Best Practices or Best Guesses? Assessing the Efficacy of Corporate Affirmative Action and Diversity Policies

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Employers have experimented with three broad approaches to promoting diversity. Some programs are designed to establish organizational responsibility for diversity, others to moderate managerial bias through training and feedback, and still others to reduce the social isolation of women and minority workers. These approaches find support in academic theories of how organizations achieve goals, how stereotyping shapes hiring and promotion, and how networks influence careers. This is the first systematic analysis of their efficacy. The analyses rely on federal data describing the workforces of 708 private sector establishments from 1971 to 2002, coupled with survey data on their employment practices. Efforts to moderate managerial bias through diversity training and diversity evaluations are least effective at increasing the share of white women, black women, and black men in management. Efforts to attack social isolation through mentoring and networking show modest effects. Efforts to establish responsibility for diversity lead to the broadest increases in managerial diversity. Moreover, organizations that establish responsibility see better effects from diversity training and evaluations, networking, and mentoring. Employers subject to federal affirmative action edicts, who typically assign responsibility for compliance to a manager, also see stronger effects from some programs. This work lays the foundation for an institutional theory of the remediation of workplace inequality.

L ists of "best practices" in diversity management have proliferated recently. Everyone seems to have a list, from the Equal Employment Opportunity Commission (1998) to the Presidential Glass Ceiling Commission (1995), the women's business advocacy group Catalyst (1998), and the Society for Human Resources Management (2004). These lists are

loosely based on academic theories that point to causes of workplace inequality ranging from unwitting bias (Lemm and Banaji 1999) to dependence on networks for hiring and promotion (Reskin and McBrier 2000). Whereas there has been a great deal of research on the sources of inequality, there has been little on the efficacy of different programs for countering it. At best, "best practices" are best guesses. We know a lot about the disease of workplace inequality, but not much about the cure.

We examine the effects of seven common diversity programs—affirmative action plans, diversity committees and taskforces, diversity managers, diversity training, diversity evaluations for managers, networking programs, and mentoring programs—on the representation of white men, white women, black women, and black men in the management ranks of private sector firms. Each of these programs may well increase diversity. To date, there has been little evidence one way or the other. This is surprising given the popularity and cost of the programs. Our contribution is to bring to bear rich new data, to theoretically distinguish three types of diversity programs, and to show that organizational structures allocating responsibility for change may be more effective than programs targeting either managerial bias or the social isolation of disadvantaged groups.

Previous empirical studies of antidiscrimination and diversity programs have been limited by data constraints. Economists first compared employers who are subject to affirmative action requirements with those who are not (Ashenfelter and Heckman 1976; Heckman and Wolpin 1976; Leonard 1984). They lacked data on employer programs. Sociologists and economists studying employer programs examine data at one or two points in time (but see Baron, Mittman, and Newman 1991), analyzing the effects of some programs without accounting for others. These studies indicate that some programs may be effective, but their findings are inconsistent (Baron et al. 1991; Edelman and Petterson 1999; Holzer and Neumark 2000; Konrad and Linnehan 1995; Leonard 1990; Naff and Kellough 2003). Gender and racial segregation has declined remarkably since the 1970s, when employers first adopted antidiscrimination programs (Jacobs 1989a; King 1992; Tomaskovic-Devey et al. 2006), but there is no hard evidence that these programs played a role.

We obtained the federal establishment-level data that economists have used (i.e., the annual EEO-1 reports that private sector establishments submit to the Equal Employment Opportunity Commission [EEOC]). We then surveyed a sample of these establishments on the history of their personnel and diversity programs so that we could analyze program effects on diversity.

A strength of the EEO-1 reports is that they detail annual employment by race, ethnicity, and gender in all medium and large private sector workplaces. A limitation is that they cover only nine broad job categories, collapsing into "management" all jobs above that of first-line supervisor (Baron and Bielby 1985; Smith and Welch 1984). We know from previous research that women and African Americans are crowded in the lowest ranks of management. Even as women moved into management in the 1970s and 1980s, "women managers continued to trail their male counterparts in both earnings and authority" (Jacobs 1992). Thus our analyses indicate which diversity programs help women and African Americans move at least into the bottom ranks of management and, importantly, which do not. They cannot tell us whether any of these practices help women and minorities to move into the executive ranks.

We find a clear pattern in the data. Structures establishing responsibility (affirmative action plans, diversity committees, and diversity staff positions) are followed by significant increases in managerial diversity. Programs that target managerial stereotyping through education and feedback (diversity training and diversity evaluations) are not followed by increases in diversity. Programs that address social isolation among women and minorities (networking and mentoring programs) are followed by modest changes. The effects of these initiatives vary across groups, with white women benefiting most, followed by black women. Black men benefit least. We also find that responsibility structures make training, performance evaluations, networking, and mentoring programs more effective. Federal affirmative action requirements, which typically lead to assignment of responsibility for compliance, also catalyze certain programs.

These findings support an institutional theory of inequality remediation that builds on key precepts of organizational sociology. As Weber (1978 [1968]) argues, executives must appoint specialists and give them authority to achieve specialized goals. Thus, remedies targeting individual bias or network isolation may be less effective than remedies that establish responsible parties. As neo-institutionalists (Meyer and Rowan 1977) note, new programs decoupled from everyday practice often have no impact. Therefore, appointing a manager or committee with responsibility for change is likely to be more effective than annual diversity training, periodic diversity evaluations, or decentralized networking and mentoring programs. As structural theorists of organizational inequality claim (Baron 1984), there is more to segregation than rogue managers exercising bias. Thus, appointing special staff members and committees to rethink hiring and promotion structures may be more effective than training managers not to ask their secretaries to make coffee, and not to exclude minorities from football pools.

The argument that organizations should structure responsibility for reducing inequality may seem commonsensical, but today's popular diversity programs often focus on changing individuals. In the academy generally and in management studies particularly, methodological individualism now holds sway. Theorists prescribe solutions that change incentives for, and beliefs of, individuals with the idea that most problems of management are problems of motivation rather than structure. Thus the most popular program that is not federally mandated is diversity training, designed to attack bias. Managerial bias is also the target of diversity evaluations that offer feedback to managers. Networking and mentoring programs may appear to operate at the collective level, but they are designed to "fix" a lack of specific human and social capital in individual workers.

Next, we describe the three categories of diversity practices, link them to theories of inequality, and summarize the (scant) evidence about the effects of workplace antidiscrimination programs. Then we review the research on the effects of the Civil Rights Act and presidential affirmative action edicts on employment—hitherto the main body of research on the effectiveness of antidiscrimination measures. After a discussion of data and methods, we present the results from analyses of white men, white women, black women, and black men in management.

THREE APPROACHES TO INCREASING MANAGERIAL DIVERSITY

Scholars often presume that practices designed to attack known causes of inequality actually will reduce it, as Reskin (2003) argues, making a leap of faith between causes and remedies. Thus, for example, although we know from experimental psychology that unconscious bias is endemic, and likely contributes to workplace inequality, we can only hope that the prevailing treatments—diversity training and diversity evaluations—diminish inequality. Understanding the cause of malaria and understanding its treatment are two different things. Whether a prescription for inequality is effective is an inherently empirical question. Current prescriptions are not based in evidence.

Our goal is to take a first step toward developing an empirically based theory of remediation for organizational inequality. We sketch three mechanisms for remediating workplace inequality rooted in different social science literatures and discuss the popular human resources (HR) measures thought to put these theories to work. One mechanism, based in arguments from Max Weber and organizational institutionalists, is the creation of specialized positions as the way to achieve new goals. Another mechanism, based in theories of stereotyping and bias, involves training and feedback as the way to eliminate managerial bias and its offspring, inequality. A third mechanism, based in theories of social networks, involves programs that target the isolation of women and minorities as a way to improve their career prospects.

ORGANIZATIONAL CHANGE: STRUCTURES OF RESPONSIBILITY

We begin with a canonical insight from organizational theory. Organizational sociologists and psychologists find that workers ignore newly announced organizational goals and continue to pursue old goals with old routines. The decoupling of formal goals and daily practice may occur because individuals face information overload, and thus stick to the familiar, or

because the old ways of doing things have been imbued with meaning and value over time (Orton and Weick 1990; Selznick 1949). Institutionalists argue that decoupling is common in programs responsive to regulatory demands, such as civil rights programs (Dobbin et al. 1988; Edelman and Petterson 1999; Scott 2001; Sutton and Dobbin 1996). Thus, for instance, academic departments have abandoned the old-boy system of hiring in favor of open job advertisement, but department chairs still ask their pals for leads. Some argue that managers may simply not perceive it as in their interest to promote gender and racial integration of jobs (Jacobs 1989b). Decoupling is particularly likely when there is no office or expert to monitor progress, as Max Weber (1978 [1968]) hinted when he argued that executives should appoint specialists to pursue specialized goals.

If Weber and the institutionalists are correct, where diversity efforts are everyone's responsibility but no one's primary responsibility, they are more likely to be decoupled. In organizations that do not assign responsibility for diversity goals to a specific office, person, or group, these goals may fall by the wayside as line managers juggle competing demands to meet production quotas, financial targets, and the like (Edelman 1990; Meyer and Rowan 1977). Scholars (Reskin 2003; Sturm 2001) and consultants (Winterle 1992) alike advise ongoing coordination and monitoring of diversity progress by dedicated staff members or task forces. Three common approaches can be used to establish responsibility for diversity, as discussed in the following sections.

RESPONSIBILITY AND AFFIRMATIVE ACTION PLANS. Assign responsibility for setting goals, devising means, and evaluating progress; this was Weber's advice to bureaucrats. The agency Lyndon Johnson set up in 1965 to monitor affirmative action among federal contractors encouraged this approach. In 1971, the Office of Federal Contract Compliance (OFCC, which later gained a P for "programs" to become OFCCP) ordered contractors to write affirmative action plans in which they annually evaluate their own workforces, specify goals for the fair representation of women and minorities based on labor market analyses, and sketch timetables for achievement of these goals (Shaeffer 1973:66).

The order also specifies that firms should assign responsibility to a staff member: "He or she must have the authority, resources, support of and access to top management to ensure the effective implementation of the affirmative action program" (U.S. Department of Labor 2005). By collecting and reviewing local information annually, the affirmative action officer can track "underutilization" of women and minorities and keep managers informed about their departments' progress (Linnehan and Konrad 1999:410; Reskin 2003:13) or initiate "constructive dialogue" about making further progress (Sturm 2001).

The few studies that examine effects of affirmative action plans are inconclusive. Baron et al. (1991), studying annual data from 89 California state agencies between 1975 and 1981, found that, all else being equal, agencies with affirmative action programs made significantly slower progress in gender desegregation of jobs. Yet those agencies were more integrated originally, so it may be that preexisting affirmative action programs had left little room for improvement (see also Edelman and Petterson 1999:126; Leonard 1990:65). In a study of 3,091 federal contractors with affirmative action plans Jonathan Leonard (1985b) shows that the goals employers set for hiring white women, black women, and black men did have positive effects, although the goals were wildly optimistic. Goals apparently do not act as quotas because virtually no employer ever achieves its written goals.

Federal contractors are required to write affirmative action plans, but contractor status does not correspond perfectly with the presence of a plan. Many contractors fail to write plans or to update them (Bureau of National Affairs 1986; Leonard 1990:55). Up to one fourth of firms with affirmative action plans are not contractors. They create plans to bid for contracts or to set diversity goals (Bureau of National Affairs 1986; Reskin 1998). In our sample, 7 percent of contractors never had a plan, and 20 percent of firms that had never had a contract wrote plans.

OVERSIGHT VIA STAFF POSITIONS AND DEPARTMENTS. Following the classic bureaucratic dictum (Weber 1978 [1968]), some organizations appoint full-time staff members or create departments to monitor diversity instead of leaving the task to line managers or assigning it to staffers

with other responsibilities. As a newly appointed diversity manager in a high tech company explained to us in 2001: "As the organization has started to grow, they realized they needed someone in there to really pay attention to affirmative action and compliance and ... efforts on diversity. . . . So the position was created at the beginning of this year."

Big military contractors were the first to create special positions, in the wake of Kennedy's initial affirmative action order in 1961. Edelman and Petterson (1999) show that equal opportunity departments do not increase gender and racial diversity on their own, but that they do expand diversity recruitment programs, which in turn improve diversity. We include a measure for recruitment programs to isolate the effects of diversity staff positions.

OVERSIGHT AND ADVOCACY VIA COMMITTEES. From the late 1980s, experts have advised employers to appoint diversity committees and task forces comprising people from different departments, professional backgrounds, and managerial levels. Committees typically are charged with overseeing diversity initiatives, brainstorming to identify remedies, and monitoring progress. The diversity task force at the accounting and consulting giant Deloitte & Touche, for instance, created a series of ongoing groups responsible for analyzing the gender gap, recommending remedial steps, and establishing systems for monitoring results and ensuring accountability (Sturm 2001:492).

These three strategies share a focus on responsibility. An organization with any one of these has assigned responsibility for progress to a person or group—an affirmative action officer, a diversity manager or department, or a committee or task force. That person or group monitors progress regularly. Affirmative action officers also write explicit annual goals for progress, as do some staffers and committees.

BEHAVIORAL CHANGE: REDUCING BIAS THROUGH EDUCATION AND FEEDBACK

Social psychologists trace inequality to bias among managers. Stereotyping is a natural cognitive mechanism. It is inevitable given our innocent tendency to make associations between categories and concepts (Gorman 2005; Heilman 1995; Lemm and Banaji 1999). The implicit associations we make between race, gender, ethnicity, and social roles can have the effect of reproducing existing patterns of inequality (Jost, Banaji, and Nosek 2004). Managers may unwittingly select women for jobs traditionally dominated by women and men for jobs dominated by men, with the effect of preserving between-group differences. Moreover in-group preference is widespread (Tajfel and Turner 1979) and may likewise contaminate managerial judgment (Baron and Pfeffer 1994; Reskin 2000). Rosabeth Moss Kanter (1977) sketches the early research on in-group preference to support her theory of homosocial reproduction—white men promoting their clones. Kanter argues that managers prefer to hire their own for reasons of communication and trust.

Two corporate initiatives are thought to counter stereotyping and in-group preference. Diversity training is thought to make managers aware of how bias affects their actions and those of subordinates. Diversity evaluations are thought to provide managers with feedback showing the effects of their decisions on diversity.

EDUCATION VIA DIVERSITY TRAINING. Social psychological research shows that giving people information about out-group members and about stereotyping may reduce bias (Fiske 1998; Nelson, Acker, and Melvin 1996). Diversity training provides managers with such information. It can be traced to the equal opportunity "sensitivity" training programs that a handful of major corporations put together in the mid-1970s in response to the first equal opportunity consent decrees and court orders (Shaeffer 1973). By the late 1980s, quite a few corporate trainers and psychologists had developed training modules designed to familiarize employees with antidiscrimination law, to suggest behavioral changes that could address bias, and to increase cultural awareness and cross-cultural communication (Bendick, Egan, and Lofhjelm 1998).

Employers usually offer training either to all managers or to all employees. We look at the effects of training offered at least to all managers. Some studies of diversity training suggest that it may activate rather than reduce bias (Kidder et al. 2004; Rynes and Rosen 1995; Sidanius, Devereux, and Pratto 2001). Research

on diversity training programs has seldom explored their effects on workforce composition, but one study of federal agencies (Naff and Kellough 2003) did show that a broad diversity program had a negative effect on the promotion of minorities (Krawiec 2003:514).

FEEDBACK VIA PERFORMANCE EVALUATIONS. Feedback is thought to reduce bias by directing managerial attention and motivation (Reskin 2003:325). Laboratory experiments show that when subjects know that their decisions will be reviewed by experimenters, they show lower levels of bias in assigning jobs (Salancik and Pfeffer 1978; Tetlock 1985). Evaluating managers on their diversity performance creates oversight and provides feedback. As early as 1973, the *Harvard Business Review* noted that "as one criterion of a line manager's performance appraisal, some companies have included his success in effectively implementing equal opportunity programs" (Fretz and Hayman 1973:137). By the mid-1980s, a study of nine exemplary firms found that managers in each firm received regular equal opportunity performance evaluations (Vernon-Gerstenfeld and Burke 1985:59–60). To our knowledge, no studies assess the effects of diversity evaluations.

TREATING SOCIAL ISOLATION: NETWORKING AND MENTORING

Mark Granovetter (1974) brought insights about social networks, pioneered by both sociologists and psychologists, to the study of how people find jobs. Students of inequality have since speculated that differential network contacts and differential resources accruing from these contacts may explain part of the continuing inequality between whites and blacks, and between men and women (Blair-Loy 2001; Burt 1998; Ibarra 1992, 1995; McGuire 2000; Petersen, Saporta, and Seidelm 1998). White men are more likely than others to find good jobs through network ties because their networks are composed of other white men who dominate the upper tiers of firms (Burt 1998; Reskin and McBrier 2000, but see Fernandez and Fernandez-Mateo 2006; Mouw 2003). Social networks also encourage trust, support, and informal coaching (Baron and Pfeffer 1994; Castilla 2005; Kanter 1977). Networking and mentoring programs designed specifically for

women and minorities are thought to provide useful contacts and information (Thomas 2001). Both types of programs were pioneered in the 1970s and then revived in the 1990s as part of diversity management efforts (Wernick 1994:25; Winterle 1992:21).

NETWORKING PROGRAMS. Diversity networking programs for women and minorities vary in structure. Some take the form of regular brown-bag lunch meetings, whereas others include lavish national conferences (Crow 2003). These programs may be initiated by employees or by HR managers. They provide a place for members to meet and share information and career advice. Some networks also advocate policy changes, such as those involving family policies and domestic–partner benefits (Briscoe and Safford 2005). Although networking may occur without any organizational impetus, we examine formal networking programs that employers support through release time for participants, meeting space, funding, newsletters, and email lists.

MENTORING PROGRAMS. In 1978, the *Harvard Business Review* published an article titled "Everyone Who Makes It Has a Mentor" that made mentors a must-have for aspiring management trainees (Lunding, Clements, and Perkins 1979; see also Roche 1979). Proponents of formal mentoring programs argue that they can level the playing field, giving women and minorities the kinds of relationships that white men get through the old-boy network. Mentoring programs match aspiring managers with senior mentors, with the two meeting for career counseling and informal advice. Empirical studies, such as Burke and McKeen's (1997) survey of university graduates, suggest a relationship between mentoring and career success among women, but do not rule out the possibility that ambitious women seek mentors. One study of random mentor assignment within a single firm found that, in general, mentees have improved social networks and tactical knowledge, which may help their careers (Moore 2001). Others have found that cross-race mentoring relationships often fail (Thomas 2001), and that same-sex mentoring does not have a positive effect on job placement in aca-

demic departments of economics (Neumark and Gardecki 1996).

ADVERSE EFFECTS OF DIVERSITY PRACTICES

Some argue that affirmative action and diversity programs can backfire (Bond and Pyle 1988; Linnehan and Konrad 1999). First, executives may believe that women and minorities benefit from reverse discrimination and thus may not deserve their positions (Heilman, Block, and Stathatos 1997; but see Taylor 1995). Second, because of the elusive nature of cognitive bias, "conscious attempts at thought regulation"—such as diversity training and diversity evaluations—"may even backfire, leading to exaggerated stereotyping under conditions of diminished capacity, or when self-regulation efforts are relaxed" (Nelson et al. 1996:31). Indeed, management consultants and researchers find mixed reactions to diversity management among white males, who report that they are "tired of being made to feel guilty in every discussion of diversity . . . of being cast as oppressors" (Hemphill and Haines 1997). Third, coworkers and executives may have negative reactions when they perceive minorities "as attempting to obtain power by individual and collective means" (Ragins 1995:106), and executives may fear that networking will lead to union organizing (Bendick et al. 1998; Carter 2003; Friedman and Craig 2004; Miller 1994:443; Society for Human Resources Management 2004). Finally, some studies find that racially diverse work groups communicate less effectively and are less coherent (Baugh and Graen 1997; Townsend and Scott 2001; Vallas 2003; Williams and O'Reilly 1998). Taken together, this research suggests that diversity programs may inhibit management diversity, particularly for blacks.

THE CIVIL RIGHTS ACT, AFFIRMATIVE ACTION EDICTS, AND DIVERSITY PRACTICES

Although there is little research on the effects of corporate diversity programs, the Civil Rights Act and presidential affirmative action orders have been shown to increase diversity. The Civil Rights Act covers virtually all employers, making research on its effects difficult (Donohue and Heckman 1991). The effects of presidential affirmative action orders can be examined by comparing federal contractors subject to these orders with noncontractors. Six studies using EEOC data for periods of 4 to 6 years between 1966 and 1980 show that black employment grew more quickly among contractors (Ashenfelter and Heckman 1976; Goldstein and Smith 1976; Heckman and Payner 1989; Heckman and Wolpin 1976). Affirmative action had negligible effects on white women (Leonard 1989:65). Contractor effects on blacks, especially black women, declined from the early 1980s (Leonard 1990:58), coincident with the Reagan administration's policy of deregulation. These studies do not look at whether federal contractors increased black employment by adopting antidiscrimination practices. The two exceptions are a study by Leonard (1985b) showing that employers who set high recruitment goals see more change and a study by Holzer and Neumark (2000) showing that employers subject to affirmative action law expand recruitment efforts and hire more applicants from disadvantaged groups. We examine the effect of affirmative action orders and explore the possibility that being subject to such orders (by being a federal contractor) renders the seven diversity programs more effective.

In summary, we expect the different sorts of diversity programs to vary in efficacy. If assigning organizational responsibility is more effective than targeting the behavior of individuals, then affirmative action plans, diversity committees, and full-time diversity staff will be followed by broader increases in diversity than will either diversity training and diversity evaluations, or networking and mentoring programs. By the same logic, the latter four programs may be more effective when implemented in organizations with responsibility structures. Finally, we examine whether affirmative action oversight renders programs more effective.

ALTERNATIVE SOURCES OF CHANGE IN THE MANAGERIAL WORKFORCE

We include in the analyses other factors thought to affect management diversity. We cannot include factors that do not vary with time, such as industry or location, because our fixed-effects models account for such stable traits.

LEGAL ENVIRONMENT

Legal enforcement, through OFCCP compliance reviews, lawsuits, and EEOC charges, should increase employers' hiring and promotion of women and minorities (Baron et al. 1991:1386; Donohue and Siegelman 1991; Kalev and Dobbin forthcoming; Leonard 1984; Skaggs 2001).

ORGANIZATIONAL STRUCTURES

Organizational size and the availability of managerial jobs create new opportunities (Baron et al. 1991), but also more competition. Konrad and Linnehan (1995) and Leonard (1990:52) find that increased demand for managers favors white women, but not African Americans. Unionization tends to preserve segregation by favoring old timers through seniority provisions (Blau and Beller 1992; Milkman 1985; but see Kelly 2003; Leonard 1985a). Formalization of personnel systems can reduce favoritism (Dobbin et al. 1993; Reskin and McBrier 2000), although it also can create separate career trajectories for different groups (Baldi and McBrier 1997; Baron and Bielby 1985; Elvira and Zatzick 2002). Legal counsel may sensitize employers to diversity in promotion decisions, and recruitment systems targeting women and minorities can increase diversity (Edelman and Petterson 1999; Holzer and Neumark 2000). Finally, work/family policies may remove obstacles to the promotion of women (Williams 2000).

TOP MANAGEMENT COMPOSITION

The diversity of the top management team may affect managerial hires through homosocial reproduction or social closure (Kanter 1977; Tomaskovic-Devey 1993).

LABOR MARKET AND ECONOMIC ENVIRONMENT

Firms can more easily increase managerial diversity when internal and external labor pools are diverse (Cohen, Broschak, and Haveman 1998; Shenhav and Haberfeld 1992). Demand for workers from underrepresented groups may be higher in industries with more federal contractors. In hard economic times, black men, and to a lesser extent women, are more vulnerable than white men to being laid off (Elvira and

Zatzick 2002; Kletzer 1998). Finally, growing industries can offer more attractive jobs, and both women and minorities have historically been relegated to less attractive sectors (Reskin and Roos 1990:298).

DATA AND METHODS

We conducted a fixed-effects analysis of longitudinal data on the workforce composition of 708 establishments to assess changes in managerial composition after the adoption of each of seven diversity practices. The data cover the period 1971–2002. Fixed-effect models account, implicitly, for organizations' unobserved characteristics that do not vary over time and that may affect diversity.

EEOC DATA

The Civil Rights Act of 1964, as amended, requires private employers with more than 100 employees and government contractors with more than 50 employees and contracts worth $50,000 to file annual EEO-1 reports. These reports detail the race, ethnicity, and gender of employees in nine broad occupational categories. There are no better data on workforce composition (for a methodological discussion on using EEO-1 reports, see Robinson et al. 2005). We obtained the data from the EEOC through an Intergovernmental Personnel Act (IPA) agreement.

Some argue that employers reclassified jobs in the 1970s, moving women and minorities into management categories to improve their federal reports (Smith and Welch 1984). Leonard (1990:53) notes that "pure reclassification would cause black losses in the lower occupations [in the EEO data], which is generally not observed." Jacobs (1992:298) shows a declining gender earnings gap consistent with real progress, noting that "the predominant trend has been toward real, if slow progress into management on the part of women." In our sample, few firms show sudden increases for women or blacks in management, but we checked results for robustness by eliminating these cases, and the results did not change. We also eliminated establishment-year spells from before 1990, as discussed later, and the findings held up.

ORGANIZATIONAL SURVEY DATA

We drew a random sample of establishments from the EEO-1 database for our organizational survey. For that sample, we constructed a dataset comprising all EEO-1 reports for the years 1971–2002, interpolating for the missing years of 1974, 1976, and 1977. Establishments enter the dataset when they begin filing EEO-1 reports. To ensure that we would be able to follow establishments over time, we chose half of the sample from establishments that had been in the dataset since 1980 and half from those that had been in the dataset since 1992. We also stratified by size, selecting 35 percent of establishments with fewer than 500 employees in 1999, and by industry to represent the manufacturing, service, and trade sectors. We sampled from food, chemicals, computer equipment, transportation equipment, wholesale trade, retail trade, insurance, business services, and health services. Corporate diversity can be influenced by acquisitions, spin-offs, and plant closings, so we sampled establishments, selecting no more than one per parent firm.

We conducted a longitudinal survey of employment practices at each establishment covering the years 1971–2002, in collaboration with the Princeton Survey Research Center. We drew on the experiences of others who had conducted organizational surveys of employment practices (particularly Kalleberg et al. 1996; Kelly 2000; Osterman 1994, 2000). We completed 833 interviews, for a response rate of 67 percent, which compares favorably with the rates of those other organizational surveys. In preparation, we conducted 41 in-person interviews with HR managers from randomly sampled organizations in four different regions, and 20 pilot phone interviews. Data from those interviews are not included in the analyses reported in this discussion.

We began by writing to the HR director at each establishment. We asked for permission to conduct an interview and for the name of the person who could best answer questions about the establishment's history of HR practices. The typical interviewee was an HR manager with 11 years of tenure. We scheduled phone interviews at the convenience of the interviewees, and explained in advance the nature of the information needed. We asked whether the establishment had ever used each personnel program, when it was adopted, and whether and when it

had been discontinued. Program discontinuation was rare. When a respondent could not answer a question, we sent a copy of that question by email or fax, asked that she consult records and colleagues, and called back to fill in the blanks. During our in-person pilot interviews, respondents routinely pulled out manuals with copies of policies and lists of adoption and revision dates. Nonetheless, because responses about events long past may be inaccurate, we replicated the analyses using only establishment-year spells for 1990 to 2002, as discussed later.

We matched survey data for each establishment with annual EEO-1 records, creating a dataset with annual establishment-year spells. After excluding 10 cases that had EEO-1 data available for fewer than 5 years, 13 cases with excessive numbers of missing values for EEO-1 or survey data, and 102 cases that were missing the adoption date for at least one key program, our final dataset included 708 cases and 16,265 establishment-year cells, with a median of 25 years of data per establishment, a minimum of 5 years, and a maximum of 32 years. We collected data on national, state, and industry employment from the Bureau of Labor Statistics.

Because of our stratified sampling design and the response pattern, we were concerned that respondents might not represent the population of establishments that file EEO-1 reports in the sampled industries. We constructed weights based on the inverse probability that an establishment from each stratum (industry by size and by time in the EEO-1 dataset) would complete the survey. We replicated all reported analyses using weights, and the results remained intact. We report unweighted results in the following discussion (Winship and Radbill 1994). We also were concerned that employers who refused to participate might systematically differ, on factors affecting diversity, from those who participated. We included in the models predicted values from a logistic regression estimating the probability of response (Heckman 1979). This did not change our results. Covariates in that model were industry, establishment status (headquarters, subunit, stand-alone status), size, contractor status, managerial diversity, and contact person's position. The last variable was obtained in the initial contact, the others from the EEO-1 data.

DEPENDENT VARIABLES

The dependent variables are the log odds that managers are white men, white women, black women, and black men . For each group, odds are calculated as the proportion of managers from that group divided by the proportion not from that group (proportion/(1 – proportion)). Figure 1 presents the trends, in percents, in our sample. Between 1971 and 2002, management jobs held by white men decline from 81 to 61 percent in the average establishment. Management jobs held by white women rise from 16 to 26 percent, whereas those held by black women rise from 0.4 to 2 percent, and those held by black men rise from 1 to 3.1 percent. There also is a significant rise in the representation of other groups, notably Hispanics, during this period, which is why the percentages do not sum up to 100 percent.

Black women and men showed dramatic changes in their proportions in management relative to the baseline, quadrupling and tripling, respectively, but saw small changes in percentage points. Because the absolute changes for blacks are relatively small we log the dependent variables. We use log odds, rather than log proportion, because the distribution is close to normal (Fox 1997:78).[1] In a sensitivity analysis, log proportion performed very similarly. The dependent variable is measured annually, one year after the independent variables. Changing the lag to 2, 3, or 4 years does not alter the findings. Our sample is designed to investigate the effects of diversity programs on workforce composition in private sector establishments large enough to file EEO-1 reports. We do not claim to describe the nation's managerial workforce. Nationally representative samples such as the Current Population Survey include the public and nonprofit sectors, in which the gains of women and minorities have

been larger. Furthermore, national figures reflect the change in women's representation in management associated with service sector growth (e.g. Jacobs 1992), whereas our data track a relatively stable set of firms.

AFFIRMATIVE ACTION PLANS AND DIVERSITY PRACTICES

Figure 2 shows the prevalence of all seven diversity programs among the 708 employers analyzed later. By 2002, affirmative action plans were used in 63 percent of the workplaces we study, followed by training in 39 percent, diversity committees in 19 percent, networking programs (for women and minorities) in 19 percent, diversity evaluations for managers in 19 percent, diversity staff in 11 percent, and mentoring programs (for women and minorities) in 11 percent. The bivariate correlations and joint frequencies of the seven programs are not shown here (see Online Supplement, *ASR* Web site: http://www2.asanet.org/journals/asr/2006/toc052.html).

In the analyses reported in the following discussion, we use binary variables to represent the presence of the seven diversity programs. For six programs, we asked whether the organization had ever had the program, when it was first adopted, and when (if ever) it was discontinued. For the seventh practice, diversity training, we asked when it was first and last offered. If an employer had gone for 3 years without training, we treated the program as defunct. We collected additional information about diversity training because our in-person interviews suggested that it varied across organizations more than the other programs, but we found significant similarities in training programs. In 70 percent of the establishments with training for managers, training was mandatory. Included in 80 percent of the training programs was a discussion on the legal aspects of diversity, and 98 percent were conducted with live facilitators, as opposed to being offered exclusively via the Web or video. Although some organizations offered training not only to managers, but also to all employees, we report effects of training for managers because managers made promotion decisions. Training for all employees had nearly identical effects in the models.

Because the measures are binary, coded 1 for all the years the program is in place, program effects are estimated for the entire period of

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[1] Because log-odds (logit) is undefined at values of 0 and 1, we substituted 0 with 1/2Nj, and 1 with 1-1/2Nj, where Nj is the number of managers in establishment j (Hanushek and Jackson 1977; Reskin and McBrier 2000). The results were robust to different substitutions for 0. We chose the one that kept the distribution unimodal and closest to normal. To ensure that the substitution does not drive the findings, we include a binary variable for no group members in management.
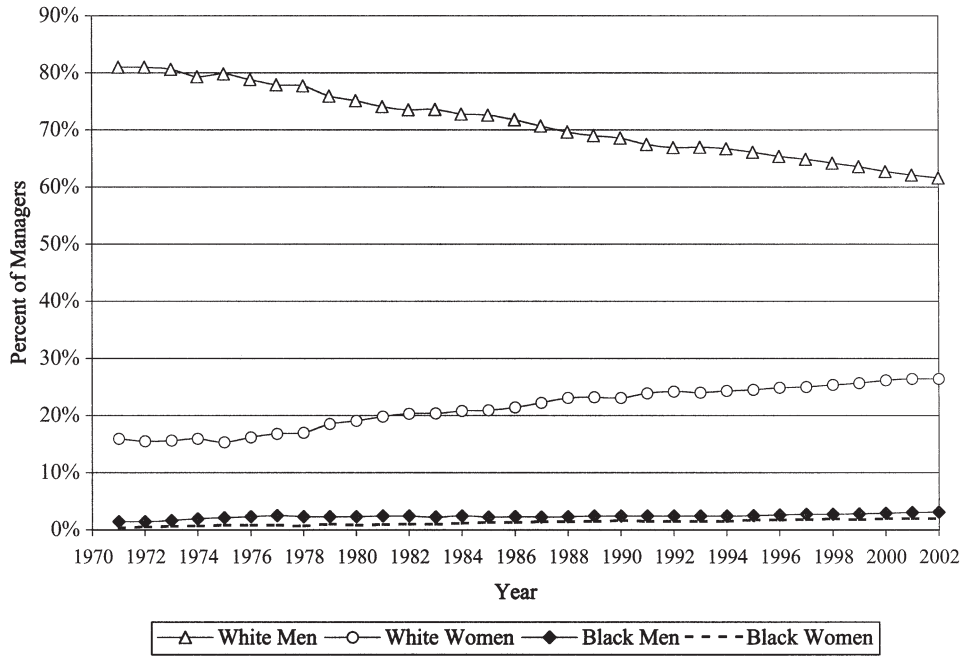
Figure 1. Percent of Managers: White Men and Women and Black Men and Women, 1971–2002

Note: Based on EEO-1 reports 1971–2002 sampled for Princeton University Human Resources Survey 2002. Varying N. Maximum N = 708; EEO = equal employment opportunity.
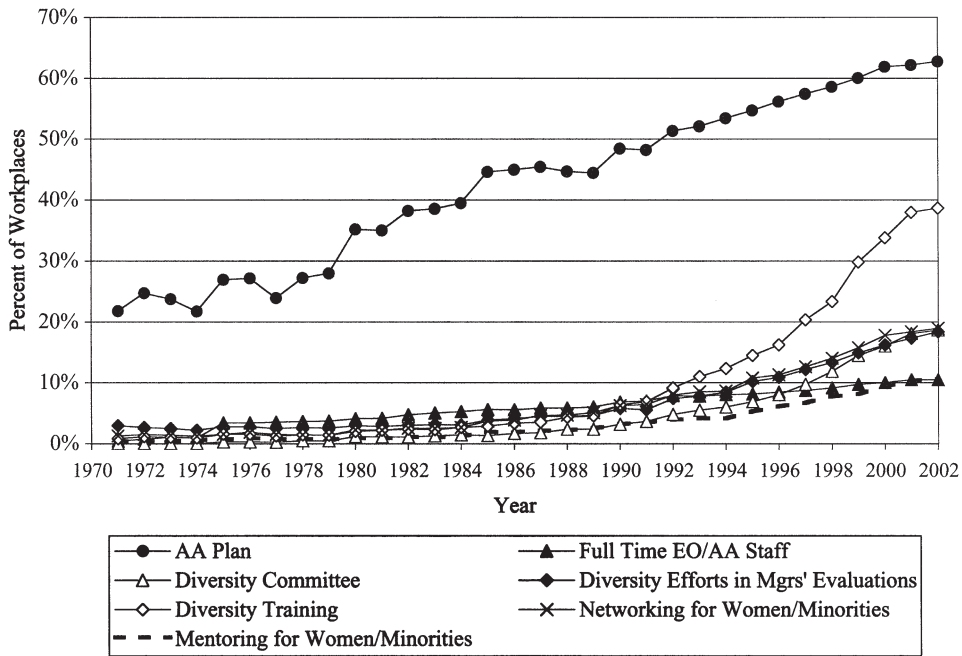
Figure 2. Percent of Private-Sector Workplaces with Affirmative Action Plans and Diversity Programs, 1971–2002

Note: Based on Princeton University Human Resources Survey, 2002. Varying N. Maximum N = 708.

the program's existence (not merely for the year after initiation).

For six of the programs, between 2 and 4 percent of the respondents who reported the program's adoption could not tell us the exact year. For the seventh practice, affirmative action plan, the figure was 8 percent. We eliminated cases with missing data on any of these variables. The results were virtually identical when we imputed missing data for variables of interest and retained these cases in the analysis. Missing adoption dates for control variables were imputed using ordinary least squares (OLS) regression, with industry, age of establishment, and type of establishment as covariates. Omitting cases with imputed data did not substantially alter the findings.

CONTROL VARIABLES

All measures included in the analyses vary annually. Table 1 presents definitions and data sources for key variables as well as means and standard deviations (based on all organizational spells). Descriptive statistics for the entire list of control variables are not shown here (see Online Supplement, *ASR* Web site). Because the fixed-effects method estimates variation within the organization, it captures change over time. For example, in the models, the variable organizational size captures the effect of a change in size on change in managerial diversity. These models effectively ignore measures that do not change, such as industry, but cross-case variation in those measures is captured by the fixed effects.

LEGAL ENVIRONMENT. We include a binary variable based on the EEO-1 reports indicating whether the establishment is a federal contractor subject to affirmative action regulation. Legal enforcement is measured using three survey variables that capture the establishment's experience with Title VII lawsuits, EEOC charges, and affirmative action compliance reviews. Each is coded 1 from the year of the firm's first enforcement experience. More than one third of establishment-year spells had previously faced a lawsuit; more than one third had faced an EEOC charge; and nearly 15 percent had faced a compliance review (only contractors are subject to compliance reviews).

ORGANIZATIONAL STRUCTURES. Organizational size and availability of managerial jobs are measured using EEO-1 data on the total number of employees in the establishment and the number of managerial employees. Unionization is coded 1 when the establishment has at least one contract. Substituting with a measure of core job unionization does not alter the results. Formal HR policies involve a count of hiring, promotion, and discharge guidelines; job descriptions; promotion ladders; performance evaluations; pay grade system: and internal job posting. Legal counsel is measured with a binary variable for the presence of an in-house attorney. Targeted recruitment policy is a binary measure of special diversity recruitment efforts. Work–family support counts paid maternity leave, paid paternity leave, flextime policies, and top management support for work–family programs as assessed by our respondents.

TOP MANAGEMENT COMPOSITION. Top management team diversity is measured with the percentage of the top 10 positions held by women and/or African Americans, based on survey data. We asked about the percentage at 10-year intervals and interpolated values for the intervening years.

LABOR MARKET AND ECONOMIC ENVIRONMENT. The diversity of the establishment's internal labor pool is measured with two variables based on the EEO-1 reports: the percent of the focal group in nonmanagerial jobs and the percent in the core job. To determine the EEO-1 category that held the core job, we asked respondents about the single biggest job in the organization. We include a variable coded 1 when there are no members of the focal group in management. Diversity of the establishment's external labor pool is captured by two sets of variables on industry and state labor forces from the Current Population Survey. Industry employment variables are logged. We use the industry's percent of government contractors (based on EEO-1 data) to measure demand for underrepresented workers in affirmative action sectors. Economic conditions are measured with the yearly state unemployment rate, and industry size is measured as total annual industry

Table 1. Selected Variables Used in Analysis of Managerial Workforce Composition

	Mean	Standard Deviation	Minimum	Maximum	Type	Data
Outcome Variables (percent)						
Managers who are white men	70.0	23.6	0	100	Continuous	EEO-1
Managers who are white women	22.2	21.2	0	100	Continuous	EEO-1
Managers who are black women	1.4	4.2	0	66.7	Continuous	EEO-1
Managers who are black men	2.4	5.9	0	100	Continuous	EEO-1
Affirmative Action and Diversity Measures						
Affirmative action plan	.422	.494	0	1	Binary	Survey
Full time EEO/diversity staff	.045	.206	0	1	Binary	Survey
Diversity committee	.052	.222	0	1	Binary	Survey
Diversity training	.064	.244	0	1	Binary	Survey
Diversity evaluations of managers	.102	.303	0	1	Binary	Survey
Networking programs	.064	.244	0	1	Binary	Survey
Mentoring programs	.033	.179	0	1	Binary	Survey
Legal Environment						
Affirmative action status (government contract)	.455	.498	0	1	Binary	EEO-1
Compliance review	.149	.356	0	1	Binary	Survey
Discrimination lawsuits	.341	.474	0	1	Binary	Survey
EEOC charges	.314	.464	0	1	Binary	Survey
Organizational Structures						
Percent managers in establishment	.124	.090	.002	.789	Continuous	EEO-1
Establishment size	702	827	10	12,866	Continuous	EEO-1
Union agreement	.254	.436	0	1	Binary	Survey
Formal HR policies	4.917	2.516	0	9	Count	Survey
In-house attorney	.277	.448	0	1	Count	Survey
Special recruitment for women and minorities	.156	.363	0	1	Binary	Survey
Work-family accommodations	.912	.978	0	4	Count	Survey
Top Management Composition (percent)						
Top managers who are minorities	3.471	10.239	0	100	Continuous	Survey
Top managers who are women	16.445	23.575	0	100	Continuous	Survey

Note: N = 16,265. Labor market and economic environment variables are included in the analyses but not shown here. See note to Table 2 for a detailed list of variables not shown here (see entire list of control variables on Online Supplement, *ASR* Web site: http://www2.asanet.org/journals/asr/2006/toc052.html). EEO = equal employment opportunity; HR = human resources.

employment, both from the Current Population Survey.

METHODS

We use pooled cross-sectional time-series models, with fixed effects for both establishment and year (Hicks 1994; Hsiao 1986). We use fixed effects for establishments to account for unmeasured, time-invariant characteristics that might affect outcome variables (for recent empirical examples of these methods applied to individuals, see Budig and England 2001; Western 2002). This specification, achieved by subtracting the values of each observation from the establishment mean (Hsiao 1986:31), strengthens our causal inferences about the effects of affirmative action plans and diversity practices by ruling out the possibility that organizations that adopted those practices had stable unobserved preferences for diversity. To capture environmental changes, such as legal and cultural shifts, we use a binary variable for each year, omitting 1971. The large number of parameters involved in estimating fixed-effects models renders them less efficient than other estimators. However, we prefer these to alternative models because they provide the most stringent tests of our hypotheses. The establishment and year fixed effects also offer an efficient means of dealing with nonconstant variance of the errors (heteroskedasticity) stemming from the cross-sectional and temporal aspects of the pooled data.

Because our dependent variables are measured as parts of the same whole (the whole being management jobs), we expect their error terms to be correlated. Ordinary least squares would thus produce unbiased and consistent, but inefficient, estimators. We use seemingly unrelated regression, which takes into account covariance between the errors and produces unbiased, efficient estimators (Felmlee and Hargens 1988; Greene 1997; Zellner 1962). Simultaneous estimation also allows us to compare the effect of each diversity practice across groups with formal chi-square tests (Kalleberg and Mastekaasa 2001; Zellner 1962).

FINDINGS

The analysis shows substantial variation in the effectiveness of diversity programs. Some increase managerial diversity across the board,

whereas others have meager effects, or positive effects for some groups and negative effects for others. The most effective practices are those that establish organizational responsibility: affirmative action plans, diversity staff, and diversity task forces. Attempts to reduce social isolation among women and African Americans through networking and mentoring programs are less promising. Least effective are programs for taming managerial bias through education and feedback.

DIVERSITY PROGRAMS AT WORK

In Table 2, we report models of managerial diversity. (Selected control variables are presented; the remaining coefficients can be seen on the Online Supplement, *ASR* Web site). Each dependent variable is the (natural) log odds of managers being from a certain group. To transform the coefficient β from representing change in log odds to representing percentage change in odds, it should be exponentiated: $[\exp(\beta) - 1]*100$. Once exponentiated in this way the coefficient represents the average percentage change in the odds that managers are from a certain group, associated with a change in the independent variable. In the discussion below we use 'odds for [group]' as a shorthand. We also provide an illustrative summary of the results in proportion terms.

The R^2 figures for these fixed-effects models represent the percentage of the variance explained by the predictors when the unique effects of each establishment are excluded. A log likelihood ratio test shows that the variables reported in Table 2 significantly improve the model fit (chi(28) = 405.66; $p < .001$), as compared with the baseline models that have no variables representing diversity programs (available on request).

ORGANIZATIONAL RESPONSIBILITY. Coefficients for the diversity programs represent the change in the log odds that managers are from a certain group that is attributable to the presence of a practice, averaged across all years of the program's existence. After employers set up affirmative action plans, the odds for white men in management decline by 8 percent; the odds for white women rise by 9 percent; and the odds for black men rise by 4 percent. These numbers represent the estimated average difference

Table 2. Fixed Effects Estimates of the Log Odds of White Men and Women and Black Women and Men in Management, 1971–2002

	White Men	White Women	Black Women	Black Men
Organizational Responsibility				
Affirmative action plan	−.078**	.086**	.005	.039*
	(.017)	(.017)	(.014)	(.015)
Diversity committee	−.081**	.175**	.242**	.114**
	(.028)	(.029)	(.024)	(.026)
Diversity staff	−.055	.104**	.123**	.128**
	(.033)	(.034)	(.028)	(.030)
Managerial Bias				
Diversity training	−.038	−.001	−.066**	.031
	(.021)	(.022)	(.018)	(.019)
Diversity evaluations	.028	.061*	−.027	−.081**
	(.027)	(.028)	(.023)	(.025)
Social Isolation				
Networking programs	−.083**	.080**	.012	−.096**
	(.027)	(.028)	(.023)	(.024)
Mentoring programs	−.011	−.004	.213**	.037
	(.033)	(.035)	(.029)	(.031)
Legal Environment				
Government contract	.032	.006	−.039*	−.027
	(.019)	(.019)	(.016)	(.017)
Compliance review	−.083**	.077**	.020	.081**
	(.020)	(.020)	(.017)	(.018)
Title VII lawsuit	−.107**	.141**	.044**	.029*
	(.015)	(.016)	(.013)	(.014)
EEOC charge	−.007	.014	.019	.034*
	(.016)	(.017)	(.014)	(.015)
Organizational Structures				
Proportion managers in establishment	−.896**	.309**	−4.499**	−3.989**
	(.108)	(.112)	(.092)	(.099)
Establishment size (log)	−.021	−.023*	−.661**	−.515**
	(.012)	(.012)	(.010)	(.011)
Union agreement	−.053	−.068*	−.007	−.029
	(.033)	(.034)	(.028)	(.030)
Formal personnel policies	−.002	−.003	−.016**	−.015**
	(.004)	(.004)	(.003)	(.003)
In-house attorney	−.100**	.126**	−.040*	.021
	(.023)	(.024)	(.020)	(.021)
Targeted recruitment policy	−.071**	.108**	.131**	.099**
	(.021)	(.021)	(.018)	(.019)
Work-family accommodations	−.078**	.065**	.026**	.004
	(.008)	(.009)	(.007)	(.008)
Top Management Composition				
Proportion minorities in top management	−.002	−.002	.007**	.012**
	(.001)	(.001)	(.001)	(.001)
Proportion women in top management	−.002**	.004**	.002**	−.002*
	(.001)	(.001)	(.001)	(.001)
R^2 (64 parameters)	.3335	.3146	.3636	.2799

Note: Log likelihood ratio test; χ^2 (28) = 405.66; $p < .001$. Data shown are coefficients from seemingly unrelated regression with standard errors in parentheses. Variables included in the analyses but not shown here are 8 variables for proportion of each group in non-managerial jobs and in core job in each establishment; 4 binary variables for no workers from a group in management; 8 variables for proportion of each group in state and industry labor forces; proportion of contractor firms in industry; industry employment; and state unemployment rate (full results on Online Supplement, *ASR* Web site: http://www2.asanet.org/journals/asr/2006/toc052.html). Analyses also include establishment and year fixed effects. All independent variables are lagged by 1 year, excluding proportion of managerial jobs. N (organization-year) = 16,265; N (organizations) = 708. EEOC = Equal Employment Opportunity Commission. * $p < .05$; ** $p < .01$ (two tailed test).

between having a plan and the counterfactual condition of not having a plan for the entire period of the plan's existence. These results are consistent with Leonard's (1990) finding that affirmative action plan goals are effective. Note that the coefficient for black women is not significant here. When we introduced industry interactions, we discovered that in manufacturing (computers, electronics, transportation), affirmative action plans had negative effects on black women, whereas in service (retail, insurance, business services), affirmative action plans had positive effects (results available upon request). Creating a diversity committee increases the odds for white women, across the period of the committee's existence, by 19 percent. The odds for black women rise 27 percent, and the odds for black men rise 12 percent. Employers who appoint full-time diversity staff also see significant increases in the odds for white women (11 percent), black women (13 percent), and black men (14 percent) in management.

As noted, the coefficients in Table 2 represent the average changes in log odds that managers are from a certain group. The effect of each program on the percent of women and minorities in management will vary depending on where organizations begin (Fox 1997:78). For example, an 8 percent decrease in the odds of managers being white men resulting from adoption of affirmative action plan would translate to a decline of 2.6 percent in the percent of white men in management if they constituted 70 percent before adoption, but it would mean a larger decline of 4.3 percent if they made up only 50 percent at the baseline (Petersen 1985:311).

PROGRAMS FOR REDUCING MANAGERIAL BIAS. Programs designed to reduce managerial bias through education (diversity training) and feedback (diversity evaluations) show one modest positive effect and two negative effects across the three disadvantaged groups. Diversity training is followed by a 7 percent decline in the odds for black women. Diversity evaluations are followed by a 6 percent rise in the odds for white women, but an 8 percent decline in the odds for black men. These mixed effects are anticipated in the literature. As noted, laboratory studies and surveys often show adverse reactions to training (Bendick et al. 1998; Nelson et al. 1996).

Moreover, critics argue that trainers define diversity broadly to include groups not covered by federal civil rights law (parents, smokers), and thereby draw attention away from protected groups (Edelman, Fuller, and Mara-Drita 2001; Kochan et al. 2003; Konrad and Linnehan 1995).

PROGRAMS FOR REDUCING SOCIAL ISOLATION. Networking and mentoring programs, designed to counter social isolation, show modest effects on managerial diversity. Networking is followed by a rise in the odds for white women and a decline in the odds for white men and black men. The negative coefficient for black men is anticipated by qualitative research (Carter 2003; Friedman and Craig 2004) showing that whites can develop negative attitudes toward African-American organizing. In contrast, mentoring programs show a strong positive effect on the odds for black women. These findings suggest that having personal guidance and support at work can facilitate career development (Castilla 2005) for black women, whereas networking is more effective for white women.

GENDER AND RACIAL PATTERNS. Overall, it appears that diversity programs do most for white women and more for black women than for black men. Black men gain significantly less from affirmative action than do white women (chi-sq(1) = 4.15, $p < .05$), and significantly less from diversity committees than do black women (chi-sq(1) = 22.47, $p. < .01$). Three programs show negative effects on African Americans, whereas no program shows a negative effect on white women. We hesitate to overinterpret this pattern, but note that there is something of a trade-off among groups.

Table 3 evaluates the magnitude of the effects of programs on the proportion of each group in management based on the coefficients in Table 2. "Proportion in year of adoption" is the mean proportion of each group in management, among adopters, in their actual years of program adoption (i.e., just before treatment). "Estimated proportion with practice" shows the predicted mean proportion after the practice is in place. Thus, for example, the proportion of white women among managers in the average establishment adopting an affirmative action program was 0.132, and the net effect of the

Table 3. Estimated Average Differences in Managerial Composition Due to Adoption of Affirmative Action and Diversity Practices

	White Men	White Women	Black Women	Black Men
Affirmative Action Plan				
Proportion in year of adoption	.783	.132	.017	.024
Estimated proportion with practice	.769	.142	.017	.025
Percent difference due to adoption	−1.8%**	7.6%**	.0%	4.2%**
Diversity Committee				
Proportion in year of adoption	.630	.230	.014	.020
Estimated proportion with practice	.611	.262	.018	.022
Percent difference due to adoption	−3.0%**	13.9%**	29.8%**	10.0%**
Diversity Staff				
Proportion in year of adoption	.724	.157	.014	.021
Estimated proportion with practice	.713	.171	.016	.024
Percent difference due to adoption	−1.5%	8.9%**	14.3%**	14.3%**
Diversity Training				
Proportion in year of adoption	.687	.194	.017	.022
Estimated proportion with practice	.679	.194	.016	.023
Percent difference due to adoption	−1.2%	.0%	−5.9%**	4.5%
Diversity Evaluations				
Proportion in year of adoption	.720	.160	.017	.024
Estimated proportion with practice	.726	.168	.017	.022
Percent difference due to adoption	.8%	5.0%	.0%	−8.3%**
Networking Programs				
Proportion in year of adoption	.702	.193	.014	.020
Estimated proportion with practice	.684	.206	.014	.018
Percent difference due to adoption	−2.6%**	6.7%**	.0%	−10.0%**
Mentoring Programs				
Proportion in year of adoption	.690	.216	.017	.021
Estimated proportion with practice	.688	.215	.021	.022
Percent difference due to adoption	−.3%	−.5%	23.5%**	4.8%

Note: Estimates based on coefficients presented in Table 2.
* $p < .05$; ** $p < .01$ (two tailed test).

program, with control for other factors, is to raise white women proportion to 0.142. Similarly, the proportion of black women among managers was 0.014 in the average firm adopting a diversity committee, and adoption brings black women to 0.018, an increase of almost 30%. The third row, based on the first two rows, reports the percentage change over the baseline resulting from program adoption.

Tables 2 and 3 support our contention that programs establishing organizational responsibility are more broadly effective than those that address managerial bias or social isolation among women and African Americans. Organizations that structure responsibility see consistent positive effects for white women, black women, and black men.

Coefficients for control variables are consistent with expectations, with one possible exception. The negative effect of formal per-

sonnel policies is not consistent with the idea that bureaucracy impedes cronyism or bias in promotion decisions (Reskin and McBrier 2000), but is consistent with the argument that formalization leads to the needless inflation of educational prerequisites (Collins 1979), and with findings that the determinants of promotion differ systematically for whites and blacks even when formal personnel systems exist (Baldi and McBrier 1997). Other coefficients of control variables show that although growth and unionization have not improved diversity, and although legal staff had only limited effects, targeted recruitment programs, work/family accommodations, and top management team diversity show positive effects on managerial diversity. Coefficients for the labor market and economic environment measures, not shown here, are in the expected direction as well (see Online Supplement, *ASR* Web site).

DOES ORGANIZATIONAL RESPONSIBILITY IMPROVE PROGRAM EFFECTIVENESS?

It is possible that some programs work best in combination with others (MacDuffie 1995; Perry-Smith and Blum 2000). Our finding that organizational responsibility structures have broader effects than other programs suggests that perhaps training, evaluation, mentoring, and networking would be more successful in combination with responsibility structures. We undertake several analyses of program combinations.

First, we explore the possibility that the simple number of programs matters. Perhaps our measures capture not the effects of discrete programs so much as an orientation toward changing workplace demography. We introduce three binary variables representing the presence of any one, two, and three or more programs. Across the 16,265 organization-year spells of data, 49 percent had no programs, 34 percent had one program, 10 percent had two programs, and 7 percent had three or more programs. In the top panel of Table 4, we report the effects of the

Table 4. Fixed-Effects Estimates of the Log Odds of White Men and Women and Black Women and Men in Management with Bundles of Programs, 1971–2002

	White Men	White Women	Black Women	Black Men
Adoption of One or More AA Plans & Diversity Programs				
Only one program	–.043**	.056**	–.009	.026
	(.016)	(.016)	(.013)	(.014)
Two programs	–.091**	.121**	.020	.024
	(.023)	(.023)	(.019)	(.021)
Three or more programs	–.158**	.232**	.127**	.046
	(.029)	(.030)	(.025)	(.027)
R^2 (60 parameters)	.3323	.3124	.3569	.2767
Interaction with Responsibility Structures				
Responsibility structures	–.063**	.081**	.007	.042**
	(.017)	(.017)	(.014)	(.015)
Diversity training	–.026	–.064	–.046	.026
	(.036)	(.038)	(.031)	(.033)
× Responsibility structure	–.026	.132**	.044	.040
	(.042)	(.043)	(.036)	(.038)
Diversity evaluations	.294**	–.042	–.065	–.077
	(.057)	(.059)	(.049)	(.052)
× Responsibility structure	–.326**	.136*	.057	.009
	(.061)	(.063)	(.053)	(.057)
Networking programs	–.090	.163**	–.026	–.172*
	(.050)	(.052)	(.043)	(.046)
× Responsibility structure	–.003	–.088	.073	.118*
	(.056)	(.058)	(.048)	(.051)
Mentoring programs	.140**	–.101	–.042	.127*
	(.066)	(.068)	(.057)	(.061)
× Responsibility structure	–.183*	.133	.344**	–.108
	(.074)	(.076)	(.063)	(.068)
R^2 (66 parameters)	.3347	.3136	.3602	.2785

Note: Data shown are coefficients from 2 seemingly unrelated regression analyses with standard errors in parentheses. Responsibility Structures include affirmative action plans, diversity committees and diversity staff. The analyses include establishment and year fixed effects and all the control variables included in the models presented in Table 2 (for coefficients of control variables, see Online Supplement, *ASR* Web site: http://www2. asanet.org/journals/asr/2006/toc052.html). N (organization-year) = 16,265; N (organizations) = 708.
* $p < .05$; ** $p < .01$ (two tailed test).

number of programs in models parallel to those presented in Table 2 (results for the control variables are available on the Online Supplement, *ASR* Web site). We compared coefficients for the binary count variables using *t* tests. For white women, the sheer number of programs matters; one is better than zero, two better than one, and three or more are better than two. For white men, we find the opposite pattern, suggesting that each additional program reduces the odds for white men. For black women, having one or two programs is not significantly different from having none. Having three is significantly different. For black men, none of the count variables show an effect significantly different from having no programs. Hence, for white women, the more programs the better. For blacks, the number of programs matters less than the content of the programs. This is not surprising given that some practices in Table 2 show no effects, or even negative effects, on blacks.

Although each additional program, regardless of content, does not always translate into greater diversity, particular bundles of programs might operate well together. To test this idea, we ran (in models otherwise identical to those in Table 2) all two-way interactions between affirmative action plan, diversity committee, diversity staff, training, evaluation, networking, and mentoring. (The bivariate correlations and joint frequencies of the seven programs are presented on the Online Supplement, *ASR* Web site.) The two-way interactions among training, evaluation, networking, and mentoring did not indicate that any pairs operated better than individual programs. But two-way interactions with responsibility structures did render training, evaluation, networking, and mentoring more effective. For ease of presentation, we collapse the three responsibility structures into a single variable, interacting it with the four other program variables. The second panel in Table 4 includes estimates from models with these interactions (results for the control variables are presented on the Online Supplement, *ASR* Web site).

Diversity training, evaluation, networking, and mentoring programs are more effective in firms with responsibility structures. With diversity training and evaluations, the responsibility structure interaction positively affects white women. With networking, the responsibility structure interaction positively affects black

men, and with mentoring, it positively affects black women. Note that the noninteracted variable, responsibility structure, continues to show the expected effects for white men, white women, and black men. The overall pattern is striking and suggests that these authority structures render the other programs more effective. Yet even with responsibility structures in place, none of these programs show the sort of consistent pattern across outcomes that we find for, say, diversity committee.

DO AFFIRMATIVE ACTION ORDERS MEDIATE PROGRAM EFFICACY?

In Table 2, we also examine whether affirmative action enforcement shows direct effects. Employers who sign a government contract, and thereby become subject to affirmative action regulation, do not see increases in managerial diversity as a direct result. When we interacted contractor status with the period 1971–1980, the results did not support early researchers' findings that contractors experienced faster growth in black employment in the 1970s. Of course, effects found in earlier studies were quite small, and it may be that they were concentrated in industries we do not sample. For the entire period, we find a decline in the odds for black women after the approval of a government contract. This may be because employers who strive to improve their numbers before seeking government work, improve more slowly after receiving contracts (Baron et al. 1991:1389; Leonard 1990:65). Government contractor status does not show positive effects even when we exclude programs that may be associated with contractor status: the seven diversity measures, formal HR policies, work–family policies, and compliance reviews (results available on request).

Unlike contractor status, antidiscrimination enforcement shows effects. Federal compliance reviews, which 32 percent of the contractors in our data faced, increased representation of white women and black men. Leonard (1985b) also found effects of compliance reviews in his study of the 1970s. When we interacted compliance review with the period 1971–1980, our results (available upon request) replicated his finding from the 1970s as well (see also Kalev and Dobbin forthcoming). Discrimination lawsuits increase the odds for all three groups in man-

agement (Skaggs 2001), and EEOC charges increase the odds for black men.

The natural follow-up question is whether affirmative action oversight mediates the efficacy of the seven affirmative action and diversity measures. Theory suggests that program implementation may be taken more seriously in firms subject to regulatory scrutiny. Those firms typically assign responsibility for compliance to an office or person. In Table 5, we add interaction terms between programs and contractor status to the model presented in Table 2. Coefficients for control variables are available on the Online Supplement, *ASR* Web site. A

log-likelihood test shows a significant improvement in fit over that of the model presented in Table 2. The interaction coefficients show whether effects are significantly different among contractors and noncontractors. We also examine the linear combination of the interaction components (using Lincom in Stata) to assess whether programs have significant effects among contractors.

Diversity training shows the greatest difference in effects on all four groups. Whereas among noncontractors training decreases the representation of white and black women in management, among contractors it is followed

Table 5. Fixed-Effects Estimates of the Log Odds of White Men and Women and Black Women and Men in Management with Government Contractor Interactions, 1971–2002

	White Men	White Women	Black Women	Black Men
Affirmative Action Plan	−.050*	.086**	.000	.007
	(.023)	(.023)	(.019)	(.021)
× Government contract	−.050	.003	.000	.053*
	(.028)	(.029)	(.024)	(.026)
Diversity Committee	−.096*	.173**	.270**	.076*
	(.038)	(.040)	(.033)	(.035)
× Government contract	.029	−.006	−.050	.074
	(.053)	(.055)	(.046)	(.049)
Diversity Staff	−.076	.018	.205**	.240**
	(.058)	(.060)	(.050)	(.053)
× Government contract	.024	.120	−.127*	−.145*
	(.066)	(.068)	(.056)	(.060)
Diversity Training	.005	−.094**	−.116**	−.016
	(.027)	(.028)	(.023)	(.025)
× Government contract	−.092*	.197**	.107**	.100**
	(.038)	(.040)	(.033)	(.035)
Diversity Evaluations	.049	.090*	−.097**	−.063
	(.039)	(.041)	(.034)	(.036)
× Government contract	−.041	−.035	.118**	−.027
	(.050)	(.051)	(.042)	(.045)
Networking Programs	−.133**	.171**	−.034	−.035
	(.038)	(.039)	(.033)	(.035)
× Government contract	.111*	−.195**	.069	−.113*
	(.051)	(.052)	(.043)	(.046)
Mentoring Programs	.028	−.053	.179**	.070
	(.046)	(.047)	(.039)	(.042)
× Government contract	−.081	.086	.057	−.056
	(.063)	(.065)	(.054)	(.058)
R^2 (71 parameters)	.3341	.3165	.3650	.2811

Note: Log likelihood ratio test; χ^2 (28) = 135.86; $p < .001$; Data shown are coefficients from seemingly unrelated regression with standard errors in parentheses. The analyses include establishment and year fixed effects and all the control variables included in the models presented in Table 2 (for coefficients of control variables, see Online Supplement, *ASR* Web site: http://www2.asanet.org/journals/asr/2006/toc052.html). N (organization-year) = 16,265; N (organizations) = 708.

* $p < .05$; ** $p < .01$ (two tailed test).

by a significant decline in the odds for white men ($\beta = .086$; SE = .004) and significant increases among white women ($\beta = .103$; SE = .030) and black men ($\beta = .083$; SE = .027). Diversity evaluations also are less likely to backfire among contractors, where the effect on black women is now zero.

Affirmative action plans show significantly larger effects for black men among contractors, further supporting Leonard's (1990) findings. The coefficients for diversity staff in the models for black women and men, although significantly smaller among contractors, are still positive and significant (B = .078; SE = .032 and B = .095; SE = .034, respectively). Networking programs help white women in noncontractor establishments, at the expense of white men, but this effect disappears among contractors, and black men see negative effects for reasons that are not clear.

FURTHER ANALYSES

A key challenge in analysis of nonexperimental data is to account for heterogeneity that stems from nonrandom selection into the "treatment" (in our case, adopting a program). Heterogeneity may bias casual inference. Our model specification, with fixed effects for each year and each establishment and with control variables measuring organizational structures, labor pool composition, and economic and legal environment, is designed to minimize this possibility.

We conducted three additional robustness tests (results available on request). First, we added binary variables as proxies for unspecified, unobserved events (impending lawsuit, local news coverage) that may have caused employers both to implement new antidiscrimination programs and to hire more women and African Americans. We created proxies for each of the seven programs. We re-ran the analysis 14 times, with proxies measured 2 and 3 years before program adoption in models parallel to those presented in Table 2. These proxy variables did not substantially alter the coefficients or standard errors for affirmative action and diversity programs, and most did not show significant effects. This adds to our confidence that the observed relationships between diversity programs and managerial diversity are not spurious

(Rossi, Lipsey, and Freeman 2004; Snyder 2003).

Second, program adopters may be different from nonadopters in ways that are not absorbed by the establishment fixed effects. Perhaps adopters change faster than nonadopters in terms of management fads and demographics. We therefore re-ran the analyses in Table 2 seven times, each time only with establishments that ever adopted a particular program (once for affirmative action plan adopters, then for diversity committee, etc.). If the effects in Table 2 are attributable to differences between adopters and nonadopters, then program effects should disappear when we exclude nonadopters. The results of our "adopters only" analyses are substantively similar to those in Table 2.

Third, we were concerned that because the dataset is not rectangular (some establishments enter the data after 1971), unobserved heterogeneity might distort the results if establishments are missing in early years for reasons (e.g. organizational size or age) associated with the outcome variables. We thus replicated the analysis using a rectangular subsample of establishments. The results were substantially similar to those reported in this discussion.

To examine the robustness of the results to within-unit serial correlation, we corrected for the possibility that each error is partially dependent on the error of the previous year (AR[1]) with the Cochrane–Orcutt method (available in State using xtregar, not the seemingly unrelated regression). This transforms the data by subtracting from the equation for time t the equation for time t-1 multiplied by the autocorrelation coefficient. The AR(1) results are substantially similar to those reported in Table 2 (available on the Online Supplement, *ASR* Web site). The one exception is that affirmative action plan is significant for whites only at the $p < 0.1$ level. We report seemingly unrelated regression models in Table 2 because they account for relatedness of outcome variables and are thus more efficient, and because they allow us to compare coefficients for different groups.

Because our analyses cover more than three decades, we also explored two theories of timing and program efficacy (results available on request) to rule out the possibility that some programs showing no effects in the aggregate actually were effective at certain points in time. One theory is that employer practices are more

effective under active regulatory regimes. We thus added to the model reported in Table 2 interaction terms between each of the practices and the Reagan and first Bush era (1981–1992) as well as the Bill Clinton and George W. Bush era (1993–2002). The comparison period, 1971 to 1980, encompassed the activist Nixon administration, the brief Ford administration, and the activist Carter administration (Skrentny 1996). A finding that programs were more effective during the 1970s might help to explain why research on the period (e.g., Leonard 1990) found the greatest increases in black employment among contractors. We find no evidence that programs operated differently across periods.

The second timing argument is that early program adopters are those most committed to change (Tolbert and Zucker 1983). We looked at whether the effects of each practice were stronger among the first 15, 25, and 40 percent of eventual adopters. Our analyses showed that practices are no more effective among early adopters.

We also explored whether some programs showed weak effects in the models because they had differential effects by establishment size or industry. With regard to size interactions, some negative program effects were neutralized in very large establishments, but the programs that proved ineffective in general were not effective among large or small organizations. In industry interactions, most program effects were stable in direction if not in magnitude across industries. One notable pattern was that the effect of affirmative action plans on black women was negative in manufacturing and positive in service, as discussed earlier.

Finally, we were concerned that survey respondent reports of early program dates might be inaccurate, which could cause us to underestimate program effects by including posttreatment values (i.e., that reflect changes attributable to a program) as pretreatment data. We were particularly concerned about results showing weak effects for training, evaluations, networking, and mentoring. Correlations between respondent tenure and adoption years were small and not significant, the one exception being for networking (correlation of –0.20; $p < 0.05$). To evaluate the effects of measurement error, we re-ran Table 2 models, eliminating establishment-year spells before 1990,

thus excluding from the analysis possibly erroneous information on early years of adoption. Using fixed-effects models to analyze only data for 1990–2002 would prevent us from evaluating the effects of programs adopted any time before 1990, so we first replicated the full analysis (for the entire period) without fixed establishment effects, replacing differenced variables with undifferenced variables. The results were similar to those presented in Table 2. Then using the undifferenced variables, we re-ran the models eliminating all establishment-year spells before 1990. We lost many spells, but the substantive results held up (for results, see Online Supplement on *ASR* Web site). This increases our confidence in the models, and particularly in the weak effects of training, evaluations, networking, and mentoring.

CONCLUSION

The antidiscrimination measures we study have become popular among employers, HR managers, lawyers, and advocacy groups, despite the absence of hard evidence that they work (Bisom-Rapp 1999; Krawiec 2003). Employers use these practices to defend themselves in court, and the courts, in many cases, accept them as good faith efforts to stamp out discrimination (Edelman et al. 2005). There are reasons to believe that employers adopt antidiscrimination measures as window dressing, to inoculate themselves against liability, or to improve morale rather than to increase managerial diversity. In the final analysis, however, the measure of these programs—for scholars, practitioners, and the courts—should be whether they do anything to increase diversity. Using EEO-1 reports, we cannot examine whether these programs help women and African Americans to move up from the bottom rungs of management. But we can show that some popular diversity programs at least help women and African Americans to climb into the ranks of management. Other popular programs do not do even that.

There is a rich tradition of theory and research on the causes of workplace inequality. We contend that this work may not always hold clear implications for remedies. The question of how to reduce inequality is just as deserving of attention. Our conceptualization of different types of diversity programs and our analyses of their effects lay the groundwork for research and the-

ory on the remediation of inequality in work-places.

Broadly speaking, our findings suggest that although inequality in attainment at work may be rooted in managerial bias and the social isolation of women and minorities, the best hope for remedying it may lie in practices that assign organizational responsibility for change. Our own theory of the remediation of inequality builds on classical organizational sociology rather than on theories of cognitive bias or social networks (see also Blum, Fields, and Goodman 1994).

Structures that embed accountability, authority, and expertise (affirmative action plans, diversity committees and taskforces, diversity managers and departments) are the most effective means of increasing the proportions of white women, black women, and black men in private sector management. Moreover, they show effects even in the presence of controls for the specific initiatives that specialists often implement, from formal hiring and promotion rules to work–family programs. Responsibility structures also catalyze the other diversity programs, rendering each a bit more effective for one group. Some programs also prove more effective among federal contractors, likely because legal requirements encourage employers to assign responsibility for compliance.

Practices that target managerial bias through feedback (diversity evaluations) and education (diversity training) show virtually no effect in the aggregate. They show modest positive effects when responsibility structures are also in place and among federal contractors. But they sometimes show negative effects otherwise. Research to date from HR experts and psychologists suggests that interactive training workshops, of the kind we examine, often generate backlash. Finally, programs designed to counter the social isolation of women and minorities through mentoring and networking are disappointing, although mentoring does appear to help black women.

The poor performance of practices that address social–psychological and social–relational sources of inequality should not be taken as evidence that these forces do not produce social inequality. A preponderance of empirical research shows that bias and poor network connections contribute to inequality. Further research is needed to determine why these programs do not live up to their promise.

Much management theorizing from law and economics scholars (Becker 1968; Gray and Shadbegian 2005; Posner 1992; see also Simpson 2002) and psychologists (e.g. Tetlock 1985) suggests that corporate behavior is best controlled by doling out incentives to individual managers and shaping their attitudes. This approach is rooted in a sort of methodological individualism that is prominent in management research and practice. However, when it comes to addressing corporate inequality we find that the strategies designed to change individuals are less effective than the conventional management solution of setting goals and assigning responsibility for moving toward these goals.

That said, the three programs we found to be most effective likely operate in somewhat different ways. Whereas affirmative action plans and diversity staff both centralize authority over and accountability for workforce composition, diversity committees locate authority and accountability in an interdepartmental task force and may work by causing people from different parts of the organization to take responsibility for pursuing the goal of integration.

In this study, we examine managers alone. It is important for both theory and practice to extend this research to other occupational groups. Yet for employers seeking solutions to the problem of gender and racial segregation, our analyses offer hope. Most employers do something to promote diversity—76 percent had adopted one of these seven programs by 2002—but do they do what is most effective? Diversity committees have been quite effective, requiring neither additional staff nor expensive consultants. Less than 20 percent of the establishments we studied had them by 2002. Diversity staff are also quite effective, but only 11 percent of establishments had them. On the other hand, diversity training, which 39 percent of establishments had adopted, and which can be quite costly, was not very effective and showed adverse effects among noncontractors.

Even the programs that work best have modest effects, particularly for African Americans, who are poorly represented to begin with. Diversity committees raise the proportion of black women in management by a remarkable 30 percent on average, but from a baseline of only 1.4 percent. Appointing full-time diversi-

ty staffer raises the proportion of black men by a healthy 14 percent, but from a baseline of only 2.1 percent. These programs alone will not soon change the look of management. Note, however, that our sample of large, private firms has changed less quickly than the economy as a whole. In young start-up firms and in the public sector, these practices may be even more effective than they are in our sample.

The effects of these programs should not be conflated with the effects of antidiscrimination legislation. First, as we demonstrate, federal affirmative action regulations clearly mediate the efficacy of diversity evaluations and training. Our findings thus go against the popular claim that antidiscrimination regulation is no longer needed because diversity programs have gained a life of their own (Fisher 1985; Liberman 2003). Moreover, it was federal regulations that led employers to first establish affirmative action plans, the most common intervention and one of the most effective.

Second, enforcement has been effective regardless of corporate policies. As research has shown, and as our findings support, Title VII lawsuits and affirmative action compliance reviews led to increases in women's and minorities' share of management jobs, especially in periods and judicial circuits wherein civil rights enforcement was strong (Kalev and Dobbin forthcoming; Leonard 1989; 1990; Skaggs 2001).

Finally, to assess the impact of antidiscrimination legislation on employment inequality, one needs to consider broader political, social, and cultural changes associated with the Civil Rights Act, affirmative action, and related laws (Burstein 2000). Yet if the effects of government antidiscrimination measures have slowed, as some observers suggest, then we should waste no time sorting out which corporate programs are effective.

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