Hypothesis 2:* Formal job tests for management jobs, performance evaluations, and civil-rights grievance procedures will decrease managerial diversity.

Transparency for Applicant Diversity and Managerial Accountability: Job Postings and Job Ladders

Internal job-posting requirements and written job ladders were championed by unions in the 1930s as a means of making promotion tournaments transparent to prevent discrimination against union leaders (Baron et al. 1986). Beginning in the 1960s, equal-opportunity experts argued that postings and ladders advance fairness by ensuring that all insiders know about job opportunities and eligibility (Dobbin 2009). The courts have favored job-posting systems and job ladders as anti-discrimination measures (*Rowe v. General Motors Corp*., 457 F.2d 348, 359 [5 Cir. 1972]).

We argue that transparency operates through two mechanisms. First, it can increase applicant diversity by ensuring that existing employees are aware of openings and rules for eligibility (Reskin 2000). Second, it can subject managers to accountability for their promotion decisions. Research shows that when wages are transparent, race and gender differences decline because inequality is apparent to all and can be redressed (Castilla 2015; Rissing and Castilla 2014), which renders managers accountable for their decisions. This may activate "evaluation apprehension" (Cottrell 1972) by making managers aware that colleagues and applicants can evaluate their decisions for signs of bias.

Job postings. Job-posting policies require hiring managers to post all promotion and transfer opportunities open to current employees. After unions negotiated for open job-bidding systems in the 1930s, personnel offices posted all openings on bulletin boards. Equal-opportunity advocates championed job postings to give women and minorities the chance to apply for openings before managers filled them (Baron and Bielby 1980; Boyle 1973; Giblin and Ornati 1974). Today, posting policies require that openings are put on a bulletin board or on the intranet for a specified period before advertising externally or filling the position internally. Job posting renders new opportunities known to all, which should diversify the applicant pool.

Job ladders. Formal job ladders stipulate eligibility for jobs and pathways upward from entry-level jobs, thereby making clear which current employees are eligible for which openings (DiPrete 1989:197), although historically they have worked against women and minorities who are crowded into lower-level jobs with no rungs above them (DiPrete 1989:199). After the passage of the Civil Rights Act, equal-opportunity experts advocated formalization of job ladders, with particular attention to ensuring that lower-level jobs dominated by women and minorities were integrated into promotion ladders that reached into management (Boyle 1973; Giblin and Ornati 1974). Over the next two decades, job ladders tripled in popularity, reaching 30 percent of firms (Dobbin 2009:121).

If transparency in job availability (job-posting systems) and eligibility (job ladders) increases the applicant pool and activates evaluation apprehension among managers, we can expect it to promote managerial diversity.

> *Hypothesis 3:* Job-posting systems and formal job ladders will increase management diversity.

Accountability through Monitoring: Diversity Managers and Federal Monitors

The fourth type of bureaucratic reform is based on Weber's (1978) assertion that to achieve specific goals, organizations should appoint experts to take charge. Equal-opportunity consultants advise firms to hire full-time experts to promote equity, track changes in the law, and identify promising equal-opportunity innovations (Boyle 1973; Edelman 1990).

We argue that diversity managers will help firms advance opportunity, not simply through professional specialization (Kalev et al. 2006), but by making hiring managers feel accountable for their decisions. The U.S. government created a system of regulatory monitoring for federal contractors that we expect to have similar effects. In their organizational theories of inequality, Reskin (2000) and Bielby (2000) build on accountability theory, which suggests that when people think they will be asked to account for a decision, they suppress bias (Tetlock 1992; Tetlock and Lerner 1999). Evaluation apprehension (Cottrell 1972), or the concern that one's decisions will be reviewed, has been shown to reduce bias in hiring experiments (Kruglanski and Freund 1983).

Diversity managers. Full-time equal-opportunity managers began to gain ground after Kennedy's 1961 affirmative-action order. Employers charged them with coordinating compliance and promoting integration. Some argue that they are no more than window-dressing (Edelman 1992), yet studies show that diversity managers improve the efficacy of equity reforms by activating accountability (Castilla 2008; Hirsh and Kmec 2009; Kalev et al. 2006). Diversity managers report that one of their primary duties is to question managerial decisions. According to a Massachusetts electronics-industry diversity manager: "[My] role is making sure that we have not overlooked anybody. [We get] pushback from managers when we have internal postings for jobs, but [my job is] making sure [the manager] really thought through their decision. I would keep asking—why *this* person, why not *that* person?" (quoted in Dobbin and Kalev 2015:180–81).

Federal-contractor status. We expect regulatory accountability will have similar effects. The Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) conducts on-site reviews of affirmative-action compliance in federal contractors (Anderson 1996). Firms with contracts or subcontracts of at least $10,000 are subject to reviews scrutinizing personnel practices and results. Contractors saw better-than-average improvements in gender and racial diversity in the 1970s (Leonard 1989, 1990). Theory and lab studies suggest that "evaluation apprehension," rather than the evaluation itself, causes people to scrutinize their own behavior for signs of bias (Cottrell 1972; Sturm 2001). We thus expect that becoming a federal contractor *subject* to monitoring, rather than *experiencing* a compliance review, improves the effects of bureaucratic reforms on managerial diversity.

We expect the prospect of evaluation by either a local diversity manager or the Department of Labor will cause hiring managers to scrutinize their own behavior for signs of bias and to take seriously the potential of bureaucratic personnel practices adopted to promote equity. Evaluation apprehension may also undercut rebellion against discretion-control practices, leading hiring managers to use those practices to promote diversity. Both forms of monitoring should catalyze the effects of equity reforms.

> *Hypothesis 4:* Monitoring by diversity managers or federal regulators will improve the effects of formal personnel policies on managerial diversity.

DATA AND METHODS

We analyze data on workforce composition in 816 establishments between 1971 and 2002. We examine the effects of bureaucratic reforms and monitoring on white, black, Hispanic, and Asian men and women in management. We use panel-data models with fixed effects for year and establishment.

Data

We combine EEOC data on workforce composition in private-sector workplaces with our own organizational survey data on employer personnel practices and federal data on labor-market characteristics.

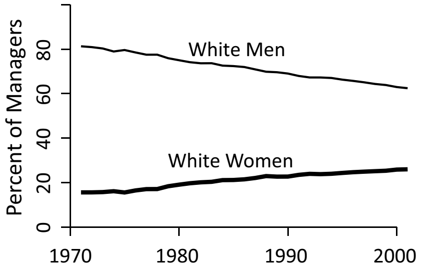

Figure 1. White Men and Women in Management

EEOC data. All private employers with more than 100 employees, and government contractors with more than 50 employees and contracts worth $10,000, file annual EEO-1 reports detailing employee race, ethnicity, and gender for nine occupational groups. Excluded employers, such as state and local governments, schools, and colleges, provide different reports (U.S. EEOC n.d.). There are no better longitudinal data on workforce composition (Stainback and Tomaskovic-Devey 2012). We obtained data from the EEOC through an Intergovernmental Personnel Act agreement.

To estimate change in managerial diversity we model the log odds of each group in management. Figures 1 and 2 present demographic trends in the sample. White men held 81 percent of management jobs in the average establishment in 1971 and 61 percent in 2002. White women rose from 16 to 26 percent; black women from .4 to 1.8 percent, black men from 1 to 3.1 percent; Hispanic men from .6 to 2.5 percent; Hispanic women from .1 to .9 percent; Asian men from .5 to 1.8 percent; and Asian women from .1 to .7 percent.[1] Because our sample excludes smaller and younger firms and public-sector workplaces, it underrepresents diversity in the national managerial workforce.

Because each minority group holds few management jobs in the typical firm but many in some firms, distributions are skewed. To ensure our estimates are robust to extreme values, we take the log of the odds of each group being in management. We log the odds rather than the proportion because the conditional distribution of log odds is closer to normal (Fox 1997:78).[2]

Organizational survey data. We randomly sampled establishments that submitted EEO-1 reports in 1999, choosing half from the group that submitted EEO-1 reports since at least 1980 and half from the group that submitted since at least 1992. We sampled 35 percent from establishments with fewer than 500 employees in 1999. We sampled firms in food, chemicals, electronics equipment, transportation equipment, wholesale trade, retail trade, insurance, business services, and health services, selecting no more than one establishment per parent firm. We follow establishments through changes in ownership.

The modal respondent was a human-resources manager with 11 years of tenure. In phone interviews, we asked about years in which each of several dozen personnel practices were in place. When a respondent could not answer a question, we asked her to consult colleagues or records, following up by e-mail, phone, and fax. The 833 completed interviews represent a response rate of 67 percent, which compares favorably with other surveys (Kalleberg et al. 1996; Kelly 2000; Osterman 1994, 2000).

We matched survey responses with EEO-1 reports to create a dataset with establishment-year spells. We exclude 17 establishments with large numbers of missing EEO-1 or survey items, leaving data on 816 establishments for 18,452 establishment-years. We analyze a minimum of four years of data per establishment, a maximum of 32, and a median of 25. The Bureau of Labor Statistics and the Census provide data on state unemployment, industry size, and the representation of white, black, and Hispanic men and women in the industry and state labor markets. In reported models we exclude state and industry labor-market data on Asians, which are not available for the full period. To test whether lack of group data affects the findings, we ran models without labor-market data for any group. Results did not change.

We use binary measures for the eight bureaucratic personnel practices, with 1 representing presence in a given year. Table A1 in the Appendix lists the question wording for

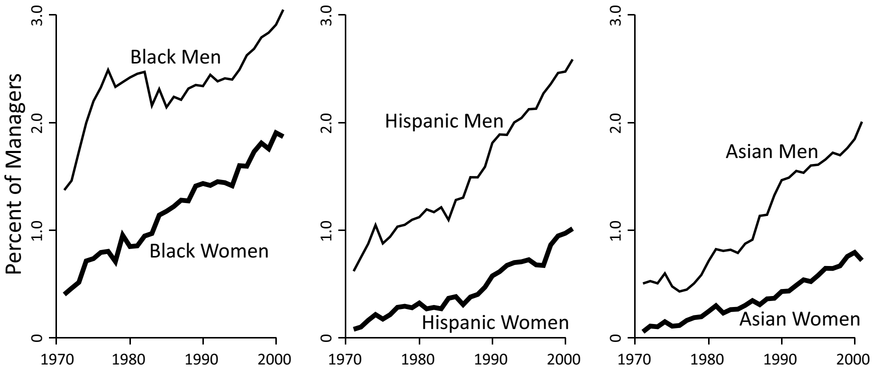

Figure 2. Minority Men and Women in Management

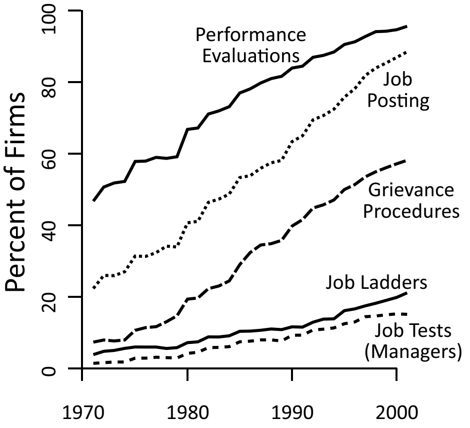

Figure 3. Discretion-Control and Transparency Reforms

these variables. Figure 3 presents the proportion of firms in the sample with each of the *discretion-control* and *transparency* practices over time. The denominator varies as establishments enter the federal dataset through founding or by meeting the size cutoff. Each reform grew in popularity. About a fifth of firms put in job ladders by 2002. Fewer put in job tests for managers (the reform we examine), but 40 percent put in tests for non-managers. More than half created civil-rights grievance systems, four-fifths created job-posting systems, and over nine-tenths implemented performance ratings. Figure 4 presents the *managerial-engagement programs*. By 2002, over 60 percent of firms had management-training programs. Special recruitment programs and training enrollment programs were less popular.

Table 1 presents summary statistics for key independent variables (Table A2 in the Appendix reports summary statistics for control variables). For three of the personnel practices, year of adoption data were missing for between 5 and 9 percent of cases. For the other practices, data were missing for well below 5 percent. We imputed missing values using ordinary least squares (OLS) regression with industry, establishment age, and headquarters status. Results were robust to the exclusion of establishment-years with missing observations.

Controls

We control for firm features, legal factors, and labor-market characteristics that have been shown to influence workforce diversity.

Firm features. We control for the diversity-management initiatives examined in previous work (Kalev et al. 2006): affirmative-action plan, diversity committee/taskforce, diversity training, diversity performance evaluations, affinity networking systems, and diversity mentoring. We include job advertisement policy. These are measured based on survey items (see Table 1). Diversity committees moderated effects of diversity reforms in a previous study (Kalev et al. 2006), but they did not affect the bureaucratic reforms we examine here.

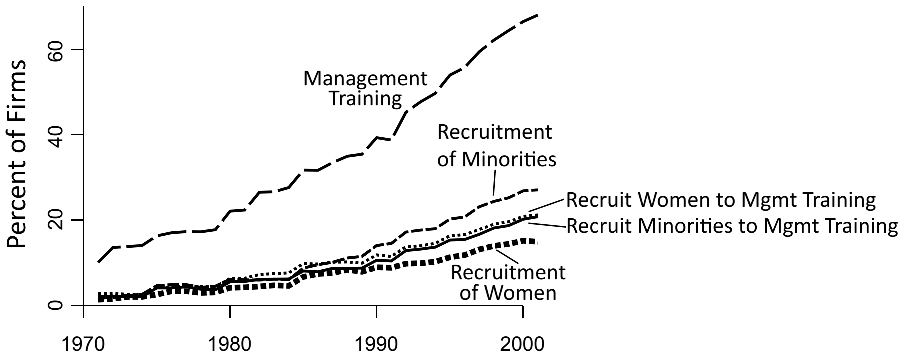

Figure 4. Managerial-Engagement Reforms

Table 1. Means and Standard Deviations of Key Variables Used in the Analysis

	Mean	SD	Min.	Max.	Source
Proportion of Managers from Group					
White men	.702	.236	.000	1.000	EEO-1
White women	.220	.213	.000	1.000	EEO-1
Black men	.024	.058	.000	1.000	EEO-1
Black women	.013	.040	.000	.667	EEO-1
Hispanic men	.017	.050	.000	.714	EEO-1
Hispanic women	.005	.021	.000	.500	EEO-1
Asian men	.012	.044	.000	.851	EEO-1
Asian women	.004	.018	.000	.500	EEO-1
Managerial-Engagement Reforms					
College recruitment: women	.084	.277	0	1	Survey
College recruitment: minorities	.137	.344	0	1	Survey
Management training	.394	.489	0	1	Survey
Recruit women to management training	.116	.320	0	1	Survey
Recruit minorities to management training	.107	.309	0	1	Survey
Discretion-Control Reforms					
Internal job postings	.599	.490	0	1	Survey
Performance evaluations	.791	.407	0	1	Survey
Grievance procedures	.358	.480	0	1	Survey
Transparency Reforms					
Job tests	.088	.284	0	1	Survey
Job ladders	.120	.325	0	1	Survey
Federal Contract	.481	.500	0	1	EEO1/ Survey
Diversity Manager	.070	.256	0	1	Survey

Note: *N* = 18,452. Descriptive statistics for labor-market and economic variables and other organizational characteristics are listed in Table A1 in the Appendix.

We control for hiring, promotion, and firing *guidelines* that provide broad principles for personnel decisions. Because these guidelines do not mandate specific changes in practice, as job-posting or performance-evaluation systems do, we expect them to have little effect (Ferguson 1984; Meyer and Rowan 1977).

Organizational workforce expansion, measured by log firm size (employment), creates new career opportunities (Baron, Mittman, and Newman 1991), but it may also increase competition for posts by signaling a firm's good fortune. Growth in *industry size* (employment) may have similar effects. A growing managerial ratio (managers/non-managers) increases promotion opportunities. Konrad and Linnehan (1995) and Leonard (1990:52) find that expansion of management jobs helps white women but not blacks. *Union presence* tends to preserve segregation by favoring long-standing employees through seniority provisions (but see Kelly 2003). The union variable also controls for union grievance procedures, because unions unfailingly negotiate grievance procedures. An in-house *legal department* or *human-resources department* may discourage discrimination (Edelman and Petterson 1999; Holzer and Neumark 2000; Kalev 2014). *Work/family policies* may help mothers and fathers succeed in the workplace (Williams 2000) (index components are shown in Table A1 in the Appendix). *Top-management-team diversity* (percent of the 10 top managers who are women; percent who are black) may promote diversity by challenging stereotypes (Huffman 2013). *Peer performance evaluations,* an alternative to supervisory evaluations, may counter the effects of in-group bias among white male managers.

Legal sanction. Discrimination *lawsuits, EEOC charges,* and affirmative-action *contract compliance reviews* for federal contractors should heighten attention to workplace equity and thereby promote diversity. These factors have shown positive effects in previous studies (Baron et al. 1991; Kalev and Dobbin 2006; Leonard 1989, 1990; Skaggs 2001, 2008). Demand for workers from underrepresented groups may be higher in industries with a higher *percent of federal contractors* (McTague, Stainback, and Tomaskovic-Devey 2009), which could dampen firm-level growth in diversity.

Labor market and economic environment. Corporate diversity is affected by *internal and external labor pools* (Cohen, Broschak, and Haveman 1998; Shenhav and Haberfeld 1992). For the external labor pool, we control for the representation of six gender-by-race/ethnicity groups in the national industry labor market (two-digit Standard Industrial Code) and in the state labor market. We control for *regional unemployment,* because in recessions, minorities and women are more vulnerable to layoffs (Elvira and Zatzick 2002). For the internal labor market, we control for each group's representation in all non-management jobs and in the core (most common) job. We also include a binary variable coded 1 when no members of the group are in management.

Methods

We use panel-data models to estimate the effects of reforms on management diversity. We estimate the average effects of reforms for the years each was in place. Most practices were in place for about 10 years. We use firm fixed effects to allay concerns that adopters differ from non-adopters on stable, unmeasured dimensions of importance (Morgan and Winship 2007). To account for environmental shifts, we include year fixed effects. We lag the outcome by one year: we expect program adoption in a given year will start to show effects when demographic composition of the firm is measured in the following year. But findings are not sensitive to this choice; no lag and a two-year lag produce substantively identical but weaker effects, as one would expect if the effects are lasting and if one year is the proper lag. In contrast to Vaisey and Miles (forthcoming), who urge caution in using fixed-effects models with lags, our models use binary, not continuous, treatments and include a large number of panel waves. Pre- and post-treatment outcomes are averaged over many waves, which limits sensitivity to the particular choice of lag.

Error terms for dependent variables are likely correlated, because the composition variables account for all managers (except American-Indian/Alaska-Native and Native-Hawaiian/Pacific-Islander). OLS estimates would be unbiased and consistent but inefficient, so we use seemingly unrelated regression, relying on covariance between the errors to increase efficiency (Zellner 1962). Results are robust to the use of OLS. We discuss additional robustness checks below.

FINDINGS

We present two sets of models. First, we estimate change in management diversity following the adoption of engagement, discretion-control, and transparency reforms. Second, we examine the effect of monitoring by using interaction variables between reforms and federal-contractor status and between reforms and presence of a diversity manager. We omit interactions with recruitment and training programs, because those showed no effects and did not influence other interactions. In all models in Tables 2 and 3, exponentiated coefficients provide the odds that managers are of a certain group. A significant positive coefficient indicates that in the years following the adoption of a given reform, the group's share of management positions increases. The typical treatment period is 10 years, and coefficients reflect the average effect of a reform over the full treatment period. We report coefficients for control variables in appendices.

Effects of Managerial-Engagement, Discretion-Control, and Transparency Reforms

Table 2 presents model coefficients, and Figure 5 presents point estimates and 95 percent confidence intervals based on those coefficients. As we anticipated in Hypothesis 1, special recruitment and training programs show only positive effects for historically disadvantaged groups. Recruitment programs for women lead to increases in all underrepresented groups except Hispanic men and to reductions in white men. Recruitment programs for women increase the share of management jobs held by Asian men by 18 percent and the shares of each other group by roughly 10 percent.[3] In the average workplace, they boost white women managers from 22.0 to 24.3 percent. Recruitment for minorities, which often targets historically black schools, increases black men's and black women's share of management jobs by about 9 percent each. Management-training programs help white women, increasing their share of management jobs by 4 percent. Programs to draw women to management training increase white women's and Asian men's share of management jobs by 11 percent each and reduce white men in management. Both types of special recruitment for women have spillover effects for minority men, but programs to recruit minorities to management training show no effects.

As we anticipated in Hypothesis 2, discretion-control initiatives do not look promising, showing only null or negative effects. The Supreme Court's 1971 decision in *Griggs v. Duke Power* should have put an end to discriminatory job tests, yet tests show negative effects for all underrepresented groups but Asian men. Performance evaluations show negative effects for white women. Grievance procedures show negative effects for all underrepresented groups but Hispanic men. Efforts to constrain managerial autonomy appear to backfire.

The transparency initiatives fare better, as predicted in Hypothesis 3. Job postings help white and Hispanic women. Job ladders help Asian men, Asian women, and black men and reduce the share of white men in management.

Diversity managers increase the prevalence of all seven underrepresented groups in management. Controlling for the presence of

Table 2. Estimates of the Log Odds of Eight Demographic Groups in Management Following Personnel Innovations, 1971 to 2002

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Managerial-Engagement Reforms								
Special Recruitment: Women	–.063*	.129***	.078**	.085***	.063	.096**	.171***	.083**
	(.027)	(.027)	(.025)	(.023)	(.038)	(.033)	(.037)	(.032)
Special Recruitment: Minorities	–.038	.034	.076***	.087***	–.016	.019	–.025	.036
	(.021)	(.022)	(.020)	(.018)	(.030)	(.027)	(.030)	(.025)
Management Training	–.015	.050***	.016	.007	.016	.014	.035	–.009
	(.014)	(.015)	(.013)	(.012)	(.020)	(.018)	(.020)	(.017)
Recruit Women to Management Training	–.128***	.135***	–.046	.029	–.035	.007	.108*	–.043
	(.035)	(.036)	(.032)	(.030)	(.049)	(.044)	(.048)	(.041)
Recruit Minorities to Management Training	.012	–.008	–.035	.035	.057	–.041	–.058	.034
	(.035)	(.037)	(.033)	(.031)	(.050)	(.045)	(.050)	(.042)
Discretion-Control Reforms								
Job Tests for Managers	–.020	–.050*	–.110***	–.097***	–.071*	–.093**	–.046	–.098***
	(.024)	(.025)	(.022)	(.021)	(.034)	(.030)	(.034)	(.029)
Performance Evaluations	.014	–.059***	.013	–.011	–.034	–.018	–.002	–.025
	(.016)	(.017)	(.015)	(.014)	(.023)	(.020)	(.023)	(.019)
Grievance Procedure	–.005	–.036*	–.078***	–.050***	–.044	–.048*	–.121***	–.042*
	(.016)	(.017)	(.015)	(.014)	(.023)	(.020)	(.023)	(.019)
Transparency Reforms								
Job Postings	–.015	.056***	.002	.014	–.003	.069***	–.020	–.010
	(.015)	(.016)	(.014)	(.013)	(.022)	(.019)	(.021)	(.018)
Job Ladders	–.114***	.034	.099***	.015	.024	–.002	.074*	.081**
	(.023)	(.024)	(.022)	(.020)	(.033)	(.029)	(.033)	(.028)
Federal Contract	.024	.021	–.023	–.041**	–.078**	–.030	–.048*	–.029
	(.017)	(.018)	(.016)	(.015)	(.024)	(.022)	(.024)	(.020)
Diversity Manager	.006	.062*	.142***	.161***	–.034	.193***	.066	.177***
	(.027)	(.028)	(.025)	(.023)	(.038)	(.034)	(.037)	(.032)
Constant	.171***	–.124**	–.028	.009	–.108	.007	–.030	–.001
	(.041)	(.042)	(.038)	(.035)	(.058)	(.051)	(.057)	(.049)
R^2	.333	.310	.274	.360	.318	.336	.360	.377

Note: N = 816 organizations, 18,452 organizational spells. Coefficients for 40 control variables are reported in Table A2 in the Appendix. Models include fixed effects for establishment and year. Standard errors are in parentheses.
$^*p < .05$; $^{**}p < .01$; $^{***}p < .001$ (two-tailed tests).

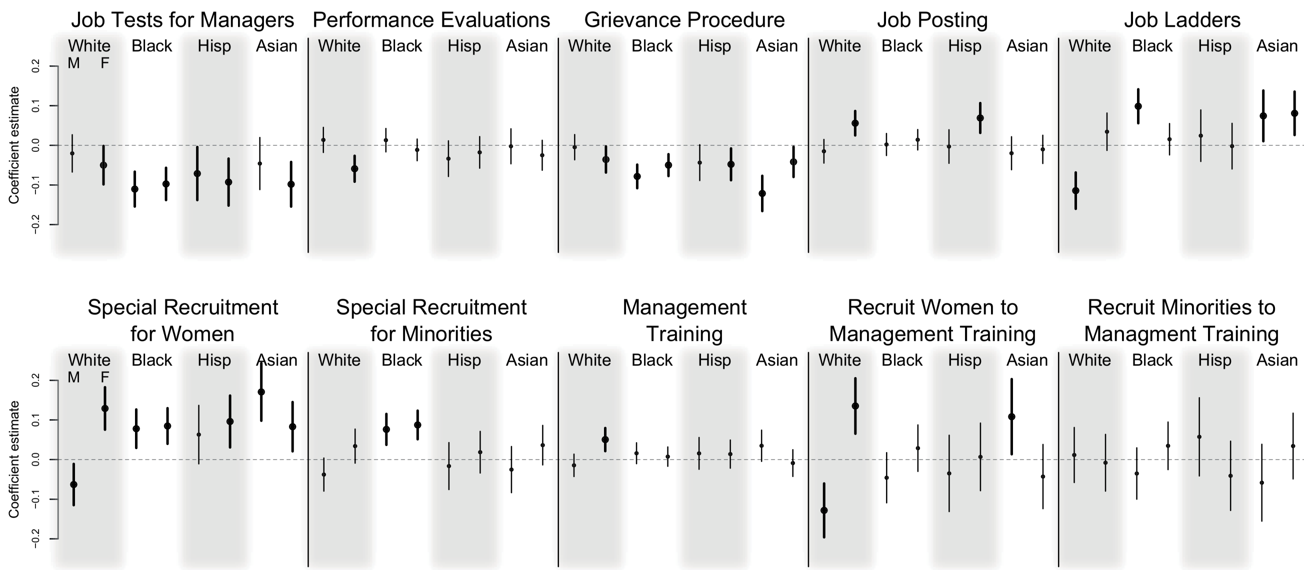

Figure 5. Estimates of the Log Odds of Eight Demographic Groups in Management Following Adoption of Transparency and Discretion-Control Reforms (top) and Managerial-Engagement Reforms (bottom), 1971 to 2002, Based on Table 2

Note: Dots correspond to point estimates, and bars are the 95 percent confidence intervals for the estimates. Estimates whose intervals do not cross zero are significant at .05 or better, and they are shown in bold. For each race, group estimates for men are on the left and estimates for women are on the right.

bureaucratic innovations, federal contracts show negative effects for black women, Hispanic men, and Asian men. This may be because obtaining a federal contract makes an employer more attractive, increasing applicants from both minority and majority groups (Kalev et al. 2006).

Stimulating Accountability: Diversity Managers and Regulators

Next we test the idea, set out in Hypothesis 4, that monitoring—by local diversity experts or federal regulators—can catalyze program effects. Using survey data on diversity managers and an EEO-1 item on federal-contractor status, we examine reform effects with and without monitoring. For engagement initiatives, interactions with the two forms of monitoring produced weak effects and no clear pattern. We conclude that the effects of recruitment and training programs do not depend on monitoring.

Table 3 presents coefficients for each discretion-control and transparency practice without monitoring (main effect) and for the interaction with each type of monitoring. Figure 6 shows the 95 percent confidence intervals. Effects of transparency and discretion-control reforms are clearly moderated by regulatory and managerial monitoring. The non-interacted coefficients in Table 3 show that without monitoring, reforms are even less effective than they appeared to be in Table 2.

The interaction terms reported in Table 3 estimate the additional effect of the program when monitoring is present. Discretion-control reforms work significantly better under monitoring. Of the 80 interaction terms, 27 show positive effects on managerial diversity and three show negative effects. Figure 6 compares the 95 percent confidence intervals of effects among adopters with *no* federal contract or diversity manager (top panel) to those with such monitoring, using linear combinations of each practice and its interactions (middle and bottom panels).

Monitoring improves program effects but Figure 6 shows that in many cases it merely eliminates negative effects. Without monitoring, performance evaluations help white men and hurt white women. With a federal contract, these effects disappear, and with a diversity manager, evaluations help black men, black women, and Hispanic women. Job tests without monitoring reduce the share of management positions for white women (10 percent), black men (13 percent), black women (14 percent), Hispanic men (15 percent), Hispanic women (17 percent), Asian men (11 percent), and Asian women (13 percent). With a federal contract, these negative effects disappear, and with a diversity manager, all disappear except those for black men and black women.

About half of firms had grievance procedures by 2002, and these reduce the share of white women (3 percent), black men (8 percent), black women (5 percent), Hispanic men (6 percent), Hispanic women (5 percent), and Asian men (12 percent). As shown in Figure 6, federal monitoring eliminates all but the negative effects for black men and black women. With a diversity manager, grievance procedures increase the presence of black men and decrease the share of white women, Hispanic women, and Asian men.

Effects of transparency initiatives also improve with monitoring. Job posting without monitoring shows one positive effect and job ladders show three positive and two negative effects. A federal contract eliminates the negative effects. A diversity manager both eliminates the negatives and produces eight pro-diversity effects across postings and ladders. Note that in the middle and bottom panels of Figure 6, confidence intervals get wider because cell sizes decrease. However, contractor and diversity manager interactions do not merely render coefficients nonsignificant by increasing standard errors; they also move a number of point estimates upward and turn effects positive.

In unreported analyses we examined whether (1) double monitoring increases accountability, and (2) diversity managers only work in the presence of a contract, or vice versa. Thirteen percent of contractor

Table 3. Estimates of the Log Odds of Eight Demographic Groups in Management Following Personnel Innovations, with Federal Contract and Diversity Manager Interactions, 1971 to 2002

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Discretion-Control Reforms (and interactions with federal-contractor status and full-time diversity staff)								
Job Tests for Managers	.020	–.134***	–.141***	–.152***	–.163***	–.183***	–.123**	–.140***
	(.030)	(.030)	(.028)	(.026)	(.042)	(.037)	(.041)	(.035)
Interact Federal Contract	–.111*	.214***	.107*	.153***	.234***	.232***	.203**	.099
	(.046)	(.047)	(.043)	(.039)	(.065)	(.057)	(.064)	(.054)
Interact Diversity Manager	–.062	.136	–.140*	–.076	.198	.128	.162	.078
	(.073)	(.075)	(.068)	(.063)	(.103)	(.091)	(.101)	(.087)
Performance Evaluations	.061**	–.089***	–.016	.013	–.049	.004	.010	.007
	(.021)	(.022)	(.020)	(.018)	(.030)	(.027)	(.030)	(.025)
Interact Federal Contract	–.095***	.067*	.048	–.065**	.031	–.051	–.029	–.062
	(.028)	(.029)	(.026)	(.024)	(.040)	(.035)	(.039)	(.033)
Interact Diversity Manager	–.062	–.052	.208**	.238***	.035	.202*	.132	–.023
	(.080)	(.082)	(.075)	(.069)	(.114)	(.101)	(.112)	(.095)
Grievance Procedure	–.017	–.041*	–.083***	–.054**	–.064*	–.051*	–.133***	–.030
	(.020)	(.021)	(.019)	(.017)	(.028)	(.025)	(.028)	(.024)
Interact Federal Contract	.010	.041	–.024	–.009	.058	.036	.045	–.031
	(.026)	(.027)	(.025)	(.023)	(.037)	(.033)	(.037)	(.031)
Interact Diversity Manager	.039	–.082	.235***	.137**	.033	–.113	–.038	.049
	(.049)	(.051)	(.046)	(.042)	(.070)	(.062)	(.069)	(.059)
Transparency Reforms (and interactions)								
Job Postings	–.002	.062**	–.026	–.030	–.018	.045	–.035	–.037
	(.019)	(.020)	(.018)	(.017)	(.027)	(.024)	(.027)	(.023)
Interact Federal Contract	–.015	–.027	.063**	.104***	.019	.030	.021	.059
	(.026)	(.026)	(.024)	(.022)	(.036)	(.032)	(.036)	(.031)
Interact Diversity Manager	–.134**	.144**	.034	–.009	.179*	.249***	.179*	.040
	(.051)	(.052)	(.047)	(.044)	(.072)	(.064)	(.071)	(.061)

(continued)

Table 3. *(continued)*

	White Men	White Women	Black Men	Black Women	Hispanic Men	Hispanic Women	Asian Men	Asian Women
Job Ladders	–.150***	.115***	.061*	–.022	–.033	–.107**	–.111*	–.057
	(.033)	(.034)	(.031)	(.028)	(.047)	(.041)	(.046)	(.039)
Interact Federal Contract	.051	–.120**	.043	.014	.080	.088	.259***	.152**
	(.039)	(.040)	(.036)	(.034)	(.055)	(.049)	(.054)	(.046)
Interact Diversity Manager	.057	–.071	.060	.177***	.044	.336***	.191**	.331***
	(.052)	(.054)	(.049)	(.045)	(.074)	(.066)	(.073)	(.063)
Managerial-Engagement Reforms (non-interacted)								
College Recruitment: Women	–.064*	.133***	.075**	.083***	.072	.107**	.184***	.092**
	(.027)	(.027)	(.025)	(.023)	(.038)	(.033)	(.037)	(.032)
College Recruitment: Minorities	–.037	.033	.074***	.084***	–.014	.019	–.021	.040
	(.021)	(.022)	(.020)	(.018)	(.030)	(.027)	(.030)	(.025)
Management Training	–.016	.054***	.018	.011	.019	.021	.039	–.004
	(.014)	(.015)	(.013)	(.012)	(.021)	(.018)	(.020)	(.017)
Recruit Women to Management Training	–.121***	.128***	–.049	.025	–.044	.003	.103*	–.044
	(.035)	(.036)	(.032)	(.030)	(.049)	(.044)	(.048)	(.041)
Recruit Minorities to Management Training	.004	.002	–.034	.036	.065	–.040	–.059	.032
	(.036)	(.037)	(.033)	(.031)	(.050)	(.045)	(.050)	(.042)
Federal Contract	.100***	–.026	–.094***	–.056*	–.148***	–.037	–.083*	–.024
	(.027)	(.027)	(.025)	(.023)	(.038)	(.033)	(.037)	(.032)
Diversity Manager	.146	.043	–.209**	–.163*	–.267*	–.230*	–.252*	.050
	(.085)	(.087)	(.079)	(.073)	(.120)	(.107)	(.118)	(.101)
Constant	.177***	–.130**	–.029	.011	–.113	.004	–.031	–.001
	(.041)	(.042)	(.038)	(.035)	(.058)	(.051)	(.057)	(.049)
R^2	.335	.312	.278	.363	.319	.340	.362	.379

Note: N = 816 organizations, 18,452 organizational spells. Coefficients for 40 control variables are reported in Table S1 in the online supplement (http://asr.sagepub.com/supplemental). Models include fixed effects for establishment and year. Standard errors are in parentheses.
*$p < .05$; **$p < .01$; ***$p < .001$ (two-tailed tests).

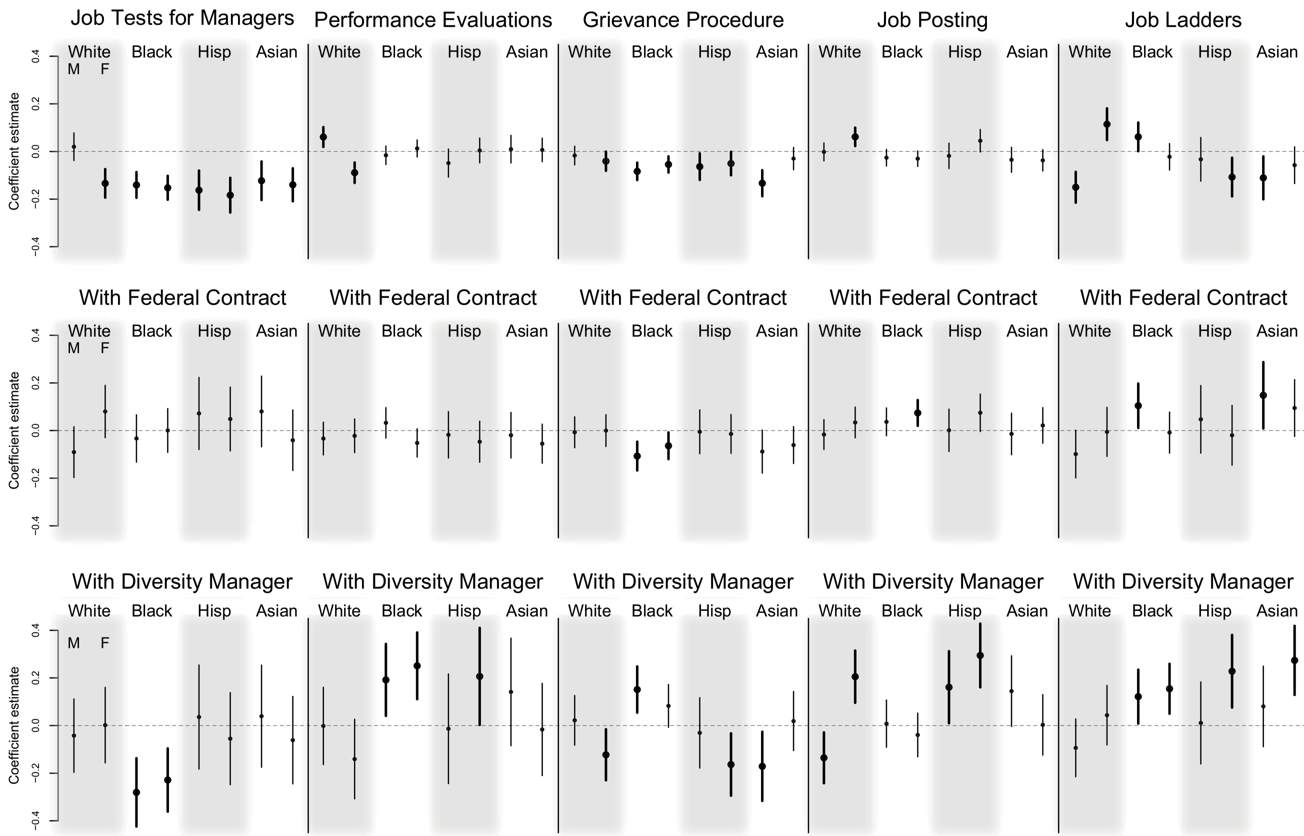

Figure 6. Estimates of the Log Odds of Eight Demographic Groups in Management Following Adoption of Transparency and Discretion-Control Reforms, 1971 to 2002, Based on Table 3

Note: Top: main effect for each practice. Middle: estimate within federal contractors (the linear combination of the practice and the contractor interaction term). Bottom: estimate in establishments with a diversity manager (linear combination). Dots correspond to point estimates, and bars provide 95 percent confidence intervals. Estimates whose intervals do not cross zero are significant at .05 or better (in bold). For each race, estimates for men are on the left and estimates for women are on the right.

establishment-years have a diversity manager, and 77 percent of diversity-manager establishment-years have a contract. When we ran interactions between reforms and each type of monitoring in separate models, results were similar to those shown in Table 3. In models identical to those in Table 3 but with three-way interactions (reform × contract × diversity manager), each type of monitoring shows distinct effects but the two do not have multiplicative effects. The two forms of monitoring appear to operate independently and do not reinforce one another.

We also explored whether monitors are effective only when present at the inception of reforms (analysis not shown). Employers who first make personnel reforms and then become federal contractors see the same interaction effects (practice × contract) as those who first have contracts. The same is true for diversity-manager interactions. Federal contracts and diversity managers improve the effects of both new and existing reforms.

Other Sources of Change

We control for a host of factors thought to affect managerial diversity, as discussed earlier. The results for control variables generally confirm expectations (see Tables S1 and S2 in the online supplement [http://asr.sagepub.com/supplemental]).

Compliance reviews and lawsuits both have positive effects across a number of historically disadvantaged groups. But in an unreported analysis neither those variables nor affirmative-action plans show positive effects in interaction with program innovations,[4] even when diversity-manager and contractor-status interactions are removed. This is consistent with our prediction in Hypothesis 4 that contractor status and the possibility of external evaluation, rather than actual reviews (or lawsuits or compliance planning), moderate program effects. This pattern is consistent with findings from accountability research suggesting that "evaluation apprehension" causes subjects to scrutinize their own behavior for bias.

Robustness Tests

Fixed effects account for unmeasured differences that are constant across years and across establishments. To further examine whether firms that adopt reforms differ from their peers in unmeasured ways that affect diversity, we re-ran models separately for each program using only firms that at some point adopted the program. Results reported in Tables 2 and 3 held up, providing more evidence that unobserved differences between adopters and non-adopters are not driving the results.

To examine the robustness of the results to within-unit AR(1) serial correlation, we tested whether each error is partially dependent on the error of the previous year. We found no evidence that serial correlation affects the findings.

We considered the possibility that effects of some reforms might be obscured by multicollinearity. When we entered the reforms individually, results did not change. Moreover, variance inflation factors (VIFs) show no evidence that multicollinearity influenced the results.

We considered the possibility that some of the non-effects resulted from including large and small firms or different regulatory periods in the same analysis. Interactions did not reveal size-specific or presidential-administration-specific effects.

We also looked into the possibility that an unmeasured change at the firm level, such as a new CEO, brought about new practices plus changes in diversity. For each reform, we omitted post-adoption years and ran identical models, adding a placebo binary variable T equal to 1 in the three years before policy adoption (Heckman and Hotz 1989). This approach offers a stringent test for selection bias. If T shows a significant effect in the same direction as the program effect, unobserved differences between program adopters and non-adopters may be responsible for observed policy effects. T is significant for several reform/group combinations, but the overall pattern of our findings is robust.

CONCLUSIONS

Social scientists have devoted a lot of energy to exploring the causes of inequality in employment but little to exploring remedies. We build on Castilla's (2011) call to bring managers back in to the study of workplace inequality. We argue that the effects of bureaucratic reforms vary depending on how they influence managerial motivation and whether they create labor-market transparency (see also Kalev 2014; Nishii 2015). To scholars who argue that bureaucratic reforms cannot improve opportunity (Acker 1990; Ferguson 1984) and to those who argue that they can (Bielby 2000; Reskin 2000:325), we offer a more complex story. Reforms that engage managers in recruiting and training women and minorities for management posts promote diversity. Those designed to control managerial bias lead to resistance and tend to backfire. Reforms that increase hiring and promotion transparency advance diversity by expanding the applicant pool and eliciting accountability. Accountability to diversity managers or federal regulators, moreover, leads managers to be more attentive to the effects of reforms, rendering discretion-control and transparency reforms more effective.

We use observational data to show that the pattern of effects across reforms is consistent with our theory but not with three other theories. First, structural theorists of inequality (Bielby 2000; Reskin 2000; Reskin and McBrier 2000) suggest that formalized recruitment, hiring, and promotion practices will prevent cronyism and bias, promoting diversity. Second, supply-side theorists (DiPrete 1989) suggest that women and minorities are attracted to employers with formal personnel systems thought to prevent discrimination. Third, feminists (Acker 1990; Ferguson 1984) argue that bureaucratic personnel systems merely legitimate the status quo. These theories suggest that the various bureaucratic personnel reforms will all have either positive or negative effects.

The four types of reform operate in different ways on managers. First, in line with insights from self-perception and cognitive-dissonance theories, we find that reforms that engage managers in recruiting and training women and minorities promote diversity. Previous studies explain positive effects of mentoring with network theory and positive effects of diversity taskforces with accountability theory (Dobbin, Kalev, and Kelly 2007; Kalev et al. 2006), but engagement may help explain both effects. Further research is needed to specify the mechanisms behind each effect. Special college recruitment programs and management-training nomination systems help to promote diversity, but they remain rare—we find them in only 15 to 25 percent of firms.

Second, consistent with insights from studies of job autonomy and self-determination, we find that reforms that control hiring managers' discretion have adverse effects. Job tests and performance ratings are thought to limit managerial latitude in personnel decisions, and civil-rights grievance systems are thought to provide a way for women and minorities to appeal those decisions. Diversity declines following the introduction of all three reforms. Moreover, the negative effects of tests are similar in magnitude across the seven disadvantaged groups, even though average aptitude test scores vary significantly (Berry et al. 2011). This suggests that group test-score differences do not account for job-test effects. We reviewed evidence that managers rebel against these programs. Case studies suggest that managers may corrupt job testing by deceiving unwanted applicants about test results and then hiring cronies without testing them. Lab and field studies show that managers ignore objective performance ratings in fixing compensation and submit biased subjective scores. Organizational research suggests that managers circumvent grievance procedures, and federal data indicate that they retaliate against complainants. Previous studies found poor results of manager diversity ratings and diversity training (Dobbin et al. 2007; Kalev et al. 2006). Our results suggest that rebellion against control may also account for these results (Legault et al. 2011). Adverse effects of discretion-control reforms may contribute to the slow progress on workplace equity in the United States, given that 40 percent of firms have some kind of job testing, half have grievance procedures, and 90 percent have performance ratings.

Third, we find reforms that increase transparency concerning job opportunities and eligibility promote equity, first by diversifying the promotion pool, and second by subjecting hiring managers to evaluation apprehension, causing them to scrutinize their own behavior for signs of bias. Job-posting systems and job ladders have only positive effects on diversity. About 80 percent of firms have postings, but only about 20 percent have job ladders.

Fourth, we find that diversity managers and regulatory monitoring activate accountability in hiring managers (Tetlock and Lerner 1999), improving the efficacy of reforms. Both kinds of monitoring improve the effects of discretion-control and transparency reforms. Diversity managers and contracts similarly catalyze diversity-management programs (Kalev et al. 2006), and monitoring by a legal expert improves effects of formal layoff procedures on workforce diversity (Kalev 2014). While the findings suggest that accountability is a potent tool for limiting backlash, only 10 percent of firms in our sample have diversity managers. Only firms with government contracts are subject to federal compliance reviews.

Our observational method can demonstrate the real-world consequences of bureaucratic reforms, but it does not permit direct examination of the psychological processes at work. In recent years, organizational sociologists and social psychologists have built on each other's findings in studying workplace inequality (Castilla and Benard 2010; Legault et al. 2011). For instance, Kaiser and colleagues (2013) find that pro-diversity structures lead majority-group members to presume organizational fairness and dismiss evidence of discrimination. They suggest this may explain why certain corporate diversity programs fail (Dobbin et al. 2007; Kalev et al. 2006). The results presented here suggest we need a richer understanding of what makes managers tick. Reforms designed to control managers evidently activate rebellion, whereas those thought to engage managers seem to motivate them. Further research from both disciplines is needed to refine our understanding of these mechanisms.

There is growing evidence that integration advances not only societal goals of equity, but employer goals of efficacy (Phillips, Liljenquist, and Neale 2009). Our findings suggest that managers, policymakers, and attorneys should take care in designing personnel reforms. First, although surveys show white and male antipathy toward affirmative-action programs and targeted recruitment (Bielby, Krysan, and Herring 2014; Bobo, Kluegel, and Smith 1997; Heilman 1995; Steeh and Krysan 1996), special recruitment and training programs appear to promote diversity. Perhaps this is because whites exposed to workplace equity programs come to support them (Taylor 1995). It appears that firms need not avoid these reforms for fear of backlash.

Second, executives and judges need to pay attention to social-science evidence on efforts to limit managerial discretion. Performance-rating systems lead judges to presume that firms do not discriminate (Edelman et al. 2011), despite the fact that field and laboratory studies show that bias taints ratings. We find that, on average, performance ratings have negative effects on white women. Peer evaluations, in which co-workers contribute to scores, hold promise (Smith-Doerr 2004); we control for them and find positive effects on white women. Civil-rights grievance systems are approved by judges in one-third of discrimination settlements and consent decrees (Schlanger and Kim 2014), yet our results show these have adverse effects on all seven underrepresented groups. Job tests validated to ensure non-discrimination were vetted in the Supreme Court's landmark *Griggs v. Duke Power* decision in 1971, but our analyses show that job tests implemented after 1971 have adverse effects on all seven disadvantaged groups. Further research on discretion-control reforms is needed, but they may not be the panacea that some hoped they would be.

Finally, monitoring by diversity managers and federal regulators catalyzes transparency and discretion-control reforms, making postings and ladders work better and eliminating some negative effects of tests, performance evaluations, and grievance systems. Diversity managers continue to play an important role in firms, as does the Department of Labor's system of regulatory oversight. Policymakers might explore expanding the range of employers subject to regulatory monitoring.

These findings have implications not only for diversity management, but for management generally. Management has been dominated by theories about economic incentives, rule-making, and the regulation of behavior. Psychological research has long suggested that economic incentives can be counterproductive (Benabou and Tirole 2003). Our findings suggest that the regulation of specific behavior may backfire, but engaging people in helping to achieve organizational goals may succeed by influencing their motives. These ideas are anticipated by psychological studies of self-determination and cognitive dissonance (Festinger 1957), sociological studies of job autonomy (Hodson 1996), anthropological studies of work commitment (Kunda 1992), and journalistic accounts of high-commitment workplaces (Kidder 1981). Students of management should take note.

Half a century after passage of the Civil Rights Act, women and minorities are still underrepresented in corporate management. Our findings help explain the slow progress the United States has made in reducing job segregation and inequality over the past quarter century (Stainback and Tomaskovic-Devey 2012). Corporate practices thought to quell discrimination have frequently activated it.

APPENDIX

Table A1. Employer Survey Wording

Variable	Have you ever (had a) . . .
College Recruitment: Women	special program for recruiting women, such as sending recruiters to women's colleges? . . . to recruit women to managerial jobs?
College Recruitment: Minorities	special program for recruiting minorities, such as sending recruiters to historically black colleges or black communities? . . . to recruit minorities to managerial jobs?
Management Training	general management-training program?
Recruit Women to Mgmt. Training	made special efforts to recruit women into this general management training?
Recruit Minorities to Mgmt. Training	made special efforts to recruit minorities into this general management training?
Job Tests for Managers	administered skill tests for job candidates? For which jobs: Managerial?
Performance Evaluations	written performance evaluations?
Grievance Procedure	formal grievance procedure for non-unionized employees?
Job Posting	policy about posting open positions internally?
Job Ladder	written promotion ladder?
Diversity Manager	Either: staff position whose main responsibility is to handle workforce diversity issues? Or: staff person in charge of equal opportunity or affirmative-action issues?
Affirmative Action Plan	written annual affirmative-action plan?
Diversity Taskforce	diversity taskforce or committee?
Diversity Training	diversity-training program for all employees?
Diversity Evaluations	Have the written performance evaluations of managers ever included a section on their workforce diversity efforts?
Networking	formal program of networking and support groups specifically for minorities? . . . for women?
Mentoring	mentoring program specifically for women? . . . minorities?
Job Advertisement	policy of advertising most open positions?
Hiring Guidelines	written document outlining hiring procedures?
Promotion Guidelines	written document outlining promotion procedures?
Discharge Guidelines	written document outlining termination procedures?
Legal Department	separate legal department?
HR Department	human resource department?
Work-Family Index	paid maternity leave; paid paternity leave; flextime policy; top management support for work/family policies?
Peer Evaluations	peer review evaluations?

Note: We asked respondents to tell us only about formal programs in their establishment. For each item, we first asked if the employer had ever had the practice or structure. We then asked in what years it had been in place.

Table A2. Summary Statistics of Variables Reported in Appendix Tables

	Mean	SD	Min.	Max.	Source
Contract Compliance Review	.145	.352	.000	1.000	Survey
Advertise Jobs	.449	.497	.000	1.000	Survey
Peer Evaluations	.096	.295	.000	1.000	Survey
Managerial Ratio	.124	.089	.002	.789	EEO-1
Log Firm Size	6.083	1.019	2.303	9.561	EEO-1
Union	.250	.433	.000	1.000	Survey
Work/Family Index[a]	.905	.981	.000	4.000	Survey
HR Dept.	.821	.384	.000	1.000	Survey
Af. Am. in Top Mgmt.[b]	3.294	9.767	0.000	100.000	Survey
Women in Top Mgmt.[b]	16.231	23.498	0.000	100.000	Survey
Industry WM (log)	–.888	.422	–1.928	–.298	CPS
Industry WW	–1.215	.442	–2.278	–.471	CPS
Industry BM	–3.335	.593	–5.410	–2.126	CPS
Industry BW	–3.312	.469	–4.752	–2.244	CPS
Industry HM	–2.948	.649	–5.123	–1.466	CPS
Industry HW	–3.299	.647	–9.210	–1.961	CPS
State WM	.388	.061	.116	.595	CPS
State WW	.353	.063	.093	.496	CPS
State BM	.043	.030	.000	.186	CPS
State BW	.048	.034	.001	.201	CPS
State HM	.051	.064	.001	.286	CPS
State HW	.037	.046	.001	.249	CPS
Legal Dept.	.284	.451	.000	1.000	Survey
Lawsuit	.340	.474	.000	1.000	Survey
EEOC Charge	.313	.464	.000	1.000	Survey
Industry Size	3747	2777	995	11457	CPS
Regional Unemployment	6.152	2.032	2.000	18.000	BLS
Contracts in Industry	.487	.226	.061	.821	EEO-1
Affirmative Action Plan	.449	.497	.000	1.000	Survey
Diversity Committee	.048	.213	.000	1.000	Survey
EEO Staff	.070	.256	.000	1.000	Survey
Diversity Perf. Evals.	.066	.247	.000	1.000	Survey
Diversity Training	.104	.305	.000	1.000	Survey
Networking	.064	.245	.000	1.000	Survey
Mentoring	.035	.184	.000	1.000	Survey
Group in Non-Mgmt.					
White men	.407	.253	.000	1.000	EEO-1
White women	.384	.253	.000	1.000	EEO-1
Black men	.052	.091	.000	.940	EEO-1
Black women	.057	.097	.000	.893	EEO-1
Hispanic men	.041	.098	.000	.897	EEO-1
Hispanic women	.027	.064	.000	.735	EEO-1
Asian men	.014	.036	.000	.656	EEO-1
Asian women	.014	.034	.000	.493	EEO-1
Group in Core Job					
White men	.385	.316	.000	1.000	EEO-1
White women	.388	.320	.000	1.000	EEO-1
Black men	.056	.108	.000	.963	EEO-1
Black women	.061	.113	.000	1.000	EEO-1

(continued)

Table A2. *(continued)*

	Mean	SD	Min.	Max.	Source
Hispanic men	.044	.115	.000	1.000	EEO-1
Hispanic women	.032	.086	.000	1.000	EEO-1
Asian men	.014	.042	.000	.794	EEO-1
Asian women	.017	.050	.000	1.000	EEO-1
None in Mgmt.					
White men	.007	.082	.000	1.000	EEO-1
White women	.125	.331	.000	1.000	EEO-1
Black men	.551	.497	.000	1.000	EEO-1
Black women	.711	.453	.000	1.000	EEO-1
Hispanic men	.664	.472	.000	1.000	EEO-1
Hispanic women	.815	.388	.000	1.000	EEO-1
Asian men	.708	.455	.000	1.000	EEO-1
Asian women	.841	.366	.000	1.000	EEO-1

Note: N = 18,452.
[a]Includes paid maternity leave, paid paternity leave, policy allowing flexible work hours, and top management support for work-family balance.
[b]Percents were obtained in 10-year intervals (2002, 1992, and 1982). Values for the years in between were interpolated using a linear function.

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Notes

1. We interpolate workforce data for three missing years—1974, 1976, and 1977. These results are not sensitive to data interpolation.
2. Where the proportion of managers for a group was 0 or 1, we substituted $\frac{1}{2N}$ for 0 and $1-\frac{1}{2N}$ for 1, where N is the total number of managers in the firm (Reskin and McBrier 2000). Results are robust to other substitutions, and we include a dummy variable for firms with no group members in management.
3. We follow Petersen (1985) and calculate the change in proportion P in response to the adoption of a program with coefficient x as $\Delta P = exp\, P_1/(1+\exp P_1) - \exp P_0/(1+\exp P_0)$, where P_0 is the logit of the initial group proportion and P_1 is the logit of the initial proportion plus the coefficient x. Here, the initial proportion of white women is .220 (Table 1) and the coefficient x (special recruitment for women) is .129 (Table 2), yielding a change in P of .023 (i.e., 2.3 percent), corresponding to the increase from 22.0 to 24.3 percent.
4. Contractor status does not perfectly overlap with affirmative-action planning. About two-thirds of employers with federal contracts lack affirmative-action plans, and about one-quarter of employers without federal contracts do have affirmative-action plans.

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