

# Corporate Restructuring and Sex Differences in Managerial Promotion

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*Women have made significant inroads into management in recent decades, yet remain underrepresented in leadership positions in large firms. In this article, I assess the critical but seldom analyzed role that widespread corporate restructuring may play in generating these inequalities. I build on social-cognitive research and the opportunity structure for discrimination framework to develop contrasting predictions of the effects from two forms of restructuring—reductions in force and reorganization of human resource management systems—on sex differences in managerial promotion. Analyses of longitudinal personnel records from a Fortune 500 manufacturing firm—a firm that restructured multiple times over the period examined—are consistent with the opportunity structure for discrimination framework and suggest that the firm responded to gender equity pressures to promote women when afforded the opportunity to do so. Women’s promotion rates were higher than men’s during restructuring, relative to previous years, with a greater difference at higher-status job levels. Importantly, however, few women transitioned into upper management positions in the firm during the restructuring period because (1) reductions in force slowed promotion rates for all managers, (2) women began their careers in lower-status jobs to begin with, relative to men, and (3) women’s promotion advantages were often short-lived. I conclude by discussing implications of my findings for research on organizational dynamics and gender inequality.*

Women make up half of the managerial workforce, yet they hold only 15 percent of leadership positions in contemporary Fortune

500 firms (Catalyst 2006). The lack of women senior managers traces in part to sex differences in hiring (Castilla 2005; Fernandez, Castilla, and Moore 2000; Gorman 2005), with women facing a longer career path to the top than men. These patterns may also be a function of lower promotion rates for women relative to men (Lazear and Rosen 1990), although evidence is mixed in this regard. Barriers to women’s upward mobility in the late 1960s (Rosenbaum 1985) disappeared in the 1970s and early 1980s, with women promoted at a higher rate than men in upper-level jobs (Petersen and Saporta 2004; Spilerman and Petersen 1999). Yet, if women’s net promotion advantage in the 1970s and 1980s held over time, we would expect to find more women in senior management positions. An implication is that women’s upward mobility slowed considerably in recent decades, although how and why remains unclear.

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One critical yet seldom explored reason for women's slow advancement may have to do with widespread and ongoing corporate restructuring processes that began in the early 1980s. Such restructuring—in the form of large-scale reductions in force (RIF) and reorganization of firms' human resource management (HRM) systems (Cappelli et al. 1997)—could have influenced women's lack of progress in two key ways. First, RIF slowed upward mobility of men and women as it ended employment growth, on which promotions depend.<sup>1</sup> Second, restructuring had a differential, albeit uncertain, effect on the careers of men and women. In this regard, some evidence suggests that restructuring subordinated gender equity issues while other findings indicate that restructuring enhanced women's careers (McCall 2005).

Scholars who maintain that restructuring harmed women claim that RIF eliminated pathways into senior management, thereby trapping women located in lower-level jobs (Acker 1992; Reskin and Padavic 1994). In addition, some research implies that restructuring increased the incidence of cognitive bias in career decisions because it (1) increased competition for promotions, (2) increased flexibility of employment systems while enhancing the empowerment of managers (Bielby 2000; Reskin 2000), and (3) occurred during a period in which enforcement of antidiscrimination legislation was lower than in previous periods (Reskin 2003).

Other studies, in contrast, indicate that although restructuring slowed women's net promotion advantage temporarily—because, for instance, firms engaging in RIF subsequently increased employment (Baumol, Blinder, and Wolff 2003)—it also benefited women because it (1) created job openings in senior management levels through early retirement, (2) removed prior constraints on upward mobility by replacing seniority-based promotion criteria with

performance-based criteria, (3) occurred during a period that had substantial pressures for gender equity (Shaw et al. 1993) and strong human resource management (HRM) oversight in the large firms that were common restructurers (Kalev, Dobbin, and Kelly 2006; Petersen and Saporta 2004), and (4) may have reduced discrimination (Black and Brainerd 2004).

In this article, I build on social-cognitive research (Bielby 2000; Reskin 2003) and the opportunity structure for discrimination (OSFD) framework (Petersen and Saporta 2004) to *develop contrasting accounts of the effect of corporate restructuring on sex differences in managerial promotion*. Because extant research does not explicitly examine effects of restructuring on sex differences in promotion (Batt 2005), I develop predictions based on assumptions within key scholarship in the two accounts and from research examining effects of organizational change and gender equity on career outcomes.

Both the social-cognitive and OSFD accounts seek to move research beyond an assessment of *why* firms discriminate and toward understanding *how* firms discriminate (Reskin 2003) and *where* in employment relationships discrimination is most likely (Petersen and Saporta 2004). Social-cognitive researchers note that discrimination can be limited, as shown in lab settings. Yet, they maintain that bias is greater in the workplace (Bielby 2000; Reskin 2000) and even higher in restructuring firms. The OSFD framework, in contrast, suggests that such bias and its implications for discrimination will be limited by legal rules, gender equity pressures, and HRM oversight. My analyses examine predictions from these contrasting accounts using a unique data set comprising more than 25 years (1967 to 1993) of personnel records for managers in a large U.S. manufacturing firm. Like other Fortune 500 firms, this firm engaged in multiple restructurings (Cascio, Young, and Morris 1997), implementing a large-scale RIF in the mid-1980s, transforming its performance management system in the late 1980s, and implementing a second large-scale RIF in the early 1990s.

<sup>1</sup> Theory is largely consistent in predicting a negative effect of restructuring (i.e., downsizing) on promotion rates (Baker 1990; Katz 1986; Sørensen 1994; Stewman 1988). However, restructuring could increase promotion rates, for instance, if layoffs occur disproportionately in lower job levels because fewer managers will compete for the same positions at the top. I thank an anonymous reviewer for this comment.

## SOCIAL-COGNITIVE PROCESSES AND BIAS

Social-cognitive research argues that individuals automatically (i.e., unconsciously) characterize others into in-groups and out-groups, leading to distortion in information processing and decision making (Bielby 2000; Reskin 2000). It proposes that “the repeated background activation of gender status over many workplace interactions . . . produc[es] the effect of men acting in their gender interest, even when many feel no special loyalty to their sex” (Ridgeway 1997:227). Cognitive biases can thus lead to a cumulative disadvantage for women as barriers to upward mobility become stronger in increasing hierarchical job levels (Valian 1998).

An important issue in social-cognitive research is that variability in “personnel practices and work arrangements plays a nontrivial role in workers’ exposure to discrimination” (Reskin 2002:219). For instance, research on employing organizations (Reskin and McBrier 2000) and in lab settings shows that formalized personnel systems, transparency of managerial decisions, and managerial accountability limit cognitive bias (see Reskin 2000 for a review). Assessing temporal variability in personnel practices of a single firm could thus provide insight into the nature of cognitive discrimination. More specifically, research on corporate restructuring in a firm should shed light on the effects of cognitive bias on gender equity in the workforce because restructuring (1) magnifies the intensity of competition for promotions, (2) empowers managers and increases labor market flexibility, and (3) subordinates gender equity goals.

Social-cognitive research suggests that corporate RIF should increase discrimination against women for two main reasons. First, RIF increases competition for promotions because it reduces rates of upward mobility (Stewman 1988), thereby enhancing the likelihood that male managers will favor same-sex colleagues in career decisions (e.g., by placing women behind men in labor queues for desirable jobs) (Reskin and Roos 1990). Second, by increasing numeric flexibility, RIF enhances fears of future termination (Katz 1986) and hence the workload and stress of surviving managers (Shaw et al. 1993). Because the benefits of accountability diminish under time pressure (Tetlock and Lerner 1999), and because information overload

increases the influence of stereotypes on judgment (Bodenhausen, Macrae, and Garst 1998), the likelihood that women will be discriminated against during RIF is high (Reskin 2000).

Social-cognitive research also implies that reorganization of performance management systems will likewise be influential in at least five ways. First, the increased labor market flexibility stemming from this reorganization raises the likelihood that bias enters into career decisions. For example, as part of the performance management reorganization process, firms replace objective measures influencing promotion, such as seniority in a job, with more subjective performance appraisals. Although increased flexibility does not necessarily reduce formalization—in the sense that firms presumably maintain written rules governing the appraisal and reward process—it can lead to discriminatory outcomes. For instance, flexibility in HR systems increases informality in these systems, leading to in-group bias (McDowell 1997).

Second, organizational change processes have been shown to subordinate gender equity concerns. For instance, Meyersen and Ely (2000) demonstrate that even when firms are committed to gender equity, these goals can be sabotaged by the reorganization process.

Third, reorganization occurs in a context that empowers managers to make decisions. Osterman (1994), for instance, notes that managers in reorganized firms report a lack of close supervision and substantial control over how they accomplish their work. As Nelson and Bridges (1999) document, decentralization of decision-making authority may increase the likelihood that women are discriminated against in pay decisions. Limits on cognitive bias in decision making should thus be lower in firms that reorganized, which increases the likelihood that managers will act on their stereotypes in promotion decisions.

Fourth, during the period of reorganization covered by this study, legal protections for women against discrimination were arguably declining, thus increasing the likelihood that cognitive bias would shape career outcomes. For instance, federal courts limited a plaintiff’s ability to win disparate-impact lawsuits (Reskin 2003). In addition, throughout the 1990s, federal courts found few violators of the 1991 amendment to Title VII of the Civil Rights Act,

which explicitly banned disparate-impact discrimination. Moreover, until 1992, private attorneys had few incentives to accept discrimination cases because of the difficulties in winning these suits (Reskin 2003).

Fifth, many firms that reorganized were old and male dominated, raising the possibility that institutionalized bias tracing to founding conditions would take precedence over gender equity pressures (Baron, Mittman, and Newman 1991). In short, social-cognitive research indicates that corporate RIF and reorganization subordinate gender equity concerns, thereby increasing the likelihood that cognitive bias will enter into career decisions and hence reduce women's upward mobility rates relative to men.

### THE OPPORTUNITY STRUCTURE FOR DISCRIMINATION

The OSFD framework posits that firms treat all employees equally once they are in the organizational "system" because of internal oversight from personnel and legal departments, as well as pressures from governmental legislation and regulatory bodies such as the Equal Employment Opportunity Commission (EEOC) (Petersen and Saporta 2004). Three critical factors, it is suggested, influence the presence or absence of discrimination against women: (1) the ease with which information on career decisions can be obtained, (2) the ambiguity of the assembled information, and (3) the availability of a plaintiff (Petersen and Saporta 2004). Discrimination against women should thus decrease over time as information on past promotion decisions accumulates, with women who are passed over for promotion representing a sizeable group of potential plaintiffs.

There is a fair amount of evidence consistent with the OSFD framework's predictions. DiPrete (1989) found that women in the federal civil service during the mid-1970s were promoted at a lower rate than men at entry levels, but at a higher rate at higher levels. These patterns are similar to those in Petersen and Saporta's (2004) analysis of a large production and service firm during 1978 to 1986 and Spilerman and Petersen's (1999) study of a large insurance firm during 1971 to 1978. These observed patterns of sex differences in promotion raise two related questions: (1) Given women's prior disadvantage (Rosenbaum 1985) and that the

OSFD framework predicts that rates of upward mobility should be equal for men and women in these levels, why did women experience a net promotion advantage at higher-status jobs in the 1970s and 1980s? (2) Was the net promotion advantage for women eliminated during the period of corporate restructuring from the mid-1980s to the present?

The OSFD framework posits two reasons why women enjoyed a net promotion advantage particularly at more prestigious levels. First, Petersen and colleagues emphasize that HRM played a key role in limiting discrimination, as did strong pressures for gender equity. For instance, Spilerman and Petersen (1999:224) underscore that managers in the insurance company they studied claimed that pressures for affirmative action were strong in the period they analyzed, and "had motivated corporate programs to increase the representation of women in policy-making positions." In addition, Petersen and Saporta (2004) note that a manager in the large service-sector firm that they studied maintained that this firm had a strong commitment to gender equity, as did other large firms during the period.

In addition, Petersen and colleagues point out that a lack of women in upper management levels made it easier to promote women at higher rates than men. That is, "a policy of facilitating women's advancement could be pursued with little detrimental impact on the promotion opportunities of men and, therefore, with little employee opposition" (Spilerman and Petersen 1999:224). Because the percentage of women in a job level decreased with increasing job levels, the ability of firms to act on gender equity pressures may have been greater in higher-level jobs.

At a broad level, factors leading to women's net promotion advantage in the 1970s and 1980s were evident in recent decades. For instance, gender equity pressures were strong throughout the 1980s and 1990s, particularly in terms of the desire to eradicate the glass ceiling (Shaw et al. 1993). Moreover, although many firms shrank in size during this period, they often remained quite large (Baumol et al. 2003). This made them susceptible to pressures for equitable treatment (Baron et al. 1991). In addition, women's continued underrepresentation in senior management levels allowed firms to promote them at a higher rate than men due to the relatively

lower visibility of such career shifts. However, although these factors indicate that women's net promotion advantage should have continued throughout the 1980s and 1990s, a full accounting of sex differences in promotion during recent decades requires an exploration of how different forms of corporate restructuring influenced upward career mobility.

Although pressures to promote women into leadership roles were strong in recent decades, constraints on firms' abilities to increase women's upward mobility were also strong due to effects of RIF on upward mobility. For instance, firms in the 1970s and 1980s grew at a fairly rapid rate, arguably because managers sought to create jobs so they could promote and thus motivate managers (Baker 1990). As a result, firms could promote women more rapidly than if they relied solely on the vacancy creation process. By contrast, restructuring firms were checked in their ability to promote women because they had fewer opportunities to promote *anyone* due to the reduction in upward mobility stemming from RIF.

In short, given limits on providing promotions, due in no small part to RIF, firms may have found it difficult to preserve women's net promotion advantage in recent decades. Nevertheless, these constraints may have been temporary because firms engaging in RIF increased employment rates in ensuing years (Baumol et al. 2003). Also, early retirement practices created vacancies in upper-level jobs that would have otherwise remained closed, allowing firms to continue practices of promoting women at higher rates than they achieved in the 1970s and early 1980s. The implication is that there will be considerable variation in sex differences in promotion rates over time during the restructuring period because RIF reduced women's promotion advantage temporarily.

Research also indicates that other forms of restructuring, such as the reorganization of performance management systems, may have enhanced firms' abilities to respond to gender equity pressures, thus enhancing women's promotion chances. For instance, managers in the reorganized performance management systems were evaluated on their ability to conduct effective performance reviews, suggesting that some degree of control over pay decisions was retained by firms. In other words, organiza-

tional changes that occurred during restructuring may have enhanced a firm's ability to monitor workplace decisions, even as organizations became more "flexible" (Rubery 2005). To the extent that oversight was high, as the OSFD framework and other recent studies suggest (Kalev et al. 2006; Petersen and Saporta 2004), discrimination against women should have remained low. Moreover, because the transformation in performance management systems eliminated previous constraints on women's upward mobility (e.g., the requirement of seniority in a job for promotion) entry-level and middle-management women might have experienced an increase in rates of upward mobility relative to previous periods.

In sum, social-cognitive research suggests that corporate restructuring will increase the incidence of cognitive bias in career decisions because RIF increases competition for promotion and reorganization increases labor market flexibility and empowerment. Given reduced enforcement of antidiscrimination legislation in the 1980s and 1990s, corporate restructuring should have reduced promotion rates for women considerably more than for similarly situated men. In contrast, the OSFD framework argues that oversight by legal and personnel staff limited discrimination in restructuring firms and pressures for gender equity remained strong throughout the restructuring period. Women's net promotion advantage in the 1970s and 1980s should thus have remained in recent decades, albeit with some variation over time as RIF temporarily limited firms' abilities to promote women at higher rates, and as RIF and reorganization eliminated prior impediments to women's upward mobility.

## METHODS

To assess the two contrasting accounts of the effect of restructuring on sex differences in promotion, I analyze longitudinal personnel files of a U.S. Fortune 500 energy sector firm for the period 1967 to 1993.<sup>2</sup> I also draw on information collected from internal corporate documents and semistructured interviews conducted

<sup>2</sup> Due to a confidentiality agreement, I am limited in the amount of information I can publicly disclose on the firm.

with several of the firm's human resource managers. I examine data on external hires into the firm's salary grade level (SGL) system, which ranged from level 7 to level 24. The SGL system, common in large bureaucratic firms, consists of interrelated jobs ranked hierarchically into grades to which salaries are attached.

### *CORPORATE RESTRUCTURING IN THE FIRM*

The firm undertook two RIFs during the period of this study, with the first RIF occurring in the mid-1980s and the second RIF occurring in the early 1990s. Internal documents obtained from the firm indicate that broad layoff guidelines were delegated to each division and termination decisions were made by senior managers within divisions during the first RIF. During the second RIF, cutbacks were uniform across the firm, with strategic objectives established by committees of senior managers and forwarded to business unit managers who implemented the layoffs. In the interim between the RIFs, the firm restructured its performance management system on an organization-wide basis. Similar to other large firms, it sent senior managers to other firms to study performance management systems and hired consultants to help design and implement the new system. As part of the transformation, the firm transitioned from a seniority-based appraisal and reward system to one in which the goal was to make pay contingent on a manager's performance relative to other similarly situated managers.

Information provided by the firm regarding the new performance management system raises questions about the degree to which the transformation process was gender neutral. Several changes suggest that the firm sought to preserve gender equity by maintaining transparency in decisions and by making managers accountable for their actions. For instance, the firm sought to make performance objectives measurable, attainable, and relevant, and to ensure consistency across managers in promotion decisions. It required managers to negotiate performance expectations and goals with subordinates early in the performance cycle (year), and to provide feedback to subordinates in meetings throughout the cycle, ending with the communication of detailed information on performance ratings to the subordinates. For

example, managers were required to meet with subordinates multiple times in a year to discuss performance expectations and evaluations. The firm also required supervisors to systematically compare their subordinates' relative performances.

Although requirements of the new performance management system may have reduced ambiguity in performance evaluation and increased managerial accountability, some key aspects of the new system likely reduced transparency in decision making. For instance, as part of the change process, all performance evaluation records were eliminated. According to the firm, an effort was made to minimize potential bias in future performance rankings by making it less likely that prior performance would be taken into account in measuring current performance. This removed the problems that arise from labeling employees and allowed the firm to take a more careful and complete look at performance appraisal and relative performance every year. As noted by confidential internal documents obtained from the firm, in the new performance management system, "relative performance was not fixed, and an employee's relative position had to be 're-earned' each year."

The firm also replaced bureaucratic features with more flexible ones that empowered managers and increased the degree to which rewards depended on performance rather than seniority. In addition, according to managers in the firm, internal surveys suggested that restructuring increased the workload of surviving managers and magnified uncertainty and stress. Moreover, the firm was old—founded in the early twentieth century—and male dominated, traits shown to enhance the incidence of cognitive bias against women (Baron et al. 1991). Finally, the firm eliminated the recording of performance rankings, one of the key formalized HRM practices that provides protection against discrimination (Kalleberg et al. 1996). If corporate restructuring increased the incidence of cognitive bias in the workplace, as the social-cognitive account suggests, it would thus show up in lower promotion rates for women relative to men during the firm's RIF and performance management transformation.

**Table 1.** Operationalization of Variables Used in the Analyses

Variable	Operationalization
Dependent Variable	
Promotion	Coded 1 if a manager was promoted to a higher grade level in a year and 0 otherwise.
Independent Variables	
Sex	Coded 0 if manager is male, and 1 if manager is female.
Restructuring period	Coded 1 for each year beginning with the year in which the incentive pay system was implemented in the mid-1980s.
Reduction in force	Coded 1 if the firm undertook a reduction in force in a year and 0 otherwise.
Performance management system change	Coded 1 for the year in which the firm reorganized its performance management system and 0 otherwise.
Salary grade level categories	Entry levels (7, 8, and 9), middle management levels (10, 11, and 12), upper-middle management levels (13, 14, 15, and 16), and upper management levels (17 to 24).
Control Variables	
Duration variables	Number of years in a job level (and job level squared), age in years, tenure in the firm in years (and tenure in the firm squared): time-varying variables, updated in each year.
Education	Coded 1 if the manager has an MA or PhD and 0 otherwise.
Occupation	Coded 1 if the manager is in the human resources function, and 0 otherwise.
Job level at hire	Continuous measure of salary grade level in which the manager entered the firm.
Year of hire	Dummy measures for the year in which the manager was hired.
Race	Coded 1 if the manager is a minority and 0 otherwise.
Division	Coded 1 if the manager is located in the firm's main corporate division, and 0 otherwise.
Salary	Manager's year-end salary (in thousands of dollars). Updated in each year.
Number of promotions	Number of promotions managers had during their careers. Updated in each year.

*Notes:* Discussions with managers and an inspection of the data set helped me to create the salary grade level groupings. Results are robust to an analysis of sex differences in promotion across all grade levels. Information on occupations was available only from several thousand unique job titles. I enlisted HR managers and scholars to group these titles into those belonging to the HR function versus those that belonged to other functions. Responses were very consistent across rankers.

### DATA SET

The data I analyze comprise a 25 percent random sample of managers in salary grade levels 7 to 24 who had entered the firm at any time from 1967 to 1993, resulting in a sample size of 5,675 managers.<sup>3</sup> I have incomplete information on managers who entered before 1967 because career progression before that time was unobserved. Because including employees

whose career information is incomplete can lead to a survivorship bias (Petersen 1995), I follow convention (Petersen and Saporta 2004) and study promotions of managers whose careers could be traced from their initial entry into the firm.

### VARIABLES

Table 1 provides operationalizations of the variables used in the analyses. The dependent outcome is a promotion, which involved an upward move between salary grade levels. I use a number of time-varying variables to capture effects of corporate restructuring on gender differences in promotions. I created pre-restructuring and

<sup>3</sup> The firm provided basic information on all workers employed by the firm from 1967 to 1993 and work histories of a 25 percent random sample of employees.

restructuring period measures, with the break-point tracing to the year the firm implemented its first RIF. Findings with respect to gender differences in promotion are largely robust to the selection of different adjacent starting points. I also measure effects of specific restructuring episodes with year dummies. As such, I do not specifically measure competing explanations of change. Rather, I assess whether the predictions of the two contrasting accounts in this article are consistent with observed sex differences in promotion, particularly during years in which change occurred, as well as in adjacent years.

I measure the sex of the manager with a dummy variable and consider promotions across the SGL occupied using variables that capture the difference between promotion chances for managers in levels 7 to 24. Partly due to a lack of women managers in a number of SGL groups in a given year, I group SGL that are similar in many dimensions: levels 7 to 9 (entry managers), levels 10 to 12 (middle managers), levels 13 to 16 (upper-middle managers), and levels 17 to 24 (upper-level managers).

I control for demographic, organizational, and human capital variables common in studies of promotion in large firms. Petersen and Saporta's (2004) analyses include measures relevant for determining discrimination in courts, namely job level occupied, time spent in a job level, age, education, occupation, tenure in the firm, year of hire, and job level at hire. I include these controls as well as variables measuring a manager's race, division occupied (Spilerman and Petersen 1999), year-end salary, and number of prior promotions received.

### **METHOD OF ESTIMATION**

I use discrete-time event history methods (Allison 1982) to analyze promotion. The risk set analyzed conforms to entry into the firm, with each manager's tenure split into yearly episodes and with promotion a repeatable event. The discrete-time hazard rate is defined as  $Pit = \Pr(T_i = t \mid T_i \geq t, \text{xit})$ , where  $T$  is the discrete random variable providing the uncensored time of event occurrence. This hazard rate is the conditional probability that a promotion occurred at time  $t$ , given that it had not yet occurred, estimated using maximum likelihood

methods such as logit models (Allison 1982:72). I cluster observations by manager to calculate robust (Huber/White) standard errors.

### **RESULTS**

Table 2 provides descriptive statistics for managers at the time they were hired by the firm separated into different periods. It shows that women entered managerial ranks at an increasing rate over time, particularly during the restructuring period from the mid-1980s to 1993. In addition, a more detailed inspection of entry rates shows that women's increased rates of hiring relative to men occurred in a short time frame. In the interim between the first RIF and the transformation in the performance management system, women went from 23 percent of new hires in one year to 39 percent of new hires in the following year, never dropping below 33 percent in the remaining sample period. Yet sex differences in level of entry were constant from the late 1960s to the 1990s, with women entering the firm at roughly one level below men.

Table 2 also shows that, over time, it was increasingly likely for women to be hired into the main corporate office and into the human resources function, with women comprising over half of the new entrants in this function in the late 1980s to early 1990s. In addition, women received lower starting salaries than men, with pay differences narrowing over time, particularly for entrants in levels 8 and 9. Moreover, age and educational qualifications varied over time, not only across sex groups, but also within them. Men and women entrants were roughly 28 years old in the late 1960s to the early 1970s, yet women were three years younger than men in the restructuring period. In addition, in the late 1960s to the early 1970s, roughly 15 percent of women had an advanced degree, compared with roughly 25 percent of men. From the mid-1970s to the early 1980s, 30 percent of women and 37 percent of men held an advanced degree. During the restructuring period from the mid-1980s to 1993, educational qualifications dropped for both men and women.



**Table 2.** Characteristics of Managers at Initial Hire in a Large U.S. Manufacturing Firm

	1	2	3	4
Variable	Late 1960s to Early 1970s	Mid-1970s to Early 1980s	Mid-1980s to Early 1990s (Restructuring)	All Years
Percent Female (# of managers)				
All managers	8.2 (1,375)	22.2 (2,224)	35.7 (2,076)	23.7 (5,675)
Salary grade levels 7–9	9.7 (1,088)	25.0 (1,908)	40.5 (1,623)	26.9 (4,619)
Salary grade levels 10–12	2.3 (258)	5.7 (281)	16.8 (386)	9.4 (925)
Salary grade levels 13–16	0 (27)	0 (34)	26.2 (61)	13.1 (122)
Salary grade levels 17–24	0 (2)	0 (1)	16.7 (6)	11.1 (9)
Main corporate office	20.0 (210)	34.1 (543)	44.3 (747)	37.2 (1,500)
Human resource function	12.1 (33)	41.9 (62)	57.2 (96)	44.5 (191)
Age				
Female	28.0	26.9	28.2	27.7
Male	28.8	28.7	31.4	29.6
Percent with MA or PhD Degree				
Female	15.2	30.0	24.6	25.8
Male	26.0	36.5	29.1	31.1
Average Entry Level				
Female	7.5	7.4	7.8	7.7
Male	8.4	8.1	8.7	8.4
Average Yearly Departure Rate				
Female	.9	4.5	6.1	5.1
Male	2.4	4.2	6.9	4.5
Percent Minority				
Female	22.3	17.2	23.1	18.7
Male	7.7	8.2	16.8	10.7
Ratio of Female to Male Salary				
Level 7 entrants	.91	.93	.95	.92
Level 8 entrants	.84	.93	.95	.93
Level 9 entrants	.85	.92	.96	.95

### DISCRETE-TIME EVENT HISTORY ANALYSES OF SEX DIFFERENCES IN PROMOTION RATES

Table 3 presents discrete-time event history analyses of managerial promotion for the period 1967 to 1993. The results in Columns 1 and 2 are consistent with prior studies (Petersen and Saporta 2004), with women more likely to be promoted than men, with and without control variables. In addition, consistent with the OSFD account, Column 3 shows that women's promotion advantage relative to men was 55 percent higher in upper-middle management (levels 13 to 16) ( $\exp[.44] = 1.55$ ) and more than five times greater in upper management (levels 17 to 24) ( $\exp[1.69] = 5.42$ ). Column 3 also indicates that promotion rates were considerably lower during RIF, and Column 4 indicates that chances of promotion were over 20 percent

lower during the entire restructuring period than they were in the non-restructuring years ( $1/[\exp(-.20)] = 1.22$ ).<sup>4</sup> These patterns translate into a 20 percent rate of promotion for the average manager in the non-restructuring years (with controls set at mean levels), a 17 percent rate of promotion during the restructuring period, a 10 percent rate of promotion during the first RIF, and a 9 percent rate of promotion during the second RIF.

Table 4 provides evidence on sex differences in promotion during the restructuring period relative to previous years (Column 1) and in spe-

<sup>4</sup> The omitted reference year in Columns 2 and 3 of Table 3 is the year that baseline rates of promotion were roughly equal to the average rate of promotion for the 1967 to 1993 time frame.

**Table 3.** Logit Models Predicting Sex Differences in Promotion among Managers in a Large U.S. Firm, 1967 to 1993

Variable	1	2	3	4
Female	.22*** (.03)	.07* (.04)	.05 (.04)	.04 (.04)
Salary grade levels 10–12		-.32*** (.05)	-.33*** (.05)	-.30*** (.05)
Salary grade levels 13–16		-1.06*** (.12)	-1.10*** (.13)	-1.01*** (.12)
Salary grade levels 17–24		-2.17*** (.39)	-2.28*** (.40)	-2.03*** (.38)
Tenure in firm		.10** (.03)	.10** (.03)	.03** (.01)
Tenure in firm squared		-.004*** (.000)	-.004*** (.000)	-.003*** (.000)
Age		-.04*** (.00)	-.04*** (.00)	-.04*** (.00)
Education (MA or PhD = 1)		.54*** (.04)	.54*** (.04)	.54*** (.04)
Time in job		.30*** (.03)	.30*** (.03)	.29*** (.02)
Time in job squared		-.02*** (.00)	-.02*** (.00)	-.02*** (.00)
Starting salary grade level		-.50*** (.02)	-.50*** (.02)	-.49*** (.02)
Job function (human resources = 1)		.34*** (.09)	.34*** (.09)	.33*** (.08)
Race (minority = 1)		-.22*** (.04)	-.22*** (.04)	-.22*** (.04)
Salary/1000		.05*** (.00)	.05*** (.00)	.05*** (.00)
Number of promotions		.41*** (.03)	.41*** (.03)	.41*** (.02)
Division (corporate office = 1)		.48*** (.04)	.48*** (.04)	.47*** (.03)
Female × Salary grade levels 10–12			.04 (.08)	.04 (.08)
Female × Salary grade levels 13–16			.44* (.21)	.45* (.21)
Female × Salary grade levels 17–24			1.68* (.76)	1.71* (.74)
Year of reduction in force #1		-.86** (.31)	-.85** (.31)	
Year of reduction in force #2		-.99* (.50)	-.99* (.50)	
Restructuring period				-.20*** (.04)
Constant	-1.30*** (.01)	.71 (.64)	.72 (.65)	.16 (.41)
Model log likelihood	-25177.5	-22450.0	-22444.7	-22650.6
df	1	67	70	45

Notes: N = 47,751 observations (5,675 managers). Robust standard errors appear in parentheses. Omitted salary grade level group is salary grade levels 7 to 9. Controls for period effects are included in Columns 2 and 3. Results are only reported for the years of the two RIF, with the omitted year being 1977, the year in which baseline promotion rates were closest to the average over all time periods. Column 4 replaces the year dummies with the restructuring period dummy.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  (two-tailed tests).

**Table 4.** Logit Models Predicting the Effect of Corporate Restructuring on Sex Differences in Promotion among Managers in a Large U.S. Firm

Variable	1	2
Female	.06 (.04)	.03 (.14)
Restructuring period	-.20*** (.04)	
Female × Restructuring period	.02 (.06)	
Year after reduction in force #1		.24* (.10)
Year of performance management system change		.16 (.13)
Year after performance management system change		.16 (.16)
Two years after performance management system change		.23 (.18)
Year of reduction in force #2		-.11 (.22)
Year after reduction in force #2		.03 (.25)
Female × Year after reduction in force #1		-.05 (.20)
Female × Year of performance system change		-.04 (.17)
Female × Year after performance system change		.29* (.14)
Female × Two years after performance system change		-.10 (.17)
Female × Year of reduction in force #2		-.07 (.18)
Female × Year after reduction in force #2		.19 (.18)
Constant	.16 (.41)	-.16 (.46)
Model log likelihood	-22656.2	-22430.8
df	43	93

Notes: N = 47,751 observations (5,675 managers). Robust standard errors appear in parentheses. Column 1 includes the same set of controls as Column 4 of Table 3, and Column 2 includes the same set of controls as Columns 2 and 3 of Table 3. The year in which the firm undertook the first RIF is the omitted category in Column 2 (the coefficient for the female variable thus captures the difference between men and women during this year). Coefficients for control variables are not included in the table.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  (two-tailed tests).

cific years of the restructuring period (Column 2). Column 1 shows that women were slightly more likely to be promoted during the restructuring period than were men. Column 2 shows variation in sex differences in promotion across time during the restructuring period, with the biggest difference occurring during the year after the transformation in the firm's performance management system. In addition, in no year of the restructuring period were women significantly less likely than men to be promoted.

Table 5 extends the analyses to examine sex differences in promotion across SGL groups separately for several different periods. Column 1 shows little evidence of sex differences in promotion during the pre-restructuring period, whereas Column 2 shows that women had a net promotion advantage that grew significantly larger in increasing job levels during the restructuring period. Columns 3 to 11, however, show considerable temporal variation in sex differences in promotion during the restructuring

**Table 5.** Logit Models Predicting the Effect of Corporate Restructuring on Sex Differences in Promotion among Managers across Job Levels in a Large U.S. Manufacturing Firm, Separately for 11 Selected Time Periods

Variable	1	2	3	4	5	6	7	8	9	10	11
		Pre-restructuring Period	Re-structuring Period	Year after RIF #1	Year of RIF #1	Year of RIF #1	Year after RIF #1	Year of Per-System Change	Year of Per-System Change	Year of RIF #2	Year after RIF #2
Female	.03 (.05)	.07 (.06)	.22 (.15)	-.11 (.18)	-.01 (.17)	.34 (.18)	.01 (.16)	.62*** (.15)	-.13 (.15)	-.20 (.16)	.03 (.16)
Salary grade levels 10-12	-.24*** (.07)	-.53*** (.08)	-.62*** (.19)	-.65*** (.21)	-.78*** (.20)	-.23 (.21)	-.59*** (.19)	-.28 (.20)	-.59*** (.19)	-.96*** (.23)	-.61*** (.21)
Salary grade levels 13-16	-.70*** (.16)	-.1.62*** (.16)	-.1.62*** (.41)	-.1.76*** (.42)	-.1.85*** (.42)	-.1.49*** (.43)	-.1.48*** (.38)	-.1.63*** (.37)	-.1.61*** (.36)	-.2.05*** (.41)	-.2.07*** (.42)
Salary grade levels 17-24	-.2.62*** (.78)	-.2.78*** (.41)	-.3.59* (1.53)	-.3.65* (1.61)	-.4.21** (1.48)	-.2.23* (.96)	-.2.11* (.84)	-.2.29*** (.83)	-.2.95*** (.77)	-.4.98*** (1.16)	-.3.37*** (.94)
Female × Salary grade levels 10-12	-.02 (.13)	.10 (.10)	-.16 (.29)	-.01 (.33)	.14 (.31)	-.17 (.29)	-.10 (.29)	-.44 (.25)	.28 (.25)	.69* (.28)	.47 (.26)
Female × Salary grade levels 13-16	.01 (.49)	.63** (.23)	-.19 (1.13)	.58 (.92)	1.36* (.61)	-.91 (1.09)	.12 (.58)	.73 (.46)	.54 (.50)	.52 (.54)	1.21** (.46)
Female × Salary grade levels 17-24	—	1.79* (.78)	—	—	—	—	—	—	—	5.45*** (1.48)	1.81 (1.36)
Constant	1.70*** (.23)	-.82* (.39)	4.78** (1.84)	-3.92 (3.40)	2.61 (4.73)	-3.7 (2.06)	.95 (1.53)	.43 (1.22)	-.96 (1.47)	-.92 (.73)	.10 (.73)
Model log likelihood	13180.3	-9113.3	-1146.4	-954.0	-1010.7	-1022.8	-1117.7	-1217.2	-1259.0	-1070.0	-1067.6
df	50	49	35	36	37	38	39	40	41	42	42
N (managers)	3,928	4,018	2,455	2,395	2,355	2,556	2,766	2,897	2,998	2,965	2,769
N (observations)	26,045	21,706	2,455	2,395	2,355	2,556	2,766	2,897	2,998	2,965	2,769

Notes: Standard errors appear in parentheses. All columns contain the full set of controls (see Column 2 of Table 3), with year dummies included in Columns 1 and 2 but not in Columns 3 to 11. Findings for the control measures are not reported in the table. A dash (—) indicates that the coefficient could not be estimated.  
 \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  (two-tailed tests).

period. Column 3 indicates that in the year before the first RIF, women's mobility rates were not significantly different from those of similarly situated men, a pattern that held during the year in which the first RIF occurred (Column 4). However, in the year after the first RIF (Column 5), women in SGL group 13 to 16 (the highest levels occupied by women in that year) were much more likely than men to be promoted ( $\exp[.05 + 1.36] = 3.90$ ).

Columns 6, 7, and 8 of Table 5 show considerable variation in sex differences in promotion during the time that the firm transformed its performance management system.<sup>5</sup> In the year before this transformation, women in entry levels were promoted at a higher rate than men (Column 6). During the year that the new system was implemented, women in all SGL groups were promoted at roughly the same rate as men (Column 7). However, the change to the performance management system subsequently increased promotion rates of women relative to men. In particular, women in entry-level jobs were significantly more likely to be promoted than were similarly situated men ( $\exp[.63] = 1.86$ ), women in middle management levels (10 to 12) were less likely than men to be promoted, and women in upper-middle management levels (13 to 16) were somewhat more likely than men to be promoted (Column 8).

Finally, Columns 9, 10, and 11 of Table 5 show that the variation in sex differences in promotion was also evident during the time of the second RIF in the firm. Column 9 shows that in the year before the second RIF, women were promoted at a slightly lower rate than men, thereby highlighting the disappearance of the advantage women enjoyed in the year after the performance management transformation. In addition, the results in Column 10 show that the promotion rates of women in entry-level jobs were lower than those of men during the second RIF, with the difference declining in the following year (Column 11). Overall, women's net promotion advantage was increasing in relation to increasing job level during the second

RIF and in the ensuing year, with sex differences in promotion very high in levels 13 and above.<sup>6</sup>

### *PREDICTED PROBABILITIES OF PROMOTION IN HISTORICAL PERSPECTIVE*

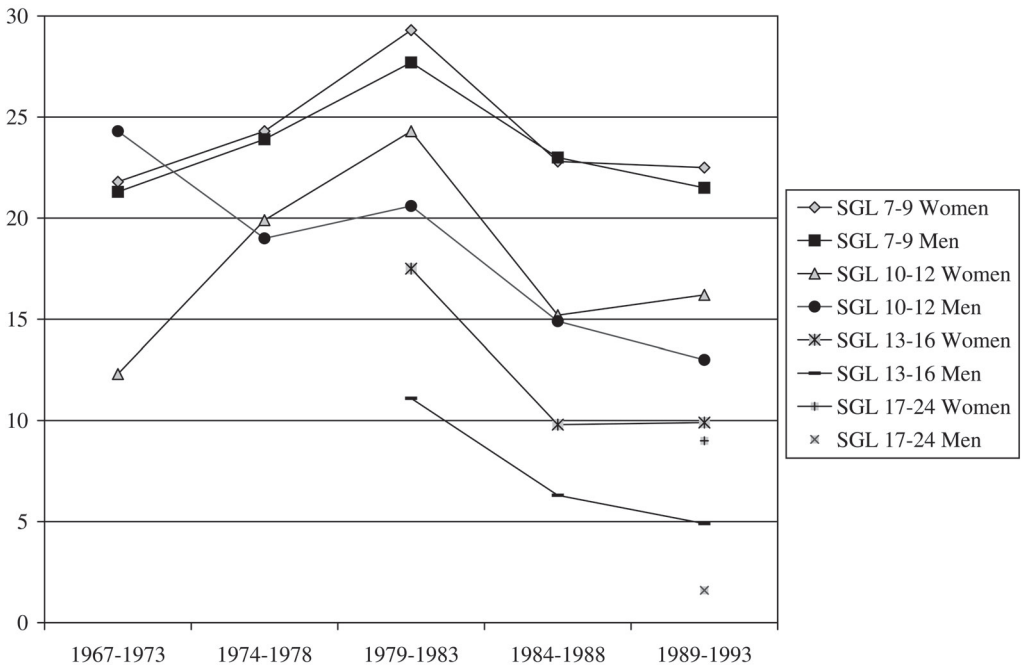
To highlight in more detail the variation in sex differences in promotion over time, I generated predicted probabilities of promotion in selected periods. Results were calculated from analyses of promotion for each of these periods, with control variables set at their mean levels. The results are generated from models similar to those in Table 5, the only difference being the period selected (regression results available from the author).

Figure 1 provides predicted probabilities of promotion over the entire sample frame, divided into five-year groups, except for two six-year groups, 1967 to 1972 and 1988 to 1993. Several patterns are notable. First, similar to Rosenbaum (1985), I find evidence of a glass ceiling for women in middle management levels from the late 1960s and early 1970s. In particular, women in SGL group 10 to 12 (the highest levels they occupied in this period) were only half as likely to be promoted as similarly situated men. By the mid-1970s, however, constraints on women's upward mobility disappeared.

Second, Figure 1 shows that women's slow progress into senior management stemmed from declining promotion rates during restructuring, particularly compared with the periods of employment growth in the firm that occurred in the mid-1970s to the early 1980s. Nevertheless, women in levels above SGL 12 experienced a net promotion advantage that was fairly stable from the early 1980s onward. For instance, women in SGL group 13 to 16 were nearly twice as likely to be promoted as were men in these levels, and women in SGL group 17 to 24 were more than three times as likely as men to be promoted. These patterns also indicate that women's net promotion advantage in higher grade levels predated the restructuring period.

<sup>5</sup> Yearly performance ratings were conducted in April. Promotions during the year in which the new system was implemented may thus have been based in part on ratings generated in the previous system.

<sup>6</sup> The large effect stems in part from the lack of women senior managers—of the 17 person-periods involving women in senior management during restructuring, 10 involved a promotion (see Petersen and Saporta 2004).



**Figure 1.** Predicted Probabilities of Promotion for Men and Women in Salary Grade Level Groups for Selected Periods

*Notes:* Predicted probabilities of promotion were calculated using the statistical program *Clarify* (Tomz, Wittenberg, and King 2003). Probabilities were calculated from models similar to those in Table 5 (i.e., with a separate analysis for each period in the figure and the same set of controls as the models in Table 5) with control variables set at mean levels.

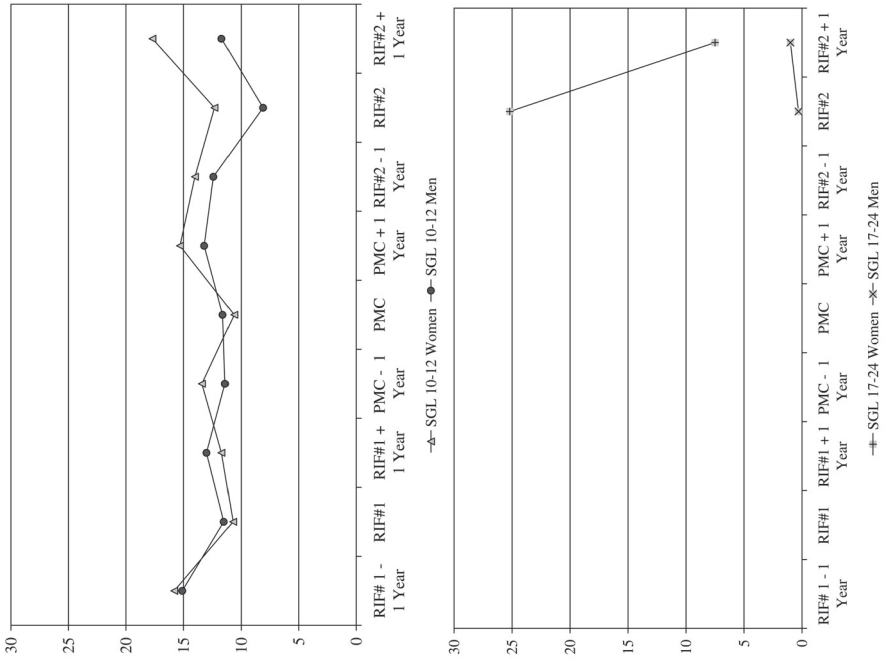
Figure 2 provides predicted probabilities in promotion during the restructuring period for each of the four SGL groups (calculated from Columns 3 to 11 of Table 5, with controls set at mean levels). It shows substantial temporal variation in promotion rates for entry-level managers (SGL group 7 to 9) and upper-middle managers (SGL group 13 to 16). For entry-level managers, the variation in promotion rates over time was roughly the same for men and women, a main exception being women's net advantage in the year after implementation of the new performance management system. For upper-middle managers, sex differences in promotion were more striking. In particular, women in SGL group 13 to 16 had considerably higher promotion rates than similarly situated men in the year after each of the restructuring events in the firm. Figure 2 also shows a large net promotion advantage for women in senior management (levels 17 to 24) during the time of the second RIF and a slight promotion advantage for women in middle management (levels 10 to

12) that grew increasingly larger from the time of the change in the firm's performance management system onward.

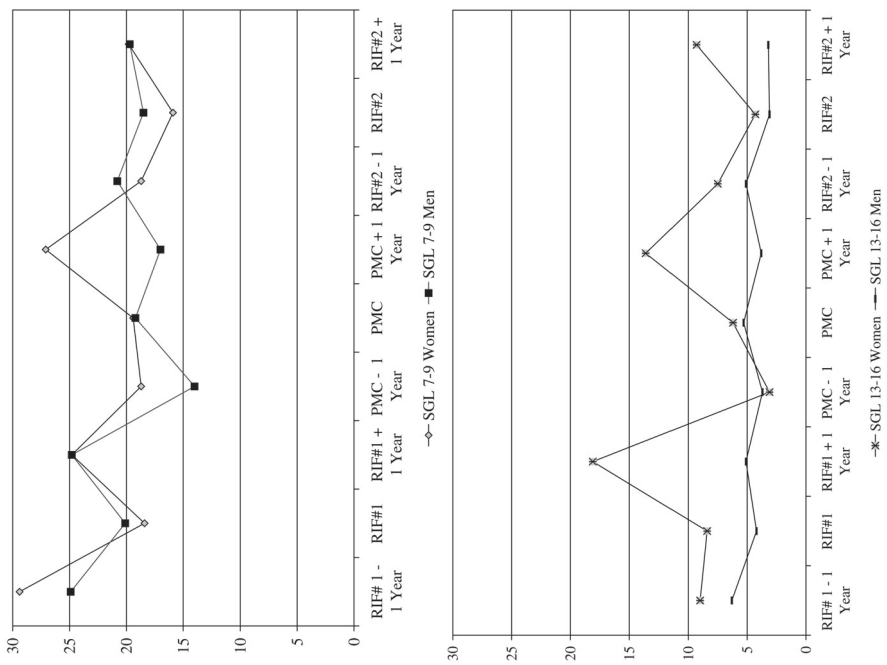
#### ***DISTRIBUTION OF WOMEN ACROSS ORGANIZATIONAL STRUCTURES OVER TIME***

Table 6 provides descriptive evidence on the percentage of women in different organizational structures for selected years. It shows that women's representation in management positions increased over time—by the end of the sample period in 1993, more than 4 out of every 10 entry-level managers were women. Nevertheless, women were substantially underrepresented at other levels—only 1 out of every 10 managers above SGL 12 was a woman and fewer than 2 in 10 managers were women in SGL group 10 to 12.

As was the case in Petersen and Saporta's (2004) study, the slow progress of women into senior management in the firm I studied traces in part to their lower level of entry relative to



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**Figure 2.** Predicted Probabilities of Promotion for Men and Women in Salary Grade Level Groups Over Time During the Corporate Restructuring Process

*Notes:* Predicted probabilities of promotion were calculated using the statistical program *Clarify* (Tomz et al. 2003), calculated from models similar to those in Table 5 (i.e., with a separate analysis for each time period in the figure and the same set of control variables) with control variables set at mean levels. All years of the restructuring period are included in the models, beginning with the year prior to the first RIF (Reduction in Force). PMC = Performance Management Change.

**Table 6.** Percentage and Number of Women in Management Levels, Main Corporate Office, and HR Function in Selected Years

Variable	1		2		3		4	
	1967		1975		1983		1993	
	Percent Female	Number Managers	Percent Female	Number Managers	Percent Female	Number Managers	Percent Female	Number Managers
All managers	2.65	189	9.36	1111	19.00	2479	26.44	2769
Salary grade levels 7–9	3.42	146	12.86	739	27.46	1384	43.06	1066
Salary grade levels 10–12	0	39	2.80	322	9.86	852	18.77	1108
Salary grade levels 13–16	0	4	0	47	3.07	228	10.91	550
Salary grade levels 17–24	0	0	0	3	0	15	11.11	45
Main corporate office	10	10	20.16	253	30.52	629	34.95	784
Human resources function	0	4	13.33	30	33.75	80	44.17	120

*Notes:* Percentages in Table 6 apply only to managers who entered the firm at any point in time from 1967 to 1993. Including managers who entered the firm prior to 1967 decreases the percentage of women in different levels. For instance, including all managers in 1993, women make up 7.04 percent of upper-level managers.

men. In particular, OLS regressions of job level at hire according to sex (controlling for age, education, race, division, and job function) show that women started their careers half a grade level lower than did men (results available from the author). Although this sex difference declined slightly to four-tenths of a grade level during the restructuring period relative to previous years (the average starting level for all managers increased by two-tenths of a grade level during restructuring), the differential placement of men and women at hiring increased the length of time required for many women to move into senior levels.

### EXTENSIONS AND ROBUSTNESS TESTS

As Figure 2 highlights, women's progress into senior management also slowed because of temporal variation in sex differences in promotion during restructuring. As the OSFD account suggests, firms may face greater challenges in responding to gender equity pressures during RIF due to lower overall rates of promotion (as findings in Figure 2 indicate). Nevertheless, even in periods of decline, there appeared to be sufficient pressure to promote women into senior management. Perhaps this is because women were substantially underrepresented in these levels (Budig 2002; Cohen, Broschak, and Haveman 1998), and thus their relatively higher rates of promotion were not as visible as they

would be in levels with higher women's representation.

The variation in sex differences in promotion over time during the restructuring period suggests that RIF temporarily constrained the firm's ability to meet gender equity considerations due to a lack of promotion opportunities. To assess more clearly the factors influencing the temporal variation in women's and men's promotion rates, I conducted a number of extensions to my analyses (results available from the author). For instance, I analyzed a model that included a variable of employment growth and decline. Entering this measure in the model in Column 2 of Table 3 shows that employment growth had a significant positive effect on promotion likelihood, with a 1 percent increase in employment size resulting in a 2.8 percent increase in promotion likelihood (with the female coefficient significantly identical to the one in Table 3).<sup>7</sup>

Including the interaction between the employment change and female measures shows that women were .8 percent more likely than men to be promoted in periods of employment growth (results not significant at conventional

<sup>7</sup> The employment change variable measures the percentage increase or decrease in the number of managers in the firm at the end of a year (December 31) relative to the beginning of that year (January 1).



levels). However, from the early 1980s—during the time that women’s net promotion advantage in upper job levels appeared—to the end of the sample frame, the increase in promotion likelihood resulting from a 1 percent increase in employment size was 1.4 percent higher for women than for men (significant at the .03 level), with the coefficient for female being .14 (significant at the .002 level) and the coefficient for the growth measure being .013 (significant at the .001 level). These results indicate that periods of employment growth allowed the firm to increase women’s promotion rates at a higher level than men’s rates (and, by the same token, they indicate that periods of employment decline reduced the firm’s ability to promote women at a higher rate than men, yet with the overall rate of women’s promotion in periods of decline significantly higher than the rate for men).<sup>8</sup>

Supplemental analyses also show that the positive effect of changes in the firm’s performance management system on women’s promotion rates extended to other HRM system changes. For instance, like other firms, the firm implemented an incentive system in the mid-1980s that made managers eligible to receive a cash bonus. This system was designed to increase the firm’s ability to provide short-term incentives to managers, as a bonus would not result in an increase in a manager’s base salary. Bonuses were somewhat restricted, though, in that, on average, only 3.5 percent of managers received a bonus in a given year. In theory, managers who receive a bonus in a given year are less likely to be promoted in that year (Baker 1990). Moreover, in theory, this type of incentive system is less formal and more decentralized than other systems, giving managers

considerable leeway to act on their cognitive biases (Elvira and Graham 2002). Based on the social-cognitive account, we would thus expect women to be less likely to receive bonuses, and women who receive a bonus to be less likely to be promoted than men who receive a bonus. Although results show that managers who received a bonus in a given year were roughly 40 percent less likely to be promoted than managers who did not receive a bonus, and women were slightly (but not significantly) less likely to receive a bonus than were men, among managers who received a bonus, women were significantly more likely to be promoted than men.

I also conducted a number of robustness tests. First, I examined whether my findings indicate that women are substantially more capable than similarly situated men (Lazear and Rosen 1990). The variable patterns of sex differences in promotion cast some doubt on the validity of this argument. Moreover, frailty tests (using random effects logit models) suggest that unobserved ability is not a determining factor in the patterns of promotion uncovered in this article.

Second, I considered whether my findings are due to cohort effects (e.g., whether the firm admitted larger than normal cohorts of younger managers to fill the pipeline). Analyses suggest that period effects are robust. From the mid-1970s onward, sex differences in promotion were similar across cohort groups, with the separate RIF opening up jobs in a similar fashion.

Third, I examined whether race influenced observed patterns of promotion. Analyses examining the effects of ethnicity on promotion during restructuring indicate that although there were some slight differences in promotion for female non-minority managers relative to female minority managers, both groups enjoyed a net promotion advantage relative to non-minority males. Moreover, other findings indicate that the firm’s commitment to equity was not limited to women alone. For example, although entry-level male minority managers were less likely to be promoted during the restructuring period than were male non-minority managers, in higher job levels, they enjoyed a net promotion advantage.

## DISCUSSION

In this article, I built on social-cognitive research and the OSFD framework to develop contrast-

<sup>8</sup> Analyses of the vacancy creation process provide tentative support for the OSFD predictions. For example, descriptive statistics indicate that retirement rates for middle managers in SGL group 13 to 16—defined as the number of managers retiring relative to the number of managers in that SGL in a given year—were twice as high in the first RIF as the average rate over the entire sample period. These patterns suggest that the firm may have promoted women into the vacancies created in this process. This notion is confirmed by analyses of promotion in the year after the first RIF in which the coefficient for the interaction between the female and lagged retirement measures is positive and significant.

ing predictions regarding the effect of corporate restructuring on sex differences in managerial promotions. I drew on gender equity and organizational change research to refine and extend these two accounts. My findings are largely consistent with the OSFD framework and with research showing that organizational change affords firms the ability to respond to gender equity pressures. Women's promotion rates were higher than those for men during restructuring relative to previous years, with the difference growing larger in higher job levels, and with variation in sex differences in promotion over time during the restructuring period. My findings also highlight that pressures for gender equity played a role in determining sex differences in promotion, consistent with the firm's multiple public statements about the strategic need to address women's underrepresentation in management. Yet the firm's ability to act on these pressures was influenced in strong ways by the corporate restructuring process.

Despite their gains, women experienced a considerable decline in career progression during the restructuring period. First, many women managers experienced a slowing of upward mobility because RIF reduced overall rates of promotion for most managers and limited the firm's ability to promote women at a higher rate than men. Second, women continued to be placed into lower starting grade levels than men, thereby leading to a longer career path to the top than for men. Third, women were hired predominantly into the human resource management function, which restricted their pathways into senior management.<sup>9</sup> Although women in the HR function had a net promotion advantage similar to that of women in other functions (results available from the author), and although the HR function did reach to the very top of the SGL ladder, HR positions represented less than 5 percent of senior management positions, and thus women's ability to reach parity with men in leadership roles in the firm was considerably restricted. Finally, women's progress into senior management during the restructuring period was often short-lived, increasing in the years

after RIF and reorganization, but reverting to parity levels soon thereafter.

An important question is why the gains women experienced after reorganization of the firm's performance management system were short-lived, a point largely inconsistent with both the social-cognitive and OSFD accounts. One explanation is that these patterns were an unintended consequence of the firm's oversight of the performance management change process (i.e., the firm may have overcompensated in seeking to limit discrimination in the redesign of its performance management system). Evidence from internal documents provided by the firm indicates that the firm and its consultants were aware of potential bias resulting from the transformation, with a number of features of the new system similar to those seen as effective for limiting cognitive bias in lab settings (Reskin 2000, 2003). For example, the firm sought to ensure accountability of raters, not only by making their pay dependent on their effectiveness in evaluating performance, but also by requiring them to communicate their ratings and feedback to subordinates. Perhaps because of strong oversight by HR managers, a program that was designed to be gender neutral created a strong, albeit temporary, advantage for women in entry-level positions.

My study has a number of implications for research on gender inequality and career mobility. First, it shows that explaining variation in sex differences in promotion requires consideration not only of gender equity concerns but also of the organizational change process. Second, it highlights the usefulness of taking a historical approach to the study of mobility, demonstrating, for instance, that period effects were strong throughout the restructuring period. Third, it indicates that equitable treatment is not only a function of antidiscrimination legislation and EEOC enforcement but also traces to other broad forces pushing for gender equity in the workplace. For example, the firm took an active role throughout the restructuring period in promoting women into senior management, during a time of considerable pressures for them to do so. By contrast, even in a context where discrimination was illegal, namely in the late 1960s and early 1970s, women faced significant constraints on their ability to move up the corporate ladder. My results thus suggest that the OSFD framework can be extended to consider

<sup>9</sup> See Roos and Manley (1996) for a discussion of why women tend to be concentrated in the HR function.

when in historical time discrimination is more likely and to examine more carefully the role that societal pressures play in this regard. Fourth, my findings confirm previously untested predictions that restructuring, particularly RIF, has a negative effect on promotion rates.

Finally, my findings raise a number of questions regarding assumptions and predictions of social-cognitive research. If the workplace is a "hothouse" fostering the incidence of bias, then discrimination should have been likely in the firm studied in this article. For instance, the firm replaced objective promotion criteria with subjective criteria as it deemphasized seniority-based criteria in career decisions and increased emphasis on relative performance as measured by supervisors. In addition, the firm empowered managers at the same time that it reduced the number of job vacancies for managers in many levels. Moreover, by eliminating records of performance ratings, the firm reduced transparency and accountability and prevented plaintiffs from having access to critical information that could serve as a basis for lawsuits. Finally, this restructuring occurred during a time arguably characterized by lax enforcement of antidiscrimination legislation, when lawyers had few incentives to take on discrimination cases (Reskin 2003). An implication is that accountability and oversight may be lower in experimental contexts than in contemporary work organizations, not only due to the number and type of human resource practices that influence bias, but also due to the strong commitment of firms to gender equity.

An important question is whether and how firms can continue to increase the representation of women in senior management levels (Cappelli and Hamori 2005; Helfat, Harris, and Wolfson 2006). This is a challenging problem that may take many years to resolve due to low rates of mobility as firms continue to restructure and the overrepresentation of women in the HR function. My study shows that the ability of women to reach top levels of contemporary organizations depends on factors that create job vacancies in firms, on the effectiveness of policies limiting discrimination, on how human resource managers and legal staff manage external pressures for equitable treatment in the workplace, and on whether women are well situated for taking advantage of job openings. For instance, the upcoming retirement of baby-

boom-generation managers will have a significant impact on women's representation in senior management, but the effects will depend on how firms manage this widespread transition process.

My findings also show that reorganization of HRM systems can reduce negative consequences stemming from previous promotion criteria. In particular, as Petersen and Saporta (2004) note, one challenge of filling the pipeline with women is women's relative lack of tenure. By making promotion less tied to tenure, and more tied to relative performance, restructuring may enhance a firm's ability to fill the pipeline, as exemplified by the experience of women in SGL group 10 to 12 in the firm I studied.

Because the factors I identify as influencing sex differences in promotion are common across firms, my results should generalize to other contexts. For example, differences in upward mobility between men and women in the firm are similar to those found in other firms during the 1960s to the mid-1980s (DiPrete 1989; Petersen and Saporta 2004; Rosenbaum 1985; Spilerman and Petersen 1999). In addition, like most large firms in this period, the firm I studied restructured multiple times (Cascio et al. 1997) and relied on external advice on the design and implementation of restructuring initiatives from consultants and from senior managers sent to other firms to examine best practices for restructuring.

## CONCLUSION

My findings show that it is important to answer not only *how* firms discriminate (Reskin 2003) and *where* in the employment relationship gender discrimination occurs (Petersen and Saporta 2004), but also *when* in historical time discrimination is likely. My findings echo those of Petersen and Saporta (2004), indicating that allocative discrimination is restricted in large contemporary organizations: once hired, there are strong pressures on firms to ensure that men and women are treated equally. Yet, my findings also show the historically contingent nature of sex differences in promotion, as women experienced bias in the firm in the late 1960s and early 1970s, despite legislation against discrimination, and as the firm promoted women at a high rate throughout the restructuring period, presumably because of

pressures to increase women's representation in management. Future research on gender inequality in organizations should thus examine in more detail the effect of different dynamic factors on career outcomes (Wharton 2003), such as the influence of corporate restructuring on stratification within gender groups (McCall 2001).

My study makes a number of significant contributions to research on gender inequality in organizations and to studies of career mobility. My findings extend research on sex differences in promotion to cover a longer period and to include an important yet little understood context to show that corporate restructuring (at least temporarily) enhances women's career opportunities. My findings also highlight that although restructuring reduces promotion rates for most managers, the demographic and market forces driving these outcomes are insufficient for fully understanding sex differences in career outcomes. In particular, my results support McCall's (2005) claim that understanding gender inequity in contemporary organizations requires an understanding of both organizational change and gender equity notions. Consistent with this idea, when considered in historical context, my findings imply that the firm was playing "catch-up" to overcome its previous exclusion of women in management, particularly in terms of advancing women into leadership positions. Yet this process proceeded in fits and starts, with substantial temporal variation in women's upward career mobility, due in no small part to pressures for gender equity and variation in opportunities for the firm to act on these pressures.

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