

Gender and Managerial Job Mobility: Career Prospects for Executives Displaced by Acquisitions

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Abstract

We investigate how men and women fare in the managerial labor market in the plausibly exogenous circumstance of their firms being acquired when most target-firm managers (about 90%) are displaced. These career disruptions result in a larger drop in rank and compensation for female managers, despite similar job search attributes. Gender differences are mitigated when hiring firms have more women in upper-echelon positions. Rich managerial experience and external board service also reduce gender-related differences. Overall, results point to a (implicit) “gender penalty” in terms of managerial job mobility, but also indicate contexts in which penalty is alleviated, and even reversed.

I. Introduction

Gender differences in labor market outcomes are well documented in the literature (Zhang (2019), Folke and Rickne (2020)), with broad consensus that women generally fare worse than men (Blau and Kahn (2017)). Considerable debate exists, however, about the underlying causes of the gender gap with

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two nonmutually exclusive approaches having emerged to account for the gap. The first is a supply-side rationale that systematic gender differences in attitudes, values, or preferences could lead men and women to “make” different job choices and exhibit different behavior at work (Card, Cardoso, and Kline (2016)).¹ The second is a demand-side explanation that widespread biases hinder career opportunities for women relative to men (Cotter, Hermsen, Ovadia, and Vanneman (2001)).² Although disentangling supply- and demand-side factors is a well-recognized empirical challenge when studying gender differences in the labor market, we take a step in this direction by examining the career trajectories of male and female executives displaced after their firms are acquired.

While there is substantial research on differences between men and women in the general labor market, possible gender variations at the senior management level have received comparatively less attention so far. It is conceivable that senior managers—who have undergone “a severe process of (self-) selection in ascending the corporate hierarchy” (Albanesi, Olivetti, and Prados ((2015), p. 28))—are in a different category from other employees: they tend to have substantial work histories and social and industry networks that could largely insulate them from gender bias. Yet, it may be precisely in the context of leadership and authority that gender bias is most evident as substantial overlap exists between the qualities associated with “being manager and male” (“Think Manager Think Male” (TMTM): Schein, Mueller, Lituchy, and Liu (1996)), but not between “manager” and “female” (Heilman, Manzi, and Braun (2015)).³

Our goal in the current investigation is to examine possible gender differences in job mobility for senior managers. We focus on the demand-side aspects of gender bias, that is, whether senior female managers with ostensibly similar objectives and backgrounds to their male counterparts face greater challenges in the job market. And if so, what this tells us about the nature of gender bias in the managerial labor market. Our view is that understanding the nature of the bias is essential to developing appropriate policy prescriptions. For instance, it is plausible that the bias is implicit and tends to diminish when there is greater evidence of managerial ability or when the recruiting firm has greater familiarity with female managers. In this case, we might expect gender bias to decline gradually over time as more

¹There is a large literature on gender differences in beliefs and characteristics (Bertrand (2011), Blau and Kahn (2017)), such that women are considered more risk-averse than men (Croson and Gneezy (2009)), less competitive (Niederle (2017)), and more considerate of others (Pratto, Stallworth, and Sidanius (1997)). See, for example, Gneezy, Niederle, and Rustichini (2003), Bertrand, Goldin, and Katz (2010), Wozniak, Harbaugh, and Mayr (2014), and Reuben, Wiswall, and Zafar (2017). Notably, much of this literature is informed by data collected from nonexecutive populations, so that “it is unclear whether we should expect women at the top of the corporate ladder to be any different from men” (Adams and Funk ((2012), p. 2019)).

²Studies of gender discrimination in employment settings focus either on employers’ preferences for workers of one sex over the other (taste-based) or on employers’ beliefs that workers of one sex or the other are more costly or less profitable to employ (statistical-based), both of which seek to provide demand-side explanations for the linkage between gender and career outcomes (Reskin and Bielby (2005)).

³It has long been argued that the pervasive and persistent expectation linking the leader role with men and not with women is “probably the single most important hurdle for women in management” (Antal and Izraeli ((1993), p. 63)).

women climb the corporate ladder – possibly with some institutional encouragement on gender policies. On the other hand, if gender bias is strongly taste driven and largely indifferent to evidence of managerial ability, then it may be too optimistic to expect the bias to decline over time. In this case, there may be arguments for more intrusive legislation and policies (Hospido, Laeven, and Lamo (2022)).

As noted, a significant challenge to studying gender differences in the managerial labor market is distinguishing between supply- and demand-side factors. The employment decision, for instance, is the result of endogenous matching between managers and firms that could be influenced by a variety of gender-related supply and demand effects (Fernandez-Mateo and Fernandez (2016), Xu (2018)). In our view, to isolate the role of demand-side factors on career outcomes for men and women, an ideal setting would be one in which men and women closely matched in their preferences and seniority were exogenously forced to enter the labor market under similar circumstances. Our study approximates this setting by exploiting a shock to the supply of senior managers in the labor market. Specifically, we investigate gender differences in job mobility (defined as, promotion, demotion, and lateral moves; Dohmen, Kriechel, and Pfann (2004)) among top managers displaced due to their firms being acquired.⁴ Selection issues are alleviated here since roughly 90% of managers from target firms are displaced after an acquisition, with gender playing no appreciable role in determining which managers are dismissed or retained in our sample. Further, we also observe that the probability of a firm being acquired is unrelated to a manager's gender, providing further reassurance about the exogeneity of the M&A context to our research question. Thus, the population of senior target-firm managers that abruptly—and often unexpectedly—find themselves in the labor market after an acquisition is appropriate for the purpose of identifying gender bias in job mobility.

Following prior research (Gayle, Golan, and Miller (2012)), we assess managerial job mobility based on changes in hierarchical level. Because organizational hierarchies are not readily comparable across firms, defining job mobility is difficult in most multi-firm data sets.⁵ Based on the logic that seniority among managers is highly related to compensation (Murphy (1999), Tate and Yang (2015)), some researchers have used compensation information to rank senior managers moving

⁴Conceptually, our focus on labor market outcomes in the aftermath of involuntary displacement due to M&A is similar to Tate and Yang's (2015) examination of gender differences in worker wages after the closure of the plant where they work. In both cases, the goal is to isolate a set of forced job changes to alleviate endogeneity concerns.

⁵Research on job mobility in the international context (i.e., outside the USA) sometimes allows for easier comparability across firms. Van der Klaauw and Da Silva (2011) use Portuguese-matched employer–employee data that classifies employees into 8 hierarchical levels, of which 2 levels are executives. Cassidy, DeVaro, and Kauhanen (2016) use Finnish data where all firms use the same 56 job titles across 4 hierarchical levels, making the classification comparable across firms. Unfortunately, these data sets do not distinguish between various managerial ranks (as we do in the present study). Furthermore, such data are not available for U.S. firms, as there is no nationally accepted ranking of managerial positions. Studies of gender differences in job mobility among academics rely on well-accepted definitions of hierarchy (e.g., Ginther and Kahn (2004), Bosquet, Combes, and Garcia-Penalosa (2019)), but nonacademic positions do not have a widely accepted hierarchy.

across firms (Fee and Hadlock (2004)).⁶ Others have used only job titles to rank managers (Bertrand and Hallock (2001), Xu (2018)). Accordingly, for our main analysis, we generate a hierarchy of managers using job titles and total compensation, such that rank 9 (highest rank in our sample) corresponds to the category with the highest compensation. In robustness analyses, we use three other ways to rank managers, two of which use compensation information and one where hierarchy is constructed independent of compensation (see Gayle et al. (2012)). Our main results are robust to using these alternative ranking approaches.

We estimate regression models in which labor market outcomes are regressed on manager gender and various other attributes of the manager and the firm. Importantly, the regressions are estimated with target-fixed effects in addition to the manager rank and function fixed effects. By including these fixed effects, the gender indicator estimates the average within-target firm difference in outcomes between male and female managers, controlling for function and rank. Our results reveal a greater decline in post-M&A rank for female managers by about 0.53 ranks compared to men. This effect is statistically and economically significant. Since the unconditional decline in post-M&A rank averages 0.82 points for managers in general, an additional decline of 0.53 represents an effect close to 65% higher for women. We additionally examine the effect of the acquisition on compensation and find that the decline in compensation post-M&A is significantly greater for female managers than for male managers.

Our results remain unchanged if we include target-hiring firm fixed effects, thereby estimating differences in outcomes for male and female managers exiting and starting in the same firms. Our results are similarly robust to using propensity score matching (PSM) wherein each female manager in the sample is matched to a male manager with the closest value on the propensity score. Furthermore, results remain unchanged when we drop executives below the age of 45 (to account for child-bearing and rearing age) or below the age of 51 (sample median), which should (at least partly) address the concern that the “presence of children and trade-offs between family and career may hold back women from pursuing promotions” (Hospido et al. ((2022), p. 981)). Results are robust to dropping the 3 lowest ranked managers, that tend to have relatively more females, to ensure that our results are not being driven by possible classification errors in lower ranks.

Establishing whether men and women have differential access to management positions requires accounting for gender differences in motives and preferences, such as competitiveness and ambition (Buser, Niederle, and Oosterbeek (2014)). There is a large literature on systematic differences in attitudes and preferences across genders (Adams (2016)), much of it based on data collected from “students, workers, or the general population” (Adams and Funk (2012)). Consequently, the extent to which women in senior managerial roles differ from their male counterparts is unclear, with some researchers suggesting that “gender differences in preferences are small for this group” (Albanesi et al. ((2015), p. 28)). Bertrand and Hallock ((2001), p. 4), for example, note that “unobservable differences” are

⁶Several studies in the broader labor market literature also use compensation to rank employees (e.g., Booth, Francesconi, and Frank (2003), Blau and DeVaro (2007)).

“minimized” among senior executives as both male and female managers are equally likely to have “a high level of job motivation and high career ambitions.”

It is possible that women that expect demand-side factors to be biased against them may be less likely to go back into the labor market (Fernandez-Mateo and Fernandez (2016)). If they do go back, women may choose to search less intensively or prefer employment geographically closer to their last place of work (Storvick and Schone (2008), Keloharju, Knupfer, and Tag (2022)). While we cannot directly capture the values and attitudes of the displaced managers, we do observe the types of choices they make. Specifically, we do not find gender differences in job attrition, time to find the next position, and geographic distance to the new location, suggesting that male and female managers may not differ significantly in their proclivity to participate in the labor market. There are also no differences between target-firm male and female managers in general managerial ability, using the measure from Custodio, Ferreira, and Matos (2013). This should ease concerns that the differential labor market demand for male and female managers is because of observable differences in their skills and experiences. We acknowledge that our analysis is constrained by the absence of data on gender differences in job search intensity as well as the quantity and quality of the offers male and female executives consider during the job search before deciding which firm to join. Notwithstanding these limitations, we believe that the totality of the above-noted findings provides suggestive evidence that our results are likely not driven by supply-side factors (i.e., measurable differences in preferences and ability between male and female managers).

One could argue that M&As are not fully exogenous to manager preferences, so that some M&As may result in different outcomes for male and female executives simply because of gender differences in who helms the firm at the time or engages in negotiations with the acquirer. To address these concerns, we conduct several additional analyses. We continue to find evidence for a greater drop in rank for female managers if we i) drop top-3 ranked target-firm managers from the sample as they may be most likely to affect the M&A outcomes; ii) drop managers who get jobs within 3 months from the M&A since such cases might include voluntary departures initiated prior to acquisition; iii) drop managers from target firms where acquiring firms retain any managers; and iv) use information about toeholds (which involves acquirers buying target-firm shares in the market before launching the bid) to classify M&As as more or less hostile.⁷

While the general pattern suggests a degree of gender bias, it is quite possible that the bias is implicit, which is “unintentional and outside of discriminator’s awareness” (Bertrand, Chugh, and Mullainathan ((2005), p. 94)). In the case of job mobility, it may be that female managers are disadvantaged post-M&A because it is more difficult for firms run predominantly by males (as is the case for vast majority of U.S. public firms) to evaluate women. Not surprisingly, some scholars and regulators call for greater gender diversity in the top management and on the board of directors (Adams (2016)). The logic for such action is that women in powerful positions cultivate a more female-friendly culture within their firms and

⁷The logic here is that when the acquirer has a toehold on the target, resistance to the acquisition is more difficult, which weakens the negotiating position of target firm managers.

are less likely to pigeonhole women (Tate and Yang (2015)). We, therefore, examine whether gender differences in job mobility are alleviated when the hiring firm has more women in i) its top management team and ii) its board of directors. The evidence is generally supportive: having more women in top management teams does reduce the gender gap in job mobility, while more women on the corporate board have no statistically significant effect. These findings are consistent with “female-friendly” conditions blunting the effects of gender bias.

If gender bias is unintentional, learning about managers’ abilities should overcome implicit bias at the hiring stage. Accordingly, we find that females with high levels of managerial experience, or those that serve or have served, on external boards do not suffer a gender penalty in the managerial labor market. Prior research has found that board service is beneficial for managers in the labor market as it signals a high quality of experience and competence (Boivie, Graffin, Oliver, and Withers (2016)). Finally, among executives high on general managerial ability (Custodio et al. (2013)), no gender differences are found in job mobility; however, among executives low on managerial ability, females see a greater drop in rank post-M&A compared to males. These findings are consistent with the idea that women may have to explicitly demonstrate ability and skills to be considered as competent as men. Furthermore, we investigate promotion rates in hiring firms for managers hired from target firms. Suggestive of learning, we find that female managers from target firms – who may have been under-placed initially – are more likely to be promoted compared to their male colleagues in the new (hiring) firm. This finding also alleviates concerns that women choose lower-ranked jobs, perhaps because of the need for job flexibility. Our results suggest that women take high-ranked jobs when the opportunity is available.

Overall, our research points toward substantive gender differences in managerial job mobility, such that, *ceteris paribus*, women are at a disadvantage in the executive labor market compared to men. The different outcomes for male and female executives seem to be driven by implicit gender biases that are alleviated in female-friendly firms and when women managers are experienced and highly competent. Thus, our article casts new light on gender differences in job mobility and reveals specific conditions that alleviate gender bias in the labor market. In doing so, we not only provide much-needed empirical evidence on recruitment at the top end of the labor market but also identify the implicit mechanisms that produce gender inequity. The optimistic message in our findings is that implicit gender bias, at least in the context of senior managers, is likely to diminish over time as more women climb the corporate hierarchy. In terms of policy implications, given the underlying trends, our interpretation is that moderate measures to gauge and mitigate gender bias might be appropriate, while heavy and intrusive regulatory intervention might be unnecessary and possibly counterproductive.

Our research contributes to several literatures. First, and foremost, we contribute to the emerging literature on gender differences in managerial job mobility. Gayle et al. (2012) examine gender differences in managerial job mobility, finding that “women are 27% more likely to be promoted than men internally...display similar rates of external promotion and demotion [as men]... and ...have higher exit rates than men.” In comparison, we find that female managers have greater demotion rates than male managers post-M&A, but for those that get hired into a new

firm, female managers are promoted at a higher rate than male managers. We note, however, that Gayle et al. rely on the more limited ExecuComp data (the BoardEx sample is broader than ExecuComp) and do not address the endogeneity of executive gender and job mobility as we do in the present study. Fernandez and Mateo-Fernandez (2016) try to address endogeneity by scanning the records of a high-end executive search firm in the United Kingdom to examine how male and female candidates are allocated to managerial positions over time but are unable to fully identify the “true” set of executives qualified for consideration for top management roles. Xu (2018) is contemporaneous work closest to ours, but her focus is only on gender differences in within-firm promotions. We look at job mobility within and across firms, relying on an empirical strategy that enables us to isolate demand-side factors (recruitment biases) from supply-side factors (availability of ambitious female candidates). There is also a broader literature on gender differences in job mobility in the general labor market (Cassidy et al. (2016), Pearlman (2018)), but the extent to which findings from gender differences in the general workforce are relevant to senior executives is an open empirical question (Ferreira (2010), Adams (2016)).

Our research is also related to the small, but growing, literature on gender bias in finance. Recent research reveals that gender affects investor preferences toward projects (Ewens and Townsend (2020), Gafni, Marom, Robb, and Sade (2021)), impacts hedge-fund activism (Francis, Hasan, Shen, and Wu (2021)), shapes capital allocation decisions made by CEOs (Duchin, Simutin, and Sosyura (2021)), and influences the valuation of artwork (Adams, Kraussl, Navone, and Verwijmeren (2021)). Taken together, these studies provide some evidence of gender bias in financial markets, distinguishing between supply- and demand-side factors. We extend this stream of inquiry by examining gender bias in the executive labor market, which is an important issue given the increasing number of women in managerial positions. A better understanding of gender bias has substantial practical implications since it can help inform social policy as well as guide initiatives, such as those targeted at strengthening the pipeline of women to executive positions (e.g., The 30% Club).

Our research also contributes to the literature on M&A outcomes (e.g., Pontiff, Shleifer, and Weisbach (1990), Agrawal and Walkling (1994)). Researchers have examined the departure of target company executives following acquisition (Hambrick and Cannella (1993), Hartzell, Ofek, and Yermack (2004)). Several studies document that managerial turnover is high in firms targeted for acquisitions (Martin and McConnell (1991), Hadlock, Houson, and Ryngaert (1999)), presumably because the market for corporate control plays an important disciplinary role. Yet, the question we ask—whether a specific managerial attribute (gender) has an impact on where managers end up post-acquisition—has not been addressed so far. We also contribute to the growing literature on the positive externalities of having women in leadership positions (e.g., Matsa and Miller (2011), Tate and Yang (2015)). Our research shows that having women in leadership positions, particularly top management roles, reduces bias in hiring outcomes for experienced managers. Thus, contrary to the notion that women leaders in male-dominated settings are either an obstacle to the advancement of other women (Derks, van Laar, and Ellemer (2016)) or have no discernible effect (Bertrand (2018)), our

research is suggestive of “women helping women” in recruitment and promotion for executive positions.

II. Sample and Data

A. Mergers and Acquisitions

Our M&A sample is from Securities Data Company (SDC). We identify targets of successful mergers with an effective date between 2000 and 2017. Our data selection criteria follow Hauser (2018): we i) select publicly traded U.S. targets; ii) exclude repurchases, recapitalizations, exchange offers, and privatizations; iii) require that the acquirer owns 100% of the target firms after acquisition; and the iv) require that the deal status is complete. There are 6,600 successful mergers from SDC that satisfy the selection criteria. After matching target firms with CRSP and Compustat, there are 4,501 mergers, of which 2,257 mergers involve target firms with relevant data in the BoardEx database.

For our main analysis, we consider acquisitions in which the target is fully absorbed by the acquirer (44% of the total M&A sample).⁸ This sample comprises 1,003 M&A deals with 6,014 managers, 807 of which are female (about 13.4%). In this sample, 88.6% of the managers of the target firm are let go post-acquisition, with only 11.4% of managers working for the acquirer afterward.⁹ As we show later, there is no gender difference between managers that are let go and those that remain with the acquirer, which alleviates concerns that male and female managers exit for different reasons.

B. Senior Managers and Job Rankings

We obtain information on senior managers from the BoardEx Organization Summary – Composition of Officers, Directors, and Senior Managers file, to generate a manager-firm panel data set from 2000 to 2018. The variable “Seniority” indicates whether BoardEx identifies the person as senior manager, executive director, or supervisory director. We exclude “supervisory directors” from our sample, considering only those identified as “senior manager” or “executive director” as senior managers. We use the variable “Role Name” to categorize managers into 33 different job titles, which we then organize into a hierarchy of ranks in a variety of ways. For our main analysis, we rank based on an ordinary least squares (OLS) regression of the natural log of total compensation

⁸Some firm managers continue working for the same firm after the M&A (in these cases the managers are at a firm with the same name though a different company id in BoardEx). We classify these mergers as those not fully absorbed by the bidder, as the firm continues to exist as a private firm and it retains some of its managers. In these cases, firms retain 64% of their managers, and the majority of these managers have identical job titles after the merger compared to before the merger. We drop these firms from our sample because of selection concerns. Our results are robust to including these mergers in our sample (discussed later in robustness).

⁹Despite vocal proclamations by leading consulting firms involved in M&A engagements about the need to minimize executive turnover as an important objective during the integration of the 2 companies (Krug, Wright, and Kroll (2014)), a large body of research provides strong evidence for high turnover among target firm managers post-M&A (Martin and McConnell (1991), Walsh and Ellwood (1991)).

(TOTAL_COMP_ALL) on job title indicators with firm- and year-fixed effects. We use the complete BoardEx data file on executive compensation (excluding board member compensation) to determine job title rankings. We drop the indicator variable for “VP and other C-suite” from the regression, and thus the coefficients for job titles represent the additional compensation earned in that job title compared to “VP and other C-suite.” We sort regression coefficients on job titles and assign ranks such that higher values correspond to more senior positions. This hierarchy of 33 job titles, which we call detailed ranking (DETAILED_RANK), ranges from CEO and Chairman (highest rank of 32) to Vice President (lowest rank of 0). We then group detailed ranks into 10 coarse ranks (COARSE_RANK), ranking from highest 9 to lowest 0, based on the similarity of the regression coefficients (Bertrand and Hallock (2001) classify 31 detailed rankings into 11 coarse groupings based on intuition). Higher ranks represent more seniority, though an increase of one rank does not imply an equivalent increase in the degree of seniority for all ranks. To account for this issue, we use as an alternative measure the coefficients from the compensation regression multiplied by 100. We name this alternative variable, rank coefficient. See Panel A of Table 1 for rankings.

We also construct an alternative ranking following Gayle et al.’s (2012) algorithm. Gayle et al. build a rank hierarchy based on “a rational (complete and transitive) ordering over a set of job titles on the basis of transitions” (p. 835). We apply this algorithm to the job titles in our sample, generating rankings independent of compensation, based instead on transitions. We name this variable transitivity ranking. Our sample is composed of firm managers employed by the target firm at the time of the M&A announcement. We also used the ranking directly from Gayle et al. (2012), and the results were robust.

Panel B of Table 1 presents the number of managers in our sample sorted by gender and rank. We drop target-firm managers with coarse rank 0 at the time of the merger announcement from our sample. Rank 0 is the lowest rank for which we have data, and to track these managers as they transition to lower-ranked jobs post-merger is virtually impossible. The table indicates that the more senior the position, the lower the percentage of female managers, which is consistent with the idea that the percentage of women decreases as one moves up the organizational hierarchy (Klenke (2017)). For example, at coarse rank 9 (the most senior position), only 3% are female, while at coarse rank 1 (the most junior position in our sample), 18.56% are female.

C. Descriptive Statistics

Table 2 presents summary statistics for the entire sample of target-firm managers in Panel A and by job rank and gender in Panel B. Females represent 13.4% of the sample. Change in coarse rank (CHG_COARSE_RANK) is the difference between the coarse rank of the manager’s first job after M&A and his/her coarse rank in the target firm before the M&A.¹⁰ Coarse rank drops by an average of 0.82, meaning that target-firm managers suffer a loss of close to 1 full rank in their first

¹⁰The number of observations is somewhat smaller (than e.g., for FEMALE variable) because employment information in BoardEx is absent after the M&A for 11.6% of the sample.

TABLE 1
Job Titles and Ranks

Table 1 presents senior manager's job titles and ranks. Manager's job titles are sorted into 33 detailed ranks. We run an ordinary least squares (OLS) regression of the natural log of managers' total compensation (TOTAL_COMP_ALL) on indicator variables for job titles, and firm- and year-fixed effects. RANK_COEFF is the regression coefficient on each of the indicator variables multiplied by 100. We sort regression coefficients on job titles and assign detailed ranks (DETAILED_RANK) such that higher values correspond to more senior positions in the firm. Detailed ranks are further grouped into 10 coarse ranks (COARSE_RANK), based on similarity of the regression coefficients. The sample is the BoardEx compensation database, excluding nonexecutive directors. The sample period is from 2000 to 2018. Panel A presents job title ranks, Panel B presents the distribution of managers by gender and coarse rank. Standard errors are clustered at firm level. *, **, and *** denote statistical significance of regression coefficients at the 10%, 5%, and 1% levels, respectively.

Panel A. Job Title Rankings

	<u>RANK_COEFF</u>	<u>DETAILED_RANK</u>	<u>COARSE_RANK</u>
CEO and Chairman	88.7***	32	9
CEO and Vice Chairman	80.3***	31	9
CEO and President	76.7***	30	9
CEO	64.1***	29	8
Vice Chairman and (President or COO)	59.0***	28	8
President and COO	53.3***	27	8
President	45.5***	26	7
Vice Chairman and Division (CEO or Chairman or President)	45.0***	25	7
President and Other C-Suite (Such as CFO, CTO, CIO)	44.2***	24	7
President and Division CEO	43.4***	23	7
Chairman	43.4***	22	7
COO	41.7***	21	6
Vice Chairman and Other C-Suites	39.8***	20	6
Executive Vice President and COO	34.1***	19	6
Vice Chairman	28.9***	18	5
Executive Vice President and Division (COO or President)	26.0***	17	5
Vice President and COO	25.2***	16	5
Division (CEO or Chairman)	24.6***	15	5
Division (COO or President or Vice Chairman)	21.3***	14	4
Executive Vice President and Division (CEO or Chairman)	20.2***	13	4
Executive Vice President and CFO	19.2***	12	4
Other C-Suite (Exclude CFO)	16.1***	11	3
Executive Vice President	16.0***	10	3
CFO	14.5***	9	3
Executive Vice President and Other C-Suites	14.1***	8	3
Vice President and Division (CEO or Chairman)	14.1**	7	3
Vice President and (Division COO or Division President)	6.4***	6	2
Vice President and CFO	5.4***	5	2
Division Other C-Suites	2.1	4	1
Vice President and Other C-Suites (Exclude CFO)	0.0	3	1
Senior Vice President	-0.5	2	1
Other Positions	-2.6	1	0
Vice President	-6.6***	0	0

Panel B. Managers Distribution by Gender and Rank

<u>COARSE_RANK</u>	<u>No. of Males</u>	<u>No. of Females</u>	<u>% of Females</u>
9 (High)	754	24	3.08
8	177	6	3.28
7	120	8	6.25
6	135	20	12.90
5	125	13	9.42
4	483	59	10.89
3	1,202	201	14.33
2	267	33	11.00
1 (Low)	1,944	443	18.56
Total	5,207	807	13.42

job after the M&A. Change in rank is also negative for the other three measures of rank, supporting the idea that managers are hired at lower ranks after M&As, consistent with prior research on post-acquisition labor market outcomes for managers. Change in Total Compensation (CHG_TOTAL_COMP) is measured as the change in log compensation between compensation earned in the first full fiscal year in the hiring firm and the last full fiscal year before merger. We obtain data on

TABLE 2
Summary Statistics

Panel A of Table 2 presents summary statistics for the full sample. Panel B presents summary statistics by coarse rank and gender. Target coarse rank 0 is excluded from the sample. Variable definitions are in the Appendix. *, **, and *** indicate the difference in means between male and female managers are statistically significant at the 10%, 5%, and 1% levels, respectively.

Panel A. Summary Statistics

	No. of Obs.	Mean	Median	Std. Dev.
FEMALE	6,014	0.134	0.000	0.341
COARSE_RANK	6,014	3.383	3.000	2.768
CHG_COARSE_RANK	5,319	-0.819	0.000	3.448
CHG_DETAILED_RANK	5,319	-2.143	0.000	11.939
CHG_RANK_COEFF	5,319	-5.975	0.000	31.307
CHG_TRANS_RANK	5,943	-0.793	0.000	3.676
CHG_COMP	362	-1.512	-1.487	1.867
AGE	4,997	51.352	51.000	7.726
TENURE	6,014	5.539	4.332	4.702
BACHELORS	4,989	0.941	1.000	0.235
MASTERS	4,989	0.171	0.000	0.377
MBA	4,989	0.326	0.000	0.469
PHD	4,989	0.059	0.000	0.235
NUM_CERTIFICATES	4,989	0.199	0.000	0.454
NUM_FIRMS	6,014	2.594	2.000	2.794
NUM_BOARDS	6,014	0.638	0.000	1.577
ln(1 + EXEC_EXPERIENCE)	5,931	1.691	1.806	0.872
OUTSIDE_BOARD	6,014	0.186	0.000	0.389
ln(1 + NETWORK)	5,739	5.455	5.529	1.272
ln(TOTAL_ASSETS_TARGET)	6,014	6.876	6.826	2.053
IND_ADJ_ROA_TARGET	5,944	-0.004	0.002	0.282
ATTRITION	6,014	0.116	0.000	0.320
TIME_BTW_JOBS	5,319	1.379	0.745	1.774
RETAINED	6,014	0.114	0.000	0.318
PRIVATE_FIRM	6,014	0.578	1.000	0.494
FEMALE_CEO	2,934	0.035	0.000	0.183
FEMALE_EXECS_RATIO	3,242	0.123	0.059	0.171
FEMALES_TOP5_RATIO	2,607	0.056	0.000	0.180
FEMALES_BOARD_RATIO	1,445	0.111	0.111	0.100
FEMALE_LEADER	3,429	0.140	0.000	0.149
CHG_FIRM_SIZE	1,432	0.645	0.756	2.233
CHG_ROA	1,400	0.012	0.003	0.357
CHG_IND	1,432	0.271	0.000	0.445
DISTANCE	2,227	555	147	759
GAI	5,438	1.978	1.777	0.991

Panel B. Summary Statistics by Gender and Rank

COARSE_RANK	CHG_COARSE_RANK		CHG_DETAILED_RANK		CHG_RANK_COEFF		CHG_TRANS_RANK	
	Male	Female	Male	Female	Male	Female	Male	Female
1 (Low)	0.833	0.339***	3.829	2.057***	8.547	4.513***	0.771	0.343***
2	0.738	-0.207**	3.600	0.276**	8.851	0.519**	0.751	0.013***
3	-0.297	-0.862***	-0.603	-2.509***	-0.382	-4.79**	-0.631	-1.028
4	-0.614	-1.240*	-1.560	-3.667*	-0.538	-6.306*	-1.197	-1.799**
5	-1.397	-1.154	-3.847	-3.385	-4.411	-5.194	-0.121	-0.647*
6	-1.917	-1.950	-6.159	-5.450	-11.254	-8.263	-1.954	-2.301
7	-4.107	-3.833	-13.437	-13.000	-25.734	-24.825	-2.424	-3.375
8	-4.106	-4.667	-14.441	-16.834	-31.890	-37.713	-3.750	-4.352
9 (High)	-5.260	-5.917	-17.669	-19.334	-54.230	-56.830	-4.737	-5.451

compensation from Capital IQ because of its broader coverage. Compensation drops after M&A as well, consistent with the loss in rank results. The number of observations for change in compensation is small because compensation data is available for a subset of public firms, and public firms are only required to report compensation for their 5 highest-paid employees.

The average target-firm manager in our sample is 51 years of age and has been with the firm for 5.54 years. Most managers have a bachelor's degree, almost half have master's degrees or MBAs, and 5% have PhDs. Managers have worked for an

average of 2.6 different companies by the time the M&A happens and served on an average of 0.64 boards. Industry-adjusted ROA (IND_ADJ_ROA_TARGET) is negative, implying that the average target firm underperforms its peers, which is consistent with prior research (Jarrell, Brickley, and Netter (1988)). ATTRITION is an indicator for the absence of employment information in BoardEx after the M&A. Attrition rate is 11.6% for the managers in our sample. Target-firm managers take an average of 1.38 years to find their next job (TIME_BTW_JOBS), with 11.4% of managers getting jobs in the acquiring firm (RETAINED) and 58% finding jobs in private (unlisted) firms (PRIVATE_FIRMS). Among the group of managers that join public firms, the difference in log assets between hiring and target firms is positive (CHG_FIRM_SIZE), implying that managers on average are hired at firms larger than the target firm (though this statistic does not account for managers hired by private firms that are likely smaller). The difference in ROA between hiring and target firms is positive, implying that managers are hired at better-performing firms (CHG_ROA). We use Fama and French 12 industries to track the industries of firms that hire managers displaced by the M&A and find that 27% of managers get jobs in different industries (CHG_INDUSTRY). The distance between the headquarters of target and hiring firms averages about 555 miles (DISTANCE, median of about 147 miles). Panel B of Table 2 presents changes in rank sorted by target firms' coarse rank and manager gender: female managers lose more rank than their male counterparts post-M&A, regardless of how rank is measured.

III. Empirical Findings

A. Gender and Labor Market Outcomes After M&As

1. Change in Ranks

Table 3 presents OLS estimates of the relation between a manager's gender and job market outcome after M&A. Specifically, we regress change in ranks on an indicator variable for the manager being female, and an extensive set of independent variables. Standard errors for all regressions are clustered at the firm level. In Panel A, the change in ranks (dependent variable) is measured using coarse ranks (CHG_COARSE_RANKS). Regressions include rank-fixed effects to account for the differential impact an acquisition may have on target-firm managers at different ranks. Summary statistics (Panel B of Table 2) suggest that higher ranks are more disadvantaged by the acquisition. We also include function fixed effects to account for variations in the employability of different functional jobs.¹¹ Year-fixed effects account for variations in market conditions over time. Regression 1 includes the aforementioned fixed effects and the indicator for female (FEMALE). The coefficient on FEMALE is -0.489 , statistically significant at the 1% level, which

¹¹Manager's functional area classifications are operations; marketing; sales; information technology; research and development; operations support; legal; secretary; finance; accounting; real estate; administration; supply chain; customer service; public relations; human resources; strategy; risk management; investment; top management (if manager's job title is CEO, chairman, president or vice chairman); miscellaneous (such as purchase, corporate, and shared services); and unknown (if we cannot identify functional area from the job title).

TABLE 3
Job Rank Changes Around M&As

In Table 3, we present OLS regressions explaining change in coarse rank around M&As (Panel A), change in detailed rank and change in rank coefficient (Panel B), and change in transitivity rank (Panel C). The main variable of interest is FEMALE, an indicator for manager is female. See the Appendix for variable definitions. The type of fixed effects included in regressions is indicated at the bottom of each panel. Standard errors are clustered at the firm level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Dependent Variable = CHG_COARSE_RANK

	1	2	3	4	5	6	7
FEMALE	-0.489*** (-5.20)	-0.534*** (-5.17)	-0.595*** (-4.70)	-0.574*** (-4.15)	-0.590*** (-4.30)	-0.543* (-1.96)	-0.388* (-1.68)
AGE			-0.040*** (-5.43)	-0.038*** (-4.53)	-0.038*** (-4.43)	-0.067*** (-4.86)	-0.044*** (-2.84)
TENURE			-0.001 (-0.05)	-0.001 (-0.08)	-0.001 (-0.05)	-0.015 (-0.57)	-0.024 (-0.86)
RETAINED			0.070 (0.46)	0.161 (0.99)	0.081 (0.49)		0.431* (1.68)
TIME_BTW_JOBS			0.248 (1.41)	0.349* (1.86)	0.311 (1.65)	0.197 (0.34)	0.615* (1.93)
PRIVATE_FIRM			1.132*** (10.61)	1.079*** (9.24)	1.062*** (8.97)		
MASTERS				-0.055 (-0.35)	-0.059 (-0.39)	0.422 (1.43)	0.321 (1.25)
MBA				0.036 (0.32)	0.055 (0.48)	-0.130 (-0.71)	0.073 (0.37)
PHD				0.195 (0.74)	0.213 (0.79)	-0.221 (-0.39)	-0.268 (-0.53)
NUM_CERTIFICATES				-0.221* (-1.67)	-0.196 (-1.47)	-0.236 (-0.79)	-0.124 (-0.64)
NUM_FIRMS				-0.096*** (-3.51)	-0.100*** (-3.56)	-0.089* (-1.68)	-0.129** (-2.41)
NUM_BOARDS				0.110** (2.38)	0.115** (2.46)	0.161** (2.12)	0.147 (1.61)
IND_ADJ_ROA_HIRING							-1.015 (-1.16)
ln(TOTAL_ASSETS_HIRING)							-0.115* (-1.67)
MKT_ADJ_RET_HIRING							-0.148 (-0.64)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target FEs	No	Yes	Yes	Yes	Yes	No	Yes
Function FEs	Yes	Yes	Yes	Yes	No	No	Yes
Coarse rank FEs	Yes	Yes	Yes	Yes	No	No	Yes
Fama-French 12 Ind. FEs (hiring)	No	No	No	No	No	No	Yes
Function × coarse rank FEs	No	No	No	No	Yes	Yes	No
Target × hiring firm FEs	No	No	No	No	No	Yes	No
No. of obs.	5,318	5,197	4,269	3,684	3,671	824	829
Adj. R ²	0.374	0.392	0.429	0.437	0.442	0.519	0.592

Panel B. Dependent Variable = CHG_DETAILED_RANK and CHG_RANK_COEFF

	CHG_DETAILED_RANK				CHG_RANK_COEFF			
	1	2	3	4	5	6	7	8
FEMALE	-1.906*** (-4.09)	-1.944*** (-4.20)	-1.940** (-2.09)	-1.323* (-1.76)	-4.136*** (-3.63)	-4.172*** (-3.69)	-4.234* (-1.87)	-3.408* (-1.85)
AGE	-0.108*** (-3.69)	-0.118*** (-4.03)	-0.235*** (-5.09)	-0.145*** (-2.87)	-0.268*** (-3.70)	-0.310*** (-4.23)	-0.672*** (-5.36)	-0.379*** (-2.86)
TENURE	0.040 (0.75)	0.002 (0.03)	-0.060 (-0.68)	-0.087 (-0.97)	0.138 (1.00)	-0.049 (-0.37)	-0.296 (-1.27)	-0.341 (-1.47)
RETAINED	-0.050 (-0.09)	-0.165 (-0.29)		0.864 (1.01)	-1.031 (-0.75)	-1.150 (-0.83)		2.577 (1.21)
TIME_BTW_JOBS	1.002 (1.55)	0.889 (1.37)	0.501 (0.26)	2.232** (2.06)	2.190 (1.35)	1.925 (1.18)	0.265 (0.05)	6.899** (2.52)

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TABLE 3 (continued)
Job Rank Changes Around M&As

Panel B. Dependent Variable = CHG_DETAILED_RANK and CHG_RANK_COEFF (continued)

	CHG_DETAILED_RANK				CHG_RANK_COEFF			
	1	2	3	4	5	6	7	8
PRIVATE_FIRM	3.673*** (9.24)	3.669*** (9.22)			9.050*** (9.12)	9.077*** (9.07)		
MASTERS	-0.218 (-0.41)	-0.216 (-0.41)	1.302 (1.28)	0.806 (0.95)	-0.540 (-0.41)	-0.446 (-0.34)	3.840 (1.37)	2.242 (0.99)
MBA	0.092 (0.24)	0.143 (0.36)	-0.410 (-0.65)	0.076 (0.12)	0.457 (0.46)	0.541 (0.53)	-0.491 (-0.28)	0.227 (0.13)
PHD	0.698 (0.78)	0.763 (0.83)	-0.915 (-0.47)	-0.684 (-0.43)	1.926 (0.85)	1.989 (0.86)	-1.473 (-0.27)	-2.059 (-0.53)
NUM_CERTIFICATES	-0.793* (-1.72)	-0.753 (-1.63)	-1.016 (-0.98)	-0.392 (-0.62)	-1.709 (-1.44)	-1.660 (-1.39)	-2.565 (-0.96)	-0.235 (-0.14)
NUM_FIRMS	-0.311*** (-3.32)	-0.365*** (-3.89)	-0.328* (-1.83)	-0.417** (-2.34)	-0.859*** (-3.75)	-1.051*** (-4.54)	-0.822* (-1.71)	-0.977** (-2.03)
NUM_BOARDS	0.407*** (2.59)	0.448*** (2.84)	0.533** (2.03)	0.428 (1.38)	1.198*** (2.96)	1.263*** (3.04)	1.259* (1.70)	0.853 (1.01)
IND_ADJ_ROA_HIRING				-3.396 (-1.16)				-6.655 (-0.88)
ln(TOTAL_ASSETS_ HIRING)				-0.351 (-1.62)				-1.045* (-1.86)
MKT_ADJ_RET_HIRING				-0.504 (-0.68)				-1.778 (-0.97)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Function FEs	Yes	No	No	Yes	Yes	No	No	Yes
Detailed rank FEs	Yes	No	No	Yes	Yes	No	No	Yes
Fama-French 12 Ind. FEs (hiring)	No	No	No	Yes	No	No	No	Yes
Function × coarse rank FEs	No	Yes	Yes	No	No	Yes	Yes	No
Target × hiring firm FEs	No	No	Yes	No	No	No	Yes	No
No. of obs.	3,684	3,671	824	829	3,684	3,671	824	829
Adj. R ²	0.456	0.456	0.521	0.606	0.508	0.500	0.521	0.632

Panel C. Dependent Variable = CHG_TRANS_RANK

	1	2	3	4	5	6	7
FEMALE	-0.536*** (-5.09)	-0.484*** (-4.26)	-0.540*** (-3.72)	-0.559*** (-3.45)	-0.562*** (-3.46)	-0.648** (-2.45)	-0.831*** (-3.03)
AGE			-0.035*** (-4.48)	-0.036*** (-4.07)	-0.037*** (-4.09)	-0.049*** (-3.08)	-0.042** (-2.38)
TENURE			-0.011 (-0.75)	-0.009 (-0.52)	-0.009 (-0.49)	-0.040 (-1.44)	-0.025 (-0.80)
RETAINED_BY_ACQUIRER			0.324* (1.94)	0.402** (2.20)	0.382** (2.04)		0.532* (1.76)
TIME_BETWEEN_JOBS			0.397** (2.13)	0.509** (2.56)	0.476** (2.35)	0.474 (0.79)	0.459 (1.20)
PRIVATE_FIRM_(HIRING)			1.245*** (10.84)	1.196*** (9.53)	1.238*** (9.59)		
MASTERS_DEGREE				-0.073 (-0.45)	-0.067 (-0.41)	-0.107 (-0.36)	0.569* (1.93)
MBA				0.118 (0.97)	0.114 (0.92)	0.050 (0.24)	0.286 (1.37)
PHD				0.373 (1.37)	0.419 (1.49)	0.020 (0.03)	-0.001 (-0.00)
NO_OF_CERTIFICATES				-0.052 (-0.38)	-0.057 (-0.42)	-0.383 (-1.33)	-0.059 (-0.24)
NO_OF_FIRMS_PRIOR_M&A				-0.064** (-2.04)	-0.073** (-2.29)	-0.120* (-1.92)	-0.173*** (-2.75)
NO_OF_BOARDS_PRIOR_M&A				0.041 (0.79)	0.040 (0.77)	0.225** (2.55)	0.224** (2.17)

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TABLE 3 (continued)
Job Rank Changes Around M&As

Panel C. Dependent Variable = CHG_TRANS_RANK (continued)							
	1	2	3	4	5	6	7
IND_ADJ_ROA_(HIRING)							-1.337 (-1.29)
log(TOTAL_ASSETS) (HIRING)							-0.102 (-1.18)
MKT_ADJ_STOCK_RETURN (HIRING)							-0.095 (-0.36)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target FEs	No	Yes	Yes	Yes	Yes	No	Yes
Function FEs	Yes	Yes	Yes	Yes	No	No	Yes
Transitivity rank FEs	Yes	Yes	Yes	Yes	No	No	Yes
Fama-French 12 Ind. FEs (hiring)	No	No	No	No	No	No	Yes
Function × transitivity rank FEs	No	No	No	No	Yes	Yes	No
Target × hiring firm FEs	No	No	No	No	No	Yes	No
No. of obs.	5,942	5,829	4,668	4,040	4,026	934	896
Adj. R^2	0.300	0.327	0.367	0.376	0.377	0.486	0.530

indicates that female managers drop by an additional 0.489 ranks compared to their male colleagues after M&As. Since the unconditional change in rank is -0.819 , our results show that female managers drop in rank about 60% more than the average manager in the sample.

In regression 2, we include target-fixed effects, so as to estimate the effect of manager gender on job mobility, controlling for differences between target firms. This regression requires that there are observations for both genders in the same target firm. The coefficient on FEMALE is now slightly more negative at -0.534 , statistically significant at the 1% level. In regression 3, we introduce additional covariates that may influence a manager's employability. Among these, we control for manager's age (AGE) since older individuals may face greater difficulty finding jobs; for organizational tenure (TENURE) as longer tenure implies work experience at fewer firms and human capital that may be less transferable to a new employer; an indicator for managers working for the acquiring firm post-M&A (RETAINED) since a manager's firm-specific knowledge may be valuable for the acquirer; for time spent searching for the new job (TIME_BTW_JOBS), as more patient managers might obtain better positions; and finally an indicator for being hired by a private firm (PRIVATE_FIRM) since private firms are generally less prestigious and may be more likely to hire a manager from a public firm at relatively higher ranks post-M&A.¹² The coefficient for FEMALE is now slightly more negative at -0.595 , statistically significant at the 1% level.

In regression 4, we control for additional variables related to managers' education and experience. In general, we expect more education and experience to be valued by the labor market and should reduce potential loss in rank. To account for education, we include indicator variables for the manager having a graduate degree (MASTERS), MBA, or PhD; and the number of certifications such as CFA or CPA (NUM_CERTIFICATES). To account for experience, we control for the

¹²Some prior research (e.g., Kleinjans, Krassel, and Dukes (2017)) has reported gender differences in preference for jobs with "occupational prestige" in exchange for lower wages, with women expressing a "stronger relative preference" than men for occupations with higher prestige.

number of companies the manager worked at (NUM_FIRMS) and the number of external boards the manager served on before the acquisition (NUM_BOARDS). The coefficient on FEMALE is -0.574 , it remains negative and statistically significant at the 1% level.

Regression 5 is similar to regression 4 except that we substitute rank-function fixed effects (rank \times function) for rank and function fixed effects to account for differences in employability that may be specific to a rank and function. With rank-function fixed effects the coefficient on the female indicator estimates the difference in outcomes for male and female managers that were at the *same* rank and at the *same* function. The coefficient on FEMALE is now -0.590 , it remains negative and statistically significant at the 1% level.

Regression 6 is similar to regression 5, except that we add target-hiring firm fixed effects (target \times hiring). Hence, regression 6 compares job outcomes for men and women transitioning between the exact same target and hiring firms. These fixed effects control for possible systematic differences in the firms that hire male and female managers. For example, firms may have different organizational structures, and it is possible that women systematically self-select into firms where jobs with similar responsibilities are associated with different job titles that are ranked lower by our algorithm and by the alternative measures we use. Our regression requires that there are observations for managers from both genders that leave from the same target firm and start in the same hiring firm. Not surprisingly, the number of observations drops significantly. The coefficient on FEMALE is -0.543 , it is statistically significant and similar to estimates from previous regressions. These fixed effects mitigate concerns that systematic differences in the organizational structures of firms that hire male and female managers drive our results.

Regression 7 is similar to regression 4, but includes controls for characteristics of the firm that hires the managers. Specifically, we control for industry-adjusted ROA of the hiring firm (IND_ADJ_ROA_HIRING), log of firm size ($\ln(\text{TOTAL_ASSETS_HIRING})$), market-adjusted stock returns (MKT_ADJ_RET_HIRING), and Fama–French 12-industry fixed effects. Including these variables substantially affects the sample size because of missing observations. For example, accounting variables for hiring firms are only available for public firms, which comprise about 35% of the sample of managers who find subsequent jobs. The coefficient on FEMALE is -0.388 , still negative and statistically significant at the 10% level. The drop in the magnitude of the coefficient is due to the drop in sample size rather than to the additional control variables. This follows from our observation that we obtain a coefficient of similar magnitude on FEMALE when we estimate a regression that uses the same sample, but that does not include the additional control variables. We also run the regressions above with additional controls: network size, executive experience, board membership, and their general ability. Results are robust to include these controls. These control variables are not included in baseline regressions in the article because their availability is limited.

There is ongoing concern that family responsibilities, particularly child bearing and rearing, distract women from managerial jobs that require considerable time commitment (Keloharju, Knupfer, and Tag (2022)). To address this concern empirically, we generate 2 subsamples, one by dropping from our sample executives below the age of 45 (to account for child-bearing and rearing age) and another by

dropping executives below the age of 51 (sample median). Using these smaller subsamples to rerun our regressions, we find that results remain largely unchanged (untabulated).¹³ Another possible concern is that in the general labor market, women prefer to stay closer to home, and sacrifice rank for a job closer to home (Madden (1981)). If that were also the case for women in senior management, we would expect smaller gender differences in job outcomes in areas with greater local job opportunities, as displaced managers would be more likely to find an equivalent job closer to home. We run a regression of change in ranks on an interaction of FEMALE with an indicator for the firm is headquartered in an area that is in the top tercile of the number of firms within a 50-mile radius of the target firm.¹⁴ The coefficient on the interaction is statistically and economically insignificant, suggesting that distance is not a primary consideration in our sample of women in senior management (untabulated).

As we noted earlier, our main results are based only on 44% of the total M&A sample since we do not retain acquisitions where the target is not fully absorbed by the bidder. For robustness, we run regressions with the sample of displaced managers from *all* acquisitions. The sample here is much larger at 8,843 executives (14.64% female). Results remain largely unchanged (untabulated).

2. Alternative Proxies for Job Rankings

In the main regressions reported above, the dependent variable is based on coarse ranks. To strengthen confidence in our findings, we employ alternate proxies for the dependent variable. Panel B of Table 3 presents results for regressions with the same covariates as Panel A, but using change in detailed rank (CHG_DETAILED_RANK, regressions 1–4) and change in rank coefficients (CHG_RANK_COEFF, regressions 5–8) as our dependent variable. Results remain largely unchanged.

As an alternative to our rankings based on compensation, we construct a non-compensation-based rank measure based on Gayle, Golan, and Miller (2012) algorithm–transitivity rank. Using the change in this ranking for the dependent variable (CHG_TRANS_RANK), we run regressions with the same covariates as the main regressions. Our results are largely unaffected. We present the results in Panel C of Table 3. Further, in Table IA1 in the Supplementary Material, we present results using this alternate measure of job rankings for the remaining regression models in the article. Results are also robust when we use the ranking directly from

¹³We note that the median age of managers is 51 in our sample and that less than a quarter of our sample is below the age of 45. Given that in the USA about 72% of women become mothers by the age of 34 (Current Population Survey of the U.S. Census Bureau), it seems that our sample of female managers is generally past the age of bearing and rearing children. Further, previous research suggests important differences between female executives and the general labor force. For example, about 66% of male managers, but only 21% of female managers, had dependent children at home (Wood and Newton (2006)). Researchers have also found that “executive women are significantly more likely to be childless (61%) than executive men (3%)” as well as American women post child-bearing age in general (about 14%) (Fagenson and Jackson (1993)). Perhaps, many female executives are making the decision not to have children in order to pursue their careers.

¹⁴Results are identical if we compute number of firms headquartered within a 50 mile radius and in the same Fama–French 12 industry classification.

Gayle et al. (2012) (as opposed to the rankings we computed based on their algorithm). See regression 1 in Table IA2 in the Supplementary Material.

In untabulated analysis, we construct alternate rankings using compensation data from ExecuComp (instead of BoardEx) to obtain coarse ranks, and use change in coarse ranks as the dependent variable in Table 3. Results are largely unaffected. Results in Table 3 are also robust to constructing alternate rankings using firm-year-fixed effects in a regression analogous to that presented in Table 1. Similarly, results are robust if we construct our ranking measure using male manager data only.

Further, in untabulated analysis, we run a specification where a drop in coarse rank is a binary variable that equals 1 if there is a drop in rank and is 0 otherwise, and find that female managers are more likely to experience a drop in rank. We also employ an ordered probit model instead of linear regression and our results continue to show a greater loss in rank for female managers compared to their male counterparts. We note that our rankings do not take into account transitions across firms with different prestige, although we do find that firm prestige does not differently influence the movement of male and female managers post-M&A. Nevertheless, it is plausible that an executive who transits from being the executive vice president of a small firm to the senior vice president of a large firm may be considered a demotion when in fact it is a promotion. We address this by reclassifying demotion as a binary variable that takes the value 1 if the manager moves to a lower-ranked job in a smaller firm (as measured using total assets), and 0 otherwise. Results are robust. In addition, we run our tests separately for the subsamples of executives who move to public firms and to private firms, and find our results to be robust.

The results so far suggest that target-firm managers suffer a drop in rank post-M&A. In particular, female managers experience a significantly greater drop in rank than their male colleagues, and this “gender gap” in job mobility appears robust to different specifications. The difference in outcomes between male and female managers could be the result of gender-related preferences (supply-side effects). One would expect these preferences to be revealed in the various choices made by male and female managers in their search and choice of new jobs: for example, location of the new employer, willingness to change industry, and willingness to wait for an appropriate offer, and so forth. As we will show, no significant difference is observed between men and women along these various preference dimensions, suggesting that the drop in rank is unlikely to be the result of gender-related preferences. This supports the view that the greater drop in rank for female executives is likely the result of lower demand among employers for them.

3. Change in Compensation

We now estimate the relation between manager gender and change in compensation in the aftermath of an acquisition. In Table 4, we present OLS estimates for regressions of change in total compensation (CHG_COMP) on the managers’ gender, and various sets of independent variables that control for firm and manager attributes. These compensation regressions provide evidence consistent with the finding that female managers suffer a relatively greater loss of rank after their firms are acquired. In these regressions, we do not include target-fixed effects, because in several cases we have data for only a single individual in the target firm. Regression 1 includes fixed effects for year, and target firm industry, rank, and function.

TABLE 4
Changes in Executive Compensation Around M&As

In Table 4, we present OLS regressions explaining change in managers' total compensation (CHG_TOTAL_COMP) around M&As. Change in compensation is computed as the difference in natural log of total compensation in hiring firm the first full fiscal year after hiring date and total compensation in target firm the last full fiscal year before M&A effective date. The main variable of interest is FEMALE, an indicator for manager being female. See the Appendix for variable definitions. The type of fixed effects included in regressions is indicated at the bottom of the table. Standard errors are clustered at the firm level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	1	2	3	4
FEMALE	-0.756** (-2.28)	-0.785** (-2.25)	-0.742** (-2.14)	-0.508* (-1.80)
AGE		-0.030* (-1.80)	-0.026 (-1.53)	0.008 (0.83)
TENURE		-0.039** (-1.97)	-0.033 (-1.57)	-0.022* (-1.75)
RETAINED		1.083*** (4.07)	1.098*** (3.87)	0.130 (0.66)
TIME_BTW_JOBS		0.075 (1.09)	0.087 (1.23)	0.013 (0.27)
MASTERS		-0.172 (-0.60)	-0.176 (-0.63)	0.185 (1.07)
MBA		-0.204 (-0.98)	-0.220 (-1.05)	-0.175 (-1.43)
PHD		0.126 (0.23)	0.151 (0.29)	0.447* (1.75)
NUM_CERTIFICATES		0.042 (0.17)	-0.003 (-0.01)	0.111 (0.97)
NUM_FIRMS		-0.012 (-0.30)	-0.020 (-0.48)	-0.014 (-0.57)
NUM_BOARDS		-0.006 (-0.09)	0.008 (0.12)	0.035 (0.86)
IND_ADJ_ROA_TARGET			-0.553 (-0.81)	-0.040 (-0.09)
ln(TOTAL_ASSETS_TARGET)			-0.079 (-0.98)	-0.302*** (-4.86)
IND_ADJ_ROA_HIRING				-0.148 (-0.84)
ln(TOTAL_ASSETS_HIRING)				0.014 (0.26)
ln(TOTAL_COMP_TARGET)				0.860*** (24.58)
Year FEs	Yes	Yes	Yes	Yes
Fama-French 12 Ind. FEs (target)	Yes	Yes	Yes	Yes
Function FEs	Yes	Yes	Yes	Yes
Coarse rank FEs	Yes	Yes	Yes	Yes
Fama-French 12 Ind. FEs (hiring)	No	No	No	Yes
No. of obs.	355	320	317	248
Adj. R^2	0.243	0.300	0.298	0.836

Regression 2 adds manager characteristics, regression 3 adds target-firm characteristics, and regression 4 adds hiring firm characteristics. The coefficients on FEMALE range between -0.508 ($p < 0.1$) to -0.785 ($p < 0.05$), implying a drop in log compensation for women managers that is about 40–53 percentage points greater than the compensation drop for men.¹⁵

These results provide additional empirical evidence suggesting that the post-M&A labor market favors male managers over female managers.

¹⁵From $1 - \exp(-0.508) = 0.398$ and $1 - \exp(-0.756) = 0.530$.

4. Propensity Score Matching

Our previous analyses assume a linear relation between dependent variables and control variables, which may oversimplify the relation between manager gender and their job market outcomes after M&As. To allow for nonlinear influence of controls on labor market outcomes, we use PSM to compare female managers to their male counterparts with similar characteristics. The idea is to estimate the counterfactual outcomes of individuals by using the outcomes from a subsample of similar subjects from the control group, where “similar” is defined in terms of a set of observable characteristics (Imbens (2004)).

We estimate the propensity score using a probit regression and model the probability of a target firm having a female manager based on characteristics believed to i) differ among the general population of male and female managers and ii) affect job outcomes. Our probit regression (untabulated) includes the following independent variables: AGE, TENURE, education level (bachelor’s, master’s, or PhD), number of certificates, number of different companies the manager has worked for before the M&A, number of external boards the manager has served on before the M&A, natural log of target firm’s total assets, target firm’s industry-adjusted ROA prior M&A, and indicators for manager’s coarse rank and function in the target firm, target firm’s industry (Fama–French 12 industries) and year of M&A. We then match without replacement each female manager to one male manager with the closest propensity score, and require that the difference in scores is no greater than 0.01. There are 506 female managers with sufficient data on covariates used in this analysis, matched with 506 male managers, for a total of 1,012 observations.

Panel A of Table 5 presents summary statistics for treatment and control groups. We observe that female managers experience a greater drop in coarse rank than comparable male managers, and this difference is statistically significant at the 1% level. The difference between the two groups for the remaining variables is indistinguishable from 0, suggesting our samples are closely matched.

In Panel B of Table 5, we present results from OLS regressions explaining the change in ranks using the matched sample. Regression analysis controls for residual differences in the sample. As before, the main variable of interest is FEMALE. In regression 1 we include fixed effects for year, function, and rank. In regressions 2 to 4 we add different sets of control variables, analogous to what we do in Table 3. In regression 5, we add target-firm fixed effects. The number of observations drops because these fixed effects require a target firm to have managers of both genders, and our matching algorithm does not require that a female manager be matched with a male manager from the same firm. The coefficient on female indicator ranges between -0.421 ($p < 0.1$) and -0.553 ($p < 0.05$). Once again, results suggest a greater drop in rank for female managers compared to male managers. In Table 5, we present results for coarse ranks. Results remain qualitatively unchanged when we measure the change in ranks (untabulated) using detailed rank, rank coefficients, or transitivity rank (Gayle et al. (2012) ranking algorithm).

PSM analysis confirms our earlier results: after an acquisition, target female managers experience a greater drop in rank compared to their male colleagues, suggesting a significant “gender gap” in demand for managers favoring men over women.

TABLE 5
Job Rank Changes Around M&As: Propensity Score Matched Sample

In Table 5, each female manager is matched to a male manager using propensity score, nearest neighbor 1-to-1 matching, without replacement. Panel A presents summary statistics for treatment and control samples. Panel B presents OLS regressions explaining managers' change in coarse ranks around M&As, using the propensity score matched sample. The main independent variable of interest is FEMALE, an indicator for manager being female. See the Appendix for variable definitions. The type of fixed effects included in regressions is indicated at the bottom of the table. Standard errors are clustered at the firm level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Summary Statistics by Gender

	Female		Male		Difference	<i>t</i> -Stat.
	No. of Obs.	Mean	No. of Obs.	Mean		
CHG_COARSE_RANK	506	-0.549	506	-0.147	0.402***	(3.16)
AGE	506	48.781	506	48.779	-0.002	(-0.00)
TENURE	506	5.027	506	5.249	0.222	(0.86)
RETAINED	506	0.091	506	0.101	0.010	(0.53)
TIME_BTW_JOBS	506	1.448	506	1.451	0.004	(0.03)
PRIVATE	506	0.613	506	0.617	0.004	(0.13)
MASTERS	506	0.162	506	0.174	0.012	(0.50)
MBA	506	0.271	506	0.292	0.022	(0.77)
PHD	506	0.063	506	0.053	-0.010	(-0.67)
NUM_CERTIFICATES	506	0.265	506	0.296	0.032	(0.93)
NUM_FIRMS	506	2.344	506	2.391	0.047	(0.33)
NUM_BOARDS	506	0.417	506	0.399	-0.018	(-0.27)

Panel B. OLS Regressions Explaining Change in Coarse Rank Around M&As

	1	2	3	4	5
FEMALE	-0.485*** (-3.12)	-0.487*** (-3.23)	-0.482*** (-3.20)	-0.421*** (-2.76)	-0.553** (-2.51)
AGE		0.008 (0.71)	0.004 (0.40)	0.003 (0.26)	-0.007 (-0.40)
TENURE		0.010 (0.49)	0.010 (0.48)	0.002 (0.11)	0.012 (0.36)
RETAINED		-0.022 (-0.09)	-0.018 (-0.08)	-0.081 (-0.34)	-0.364 (-1.10)
TIME_BTW_JOBS		-0.074** (-2.04)	-0.069* (-1.85)	-0.075* (-1.93)	0.117 (0.28)
PRIVATE_FIRM		0.855*** (5.86)	0.887*** (6.01)	0.896*** (5.76)	0.891*** (4.02)
MASTERS			0.021 (0.11)	0.017 (0.09)	-0.083 (-0.30)
MBA			0.384** (2.11)	0.432** (2.33)	0.409 (1.50)
PHD			0.470 (1.34)	0.415 (1.11)	0.373 (0.74)
NUM_CERTIFICATES			0.072 (0.39)	0.011 (0.05)	-0.319 (-0.97)
NUM_FIRMS			-0.012 (-0.24)	-0.006 (-0.12)	0.073 (0.84)
NUM_BOARDS			0.094 (0.74)	0.095 (0.74)	-0.105 (-0.62)
Year FEs	Yes	Yes	Yes	Yes	Yes
Target FEs	No	No	No	No	Yes
Function FEs	Yes	Yes	Yes	No	No
Coarse rank FEs	Yes	Yes	Yes	No	No
Function × coarse rank FEs	No	No	No	Yes	Yes
No. of obs.	1,012	1,012	1,012	993	695
Adj. R^2	0.302	0.324	0.325	0.326	0.341

5. Additional Robustness Tests

We conduct a series of robustness checks to address potential concerns. One concern is that firms with women managers are more likely to be targeted for

acquisitions (Francis, Hasan, Shen, and Wu (2021)), presumably because either these firms prefer gender diversity over managerial effectiveness or women are considered less likely to fight back an M&A offer. We find, however, that the probability of an acquisition is unrelated to CEO gender or the percentage of female executives in the top 5 ranks or as a percent of all senior executives covered in BoardEx. This alleviates concerns that the target-firm executive gender is systematically associated with the probability of a firm being acquired (see Table IA3 in the Supplementary Material).

Another concern, rooted in the notion that “the bargaining table [is] a male domain” (Kray and Thompson ((2004), p. 104), is that male executives are able to negotiate better post-M&A terms for themselves. To address this concern, we rerun our analysis after dropping the top 3 ranked target-firm executives, the managers most likely to influence M&A negotiations. Results remain qualitatively unchanged. This result, and the results discussed below, are tabulated in Table IA2 in the Supplementary Material. We also examine whether the gender differential in rank drop is smaller when acquirers have a toehold in the target firm. The rationale is that target-firm managers might have little bargaining power when acquiring firms have toeholds – thereby blunting any advantage that male managers might have to negotiate better terms for themselves. We test this possibility by estimating regressions similar to those in Table 3 with an indicator added for toehold and its interaction with FEMALE. We find that the coefficient on FEMALE remains negative and significant, and the coefficient on the interaction term is negative (albeit insignificant), suggesting there is no change in the gender–rank differential in toehold situations.

As mentioned earlier, we follow the common approach in the literature to rank job titles based on compensation. However, compensation disclosure is required for only the 5 highest-paid employees in a firm, while reporting the pay of the remaining managers is voluntary. Since firms often choose to report the compensation of only these highest-paid employees, there is a potentially greater error in the ranking of job titles associated with the lower-paid (and lower-ranked) managers. To mitigate this concern, we drop lower-ranked managers as a robustness check (specifically, we drop the bottom 3 ranks), and find that our results are qualitatively unaffected.

Our presumption is that all managers that end up in the labor market after the acquisition do so involuntarily when their job gets terminated. However, it is possible that some executives leave voluntarily when acquisition is imminent, and if higher quality female managers are more likely to leave voluntarily (Becker-Blease, Elkinawy, and Stater (2010)), then our gender-related findings could reflect this difference. To account for this possibility, we drop from our sample all managers that were employed by their hiring firms within 3 months of the date of last employment with the target firm. Our results remain qualitatively unchanged (untabulated).

There might also be gender differences in job turnover over a somewhat longer time span leading up to the acquisition. For instance, if the target firm is not doing well prior to the acquisition there might be a greater turnover of the more talented female managers. We do not, however, find evidence of a gender difference in turnover rate in the 3 years before the merger announcement date, suggesting

similar departure rates for the 2 genders (untabulated). Target firms that suffer high turnover among managers in the pre-merger period will then have managers who are recently promoted and, thus, have less experience. If these firms promote a greater proportion of (inexperienced) women, this might explain the greater drop in rank for females post-M&A. We test this possibility and find that our results hold when we only consider managers that have been at their current positions for 1 year or longer (untabulated). Our results are also robust to dropping target firms in the top tercile of job turnover in the 3 years prior to the acquisition announcement date. Further, we continue to find a drop in rank for female managers in target firms with above-median performance in the year prior to acquisition. The drop in rank of target female managers is therefore not likely to be driven by the acquisition of target firms that, for instance, prioritize diversity goals at the cost of managerial quality (untabulated).

B. Can Managerial or Firm Attributes Explain Our Results?

1. Gendered Differences in Managers Retained by the Bidder

So far, our results point to a substantive gender bias in the executive labor market post-M&A. It is possible, however, that female managers may be of lower average ability than male managers (seen as “affirmative action” appointees, see Heilman, Block, and Stathatos (1997), Bertrand (2018)), which could then account for the greater drop in ranks for female managers post-M&A when they reenter the labor market. In Table 6, we estimate manager-level regressions to examine various characteristics of the managers in our sample and their job outcomes. Specifically, we run regressions similar to regression 5 in Table 3, but with different dependent variables. Regression 1 in Panel A examines if gender affects the acquiring firm’s decision to hire a manager after the M&A. We do this by examining the composition of the 11.4% of sample managers that, as noted earlier, are hired by the acquirer post-M&A. We expect that because the acquirer might have relatively more information than external employers about target-firm managers, acquirers could be in a better position to retain the highest quality managers from target firms, irrespective of gender. The dependent variable is an indicator for the acquirer hiring a target-firm manager. The independent variables include our variable of interest FEMALE, and control variables, fixed effects for the target firm, rank-function, and year, along with other variables expected to affect employment in the acquirer firm. The coefficient on FEMALE is statistically insignificant, indicating that gender does not explain whether a manager is retained by the acquirer. This result suggests that acquirers do not perceive systematic gender-related quality differences among the target-firm managers they retain.

To mitigate concerns about unobserved ability differences in the managers who are let go, we perform additional robustness tests. We run regressions similar to those in Table 3, but for the subsample of firms where *all* managers are let go, resulting in a sample of 2,963 managers (13.19% female), and find that results remain largely unchanged (untabulated). Further, to more directly investigate if there are observable gender differences between the managers who stay and those who are let go, we run regressions of manager characteristics – specifically, managers’ network size, senior experience, prior board experience, and managerial

TABLE 6
Gender Differences in Managerial Characteristics and Job Search Attributes

In Table 6, we present OLS regressions explaining job search attributes (Panel A) and hiring firm and managerial characteristics (Panel B). Each regression has a different dependent variable, indicated in column headings. The main independent variable of interest is FEMALE, an indicator for the manager is female. All regressions include fixed effects for year, target firm, and executive's function-coarse rank in target firm. See the Appendix for variable definitions. Standard errors are clustered at the firm level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Job Search Attributes

	RETAINED	ATTRITION	TIME_BTW_JOBS	ln(1 + DISTANCE)	CHG_IND
	1	2	3	4	5
FEMALE	-0.025 (-1.44)	-0.001 (-0.06)	-0.002 (-0.14)	0.068 (0.35)	-0.027 (-0.53)
AGE	-0.002** (-2.15)	0.008*** (9.78)	-0.001 (-1.38)	0.008 (0.80)	-0.002 (-0.82)
TENURE	0.001 (0.57)	0.002 (1.43)	-0.000 (-0.15)	0.002 (0.12)	0.003 (0.62)
MASTERS	-0.007 (-0.46)	-0.003 (-0.21)	0.008 (0.49)	0.050 (0.29)	0.040 (0.88)
MBA	-0.019 (-1.54)	-0.004 (-0.39)	0.024** (2.01)	-0.049 (-0.35)	0.055 (1.47)
PHD	0.064*** (2.63)	-0.030 (-1.24)	0.022 (0.79)	0.320 (0.99)	-0.114 (-1.55)
NUM_CERTIFICATES	0.016 (1.30)	-0.005 (-0.43)	0.007 (0.51)	-0.287 (-1.61)	0.030 (0.77)
NUM_FIRMS	0.006** (2.26)	-0.009*** (-4.05)	-0.001 (-0.29)	-0.023 (-0.71)	-0.011 (-1.08)
NUM_BOARDS	-0.002 (-0.51)	-0.004 (-1.45)	-0.001 (-0.22)	0.118** (2.01)	0.012 (0.89)
TIME_BTW_JOBS				-0.173 (-0.74)	0.012 (0.17)
Year FEs	Yes	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes	Yes
Function x coarse rank FEs	Yes	Yes	Yes	Yes	Yes
No. of obs.	3,671	4,049	3,671	1,320	826
Adj. R^2	0.254	0.142	0.971	0.392	0.414

Panel B. Hiring Firm and Managerial Characteristics

	PRIVATE_FIRM	CHG_FIRM_SIZE	CHG_ROA	ln(1 + NETWORK)	ln(1 + EXEC_EXPERIENCE)	OUTSIDE_BOARD	GAI
	1	2	3	4	5	6	7
FEMALE	-0.014 (-0.54)	-0.324 (-1.50)	-0.033 (-0.51)	-0.089 (-1.41)	0.029 (0.91)	0.007 (0.36)	0.031 (0.58)
AGE	0.000 (0.05)	-0.029** (-2.21)	0.004* (1.74)	-0.011*** (-3.44)	0.007*** (3.89)	0.003*** (2.80)	0.018*** (6.29)
TENURE	0.003 (1.41)	-0.007 (-0.36)	-0.001 (-0.35)	-0.019*** (-3.99)	0.113*** (26.11)	-0.001 (-0.41)	-0.024*** (-4.54)
MASTERS	-0.018 (-0.78)	-0.010 (-0.04)	-0.017 (-0.57)	0.116** (2.42)	0.009 (0.30)	0.005 (0.28)	0.059 (1.14)
MBA	-0.003 (-0.16)	-0.163 (-0.98)	0.058** (2.13)	0.166** (4.23)	-0.026 (-1.19)	0.023 (1.59)	0.170** (4.31)
PHD	0.008 (0.20)	0.089 (0.25)	0.046 (0.37)	0.194** (2.40)	-0.058 (-1.18)	-0.067** (-2.15)	-0.051 (-0.53)
NUM_CERTIFICATES	0.001 (0.06)	-0.057 (-0.24)	0.030 (0.62)	0.213*** (4.61)	-0.032 (-1.39)	0.009 (0.57)	-0.003 (-0.07)
NUM_FIRMS	0.002 (0.37)	-0.016 (-0.34)	0.001 (0.22)	0.011 (1.17)	0.056*** (9.30)	0.066*** (16.41)	0.001 (0.05)
NUM_BOARDS	-0.009 (-1.28)	0.068 (1.18)	-0.007 (-0.94)	0.034** (2.35)	-0.019* (-1.87)		0.053*** (2.75)
TIME_BTW_JOBS	-0.114*** (-3.77)	-0.155 (-0.49)	-0.014 (-0.32)				
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Function x coarse rank FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of obs.	3,671	826	802	3,576	4,046	3,671	3,404
Adj. R^2	0.171	0.292	0.233	0.288	0.584	0.370	0.293

ability – on an interaction between FEMALE and a flag for the manager having been retained by the firm (RETAINED). If there are differences, we expect the coefficient on the interaction to be statistically significant. The coefficient on the interaction is small and statistically insignificant, suggesting there are no significant observable gender differences among the managers who are let go. The coefficient on the indicator variable for the manager being retained by acquirer (RETAINED) is also statistically insignificant. This suggests that there are no significant differences in observable indicators of ability between managers who stay and those who leave the firm (untabulated).

2. Do Male and Female Executives Make Different Choices in Landing the Next Job?

We also examine gender differences in terms of the choices made by male and female managers in their search and selection of new jobs. In particular, we consider i) attrition rates (regression 2), ii) time and distance between jobs (regressions 3 and 4), and iii) whether managers get jobs in an industry different from where they worked at the time of the M&A (regression 5). Perhaps, female managers simply do not make the same effort as their male counterparts in looking for a job after the M&A, which could contribute to their greater loss in rank. If that is the case, then keeping other factors unchanged, we would expect female managers to have greater attrition rates, take longer to find their next job, and/or be less willing to take jobs at distant locations or to switch their industry. ATTRITION is an indicator for the absence of employment information in BoardEx after the M&A. Following Agrawal and Walkling (1994), we interpret attrition rates to mean that managers exit the managerial labor market. TIME_BTW_JOBS is computed in years for individuals who change jobs. DISTANCE is the geodesic distance between headquarters for the 2 employers (this variable is often missing for private firms). We note that our sample is composed of senior managers, most of whom are likely to work at firms' headquarters (Rubin (2008)). CHG_IND is an indicator that the new employer is in a different Fama–French 12 industry classification than the target firm, where data is only available for public firms.

Our results show the coefficient on the female indicator variable for regressions explaining attrition rates, and time and distance between jobs is statistically insignificant. These results suggest that, in terms of key observable choices, it is unlikely that females are less motivated to land their next job (see, for instance, Kossek, Su, and Wu (2017) for the “opt out” argument, and Belkin (2003) for popular discussion of high-achieving women “opting out” of the paid labor force). Female managers might be less willing to make the effort to adjust and learn about a different industry if, for instance, they are more resistant to change or more risk-averse than their male counterparts. Again, this does not appear to be the case given the insignificant coefficient on the female indicator in regression 5. Taken together, these results suggest that post-M&A female managers act in ways similar to those of male managers in their pursuit of a new position.

In unreported tests, we perform survival analysis to examine how long it takes male and female managers to get their next job. We plot Kaplan–Meier survival curves for male and female managers to show the fraction of managers without jobs at various points in time, measured as years since the date of last employment at the

target firm. The curves for male and female managers are overlapping. We also run a Cox proportional hazard model with manager characteristics expected to affect the duration of unemployment (age, tenure, education, and experience). The coefficient on female is statistically insignificant. Further, the coefficient on female is not sensitive to stratifying the data by target, function, rank, and year. These analyses confirm earlier results about insignificant differences in the time male and female managers take after the M&A displacement.

3. Are Some Types of Firms More Likely to Hire Women?

We also investigate if some types of firms are more likely to hire women. Because “female executives are not randomly assigned to firms” (Baixauli-Soler, Belda-Ruiz, and Sanchez-Marin ((2017), p. 747), firms that hire women in senior positions may systematically differ from other firms. In regressions 1–3 in Panel B of Table 6, we regress an indicator for the hiring firm being private, and the difference in size and ROA between hiring and target firms. Other factors such as hiring by “female-friendly” firms are discussed subsequently. Public, larger and better-performing firms are more prestigious, and it is possible that women may trade-off a lower rank to work for a more reputed firm. Firm size and ROA are available for public firms only, and hence the smaller number of observations. As indicated, the coefficient on FEMALE is statistically insignificant in these regression models, suggesting there is no significant difference in the types of firms that hire female managers post-M&A.

4. Do Male and Female Executives Differ in Meaningful Ways?

We consider if male and female managers differ in important characteristics that are likely to affect their job mobility. While some believe that women must be like men to break through the glass ceiling (Wajcman (2013)), others suggest that male and female managers differ systematically in important ways (Adams and Funk (2012)). In regressions 4–7 in Panel B of Table 6, we regress social networks, experience at the executive level, an indicator for outside board service, and a measure of managerial skills on our variable of interest, female indicator, and control variables. NETWORK is the number of different individuals the manager has overlapped with through employment (in listed and unlisted firms), nonprofits/clubs/societies, and education by the M&A effective date. EXEC_EXPERIENCE is years working in senior management as of M&A effective date. OUTSIDE_BOARD is an indicator that the manager has served on an outside board as of the M&A effective date. The coefficients on FEMALE are statistically insignificant, suggesting that these observable managerial characteristics, that may affect the likelihood of being hired, are similar between male and female managers. Based on the idea that males and females accumulate systematically different work experiences on their way up (Fitzsimmons, Callan, and Paulsen (2014)), it is possible that male managers accumulate more generalized skills than female executives, which are valued more broadly in the labor market. Using the managerial ability index developed by Custodio, Ferreira, and Matos (2013) as our measure for more managerial skills (GAI), we find no difference between male and female target-firm executives in our sample.

Taken together, we do not find evidence for either systematic gender-related differences among the target-firm managers retained post-M&A or among managers that are let go. We find that male and female executives in our sample do not differ in ability, make similar choices with regard to post-acquisition employment, and are hired at similar firms post-M&A.

C. Cross-Sectional Determinants of Labor Market Outcomes

Drawing attention to the “unconscious manner in which stereotypic expressions may be produced and influence judgment and action” (Banaji and Greenwald ((1995), p. 182)), some scholars have suggested that gender bias may be implicit in that it occurs outside the person’s conscious awareness (Bertrand et al. (2005)). It is possible that the gender differences we observe in job mobility are driven by implicit bias. To examine this possibility, we consider conditions that may affect implicit bias.

1. Female-Friendly Firms

If the bias against women in managerial roles is implicit, then firms with women at the helm may be more favorable to female executives. Social identity theory (Tajfel, Turner, Austin, and Worchel (1979)) and homophily literature (Kleinbaum, Stuart, and Tushman (2013)) suggest that female leaders may help other females advance in the firm. This is both because they are less likely to view women through the lens of traditional gender stereotypes and also because they foster an organizational culture friendly to women. Others, however, argue that senior women tend not to support, and sometimes even actively undermine, women subordinates (also referred to as the “queen bee” effect, see Derks, van Laar, and Ellemers (2016)). We therefore examine the influence of upper-echelon gender diversity on men’s and women’s post-M&A career trajectory.

We start by investigating if post-M&A women executives are more likely to be hired in female-friendly firms. In Panel A of [Table 7](#), we run regressions similar to those in [Table 6](#), but with different outcome variables. In regressions 1–4, the outcome variables are an indicator for the hiring firm having a female CEO, the proportion of female executives in the hiring firm (measured using all executives for which we have data, and top 5 executives only), and an indicator for female leadership. A firm is considered to have female leadership if it satisfies one of the following requirements: the firm is led by a female CEO at any time between 2000 and 2018; of the top 5 ranked managers that worked in the company between 2000 and 2018 more than 10% are female or at least 2 are female; of all the managers that worked in the company between 2000 and 2018, more than 15% are female or at least 2 are female (14% of firm-years have female leadership, see summary statistics in [Table 2](#)). The number of observations in these regressions vary because of data availability on BoardEx for the executive team of hiring firm. The coefficient on FEMALE is positive and statistically significant in 3 of the 4 regressions. Our results indicate that hiring firms that have female CEOs, higher proportion of female executives, or female leadership are more likely to recruit women managers,

TABLE 7
Hiring and Job Rank Changes in Female-Friendly Firms

In Table 7, we present OLS regressions explaining hiring in female-friendly firms (Panel A) and changes in coarse ranks in female-friendly firms (Panel B) around M&As. The main independent variables of interest are FEMALE, an indicator for manager is female, FEMALE_FRIENDLY, and an interaction between the two variables. FEMALE_FRIENDLY is measured in various ways, indicated in column headings. All regressions include fixed effects for year, target firm, and executive's function by coarse rank in target firm. p -values of β_1 FEMALE + β_2 FEMALE \times FEMALE_FRIENDLY are for marginal effects at the 90th percentile of FEMALE_FRIENDLY for regressions 2, 3, and 4 and marginal effects at 1 for regressions 1 and 5. See the Appendix for variable definitions. Standard errors are clustered at the firm level. t -statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Hiring in Female-Friendly Firms

	FEMALE_CEO	FEMALE_EXECS_RATIO	FEMALES_TOP5_RATIO	FEMALE_LEADER
	1	2	3	4
FEMALE	0.057** (2.44)	0.029* (1.66)	0.009 (0.52)	0.096*** (2.75)
AGE	0.001 (1.47)	0.000 (0.74)	0.001 (0.90)	0.001 (0.84)
TENURE	0.001 (0.35)	-0.002 (-1.56)	-0.002 (-1.31)	-0.004 (-1.33)
MASTERS	0.011 (0.80)	0.017 (1.32)	0.023* (1.86)	0.033 (1.02)
MBA	-0.003 (-0.29)	-0.015 (-1.58)	-0.011 (-0.97)	-0.005 (-0.20)
PHD	0.010 (0.39)	-0.013 (-0.55)	-0.004 (-0.13)	-0.111** (-2.15)
NUM_CERTIFICATES	-0.011 (-0.88)	-0.003 (-0.30)	-0.017* (-1.78)	-0.004 (-0.13)
NUM_FIRMS	0.002 (0.57)	0.001 (0.23)	-0.001 (-0.20)	-0.006 (-1.07)
NUM_BOARDS	0.006 (1.17)	0.000 (0.03)	0.004 (1.00)	0.007 (0.82)
TIME_BTW_JOBS	-0.019 (-1.04)	0.013 (0.78)	-0.013 (-0.83)	-0.020 (-0.47)
Year FEs	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes
Function \times coarse rank FEs	Yes	Yes	Yes	Yes
No. of obs.	1,925	2,159	1,662	2,274
Adj. R^2	0.177	0.148	0.178	0.195

Panel B. Job Rank Changes in Female-Friendly Firms

	FEMALE_CEO	FEMALE_EXECS_RATIO	FEMALES_TOP5_RATIO	FEMALES_BOARD_RATIO	FEMALE_LEADER
	1	2	3	4	5
FEMALE (β_1)	-0.747*** (-3.89)	-0.947*** (-4.32)	-0.627*** (-3.25)	-0.462* (-1.65)	-0.816*** (-3.40)
FEMALE_FRIENDLY	-0.805* (-1.85)	-1.405*** (-3.05)	0.127 (0.26)	-3.018*** (-3.70)	-0.376** (-2.48)
FEMALE \times FEMALE_FRIENDLY (β_2)	3.010*** (3.88)	2.468*** (2.87)	1.868** (2.50)	1.618 (1.08)	0.630** (1.97)
AGE	-0.056*** (-4.62)	-0.042*** (-3.80)	-0.032*** (-2.75)	-0.035*** (-3.13)	-0.039*** (-3.75)
TENURE	0.010 (0.49)	0.004 (0.23)	-0.010 (-0.49)	-0.046** (-2.48)	-0.009 (-0.47)
RETAINED	0.222 (1.08)	0.271 (1.37)	0.365* (1.93)	0.361** (2.00)	0.293 (1.56)
TIME_BTW_JOBS	0.250 (0.93)	0.352 (1.43)	0.598** (2.34)	0.438* (1.78)	0.442* (1.87)
PRIVATE_FIRM	1.471*** (8.30)	1.158*** (7.32)	0.783*** (4.86)	0.978*** (4.86)	0.978*** (6.48)
MASTERS	-0.007 (-0.03)	0.017 (0.08)	0.113 (0.53)	0.151 (0.93)	0.202 (1.02)

(continued on next page)

TABLE 7 (continued)
Hiring and Job Rank Changes in Female-Friendly Firms

Panel B. Job Rank Changes in Female-Friendly Firms (continued)

	FEMALE_CEO	FEMALE_EXECS_ RATIO	FEMALES_TOP5_ RATIO	FEMALES_BOARD_ RATIO	FEMALE_LEADER
	1	2	3	4	5
MBA	-0.025 (-0.16)	0.034 (0.24)	0.020 (0.13)	0.020 (0.15)	0.156 (1.12)
PHD	-0.175 (-0.41)	-0.216 (-0.56)	-0.745** (-2.02)	0.002 (0.01)	-0.198 (-0.55)
NUM_CERTIFICATES	-0.395** (-2.39)	-0.495*** (-3.28)	-0.363** (-2.21)	-0.176 (-1.21)	-0.443*** (-3.06)
NUM_FIRMS	-0.125*** (-3.04)	-0.135*** (-3.65)	-0.108*** (-2.75)	-0.086** (-2.54)	-0.126*** (-3.70)
NUM_BOARDS	0.260*** (4.31)	0.222*** (3.78)	0.103 (1.51)	0.121** (2.24)	0.168*** (3.00)
Year FEs	Yes	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes	Yes
Function \times coarse rank FEs	Yes	Yes	Yes	Yes	Yes
p -value $\beta_1 + \beta_2$ (Wald test)	0.003	0.606	0.491	0.898	0.416
No. of obs.	1,925	2,159	1,662	1,717	2,274
Adj. R^2	0.487	0.495	0.560	0.597	0.485

suggesting lower levels of gender bias from firms with greater upper-echelon representation of women.¹⁶

In Panel B of Table 7, we examine the potential influence of female leaders in the hiring firm on the relation between target-firm manager gender and change in rank post-M&A. The dependent variable is change in rank, independent variables are the same as in Table 3 regression 5, except that now we add a proxy for the hiring firm being female-led (which we call FEMALE_FRIENDLY) and an interaction of this variable with an indicator for target-firm executive gender is female. The interaction captures the impact female leaders have on the relation between manager gender and change in rank. A positive coefficient suggests an attenuation, or even a reversal, of the gender-rank relation. In regressions 1–5, we use different proxies for female-led hiring firms, as specified in column headings. In turn, we use i) an indicator that the firm is led by a female CEO, ii) the proportion of female managers in the firm, iii) the proportion of female executives among the top 5 ranked firm managers, and iv) the proportion of females on board, all measured in the firm-year prior to hiring the target-firm manager. In regression 5, we use the composite measure for female leadership.

Our results show that female-friendly firms appear to reverse the female disadvantage in the job market for target-firm managers. In regression 1, the coefficient on FEMALE \times FEMALE_CEO interaction is 3.010, and statistically significant at the 1% level. The coefficient on FEMALE is -0.747 . The marginal effect, obtained by summing these 2 coefficients, is positive (statistically significant at 0.01 level), suggesting that there is no “gender penalty” in female-led firms.¹⁷

¹⁶It has been suggested that women managers prefer to work in female-friendly firms (Barbulescu and Bidwell (2013)). Our analysis does not rule out this possibility.

¹⁷The marginal effect for females in firms led by female CEOs is positive and statistically significant, suggesting that, in these firms, female managers have an advantage over males. However, female CEOs

The coefficients on the FEMALE interaction with other proxies for female friendliness are also positive and statistically significant (with the exception of regression 4, where we examine the moderating effect of female board representation), suggesting a smaller gender bias in female-friendly firms. The marginal effects for females in female-friendly firms are indistinguishable from 0 at the 90th percentile of the variables FEMALE_EXECS_RATIO and FEMALES_TOP5_RATIO, and for the indicator on FEMALE_LEADER. These results suggest no gender penalty for firms with high levels of female friendliness.

One reason for the recent push for greater female representation on corporate boards is the notion that female directors may help increase gender equality in the firm (“women helping women”: Matsa and Miller (2011)). The interaction of FEMALE \times FEMALES_BOARD_RATIO is positive, but statistically insignificant at conventional levels. However, statistically insignificant does not mean economically meaningless. When the proportion of female board members reaches 30%, the gender–rank relation is muted (0.3×1.618 coefficient on the interaction) plus -0.462 (coefficient on FEMALE). These findings are consistent with the idea that “many benefits of increased levels of board gender diversity may not be realized” until a critical mass is achieved (Guldiken, Mallon, Fainschmidt, Judge, and Clark ((2019), p. 2027)).

Taken together, these findings suggest that post-M&A, gender differences in managerial job mobility may be alleviated in female-friendly firms. Thus, gender differences in executive promotion might not reflect hard-wired tastes, but stem instead from managers’ subconscious biases.

2. Past Experience

If women managers are disadvantaged because of implicit bias, it may be the case that it is harder to evaluate women than men, especially since the recruitment of managers will typically involve decisions by more senior male executives. As such, we expect the female disadvantage to be smaller (or even disappear) when there is visible and strong evidence of managers’ prior relevant experience. Table 8 presents regressions examining the contingent influence of experience on the female–rank relation. In regressions 1–4, we proxy for high (low) experience with an indicator for the manager being in the top tercile (bottom 2 terciles) of years in senior management. We add three variables to the baseline regressions presented in Table 3: an indicator for high managerial experience, and interactions of the high and low experience indicators with the female indicator. The coefficient on the interaction of FEMALE with our proxy for low experience is negative and statistically significant at conventional levels, while the interaction of FEMALE with our proxy for high experience is statistically indistinguishable from 0. The difference between these 2 interactions is statistically significant at the 5% level. Our results indicate that only females with less experience are more disadvantaged in the managerial labor market, whereas females with high

compose only 3.5% of the sample, and thus this result needs to be interpreted with caution. Using other proxies for female friendliness, we do not find evidence of a female advantage.

TABLE 8
Job Rank Changes by Experience and Ability

In Table 8, we present OLS regressions explaining changes in coarse ranks around M&As. In Panel A, the main independent variables of interest are FEMALE, an indicator for manager is female, HIGH_(LOW)_EXPERIENCE, an indicator for executive's experience, and an interaction between the two variables. Column headings indicate the proxies used for EXPERIENCE. In the regressions on the left, we proxy for experience with years of managerial experience (EXEC_EXPERIENCE), and HIGH_(LOW)_EXPERIENCE refer to HI_EXEC_EXPERIENCE (LO_EXEC_EXPERIENCE), an indicator for manager is in the top (bottom 2 terciles) of EXEC_EXPERIENCE. In the regressions on the right, we proxy for experience with an indicator for manager served on an outside board (OUTSIDE_BOARD), and HIGH_(LOW)_EXPERIENCE refer to HI_OUTSIDE_BOARD (LO_OUTSIDE_BOARD) an indicator for manager served (did not serve) on an outside board. In Panel B, we substitute GAI (general ability index) for experience. HI_GAI (LO_GAI) is an indicator for executive is in the top (bottom 2 terciles) of GAI. The type of fixed effects included in regressions is indicated at the bottom of each panel. *p*-values of β_1 FEMALE \times HIGH_EXPERIENCE $- \beta_2$ FEMALE \times LOW_EXPERIENCE are for marginal effects of both indicator variables set at 1. See the Appendix for variable definitions. Standard errors are clustered at the firm level. *t*-statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Managers' Past Experience

	EXEC_EXPERIENCE				OUTSIDE_BOARD			
	1	2	3	4	5	6	7	8
FEMALE \times HIGH_EXPERIENCE (β_1)	-0.150 (-0.78)	-0.138 (-0.60)	-0.108 (-0.43)	-0.160 (-0.66)	-0.018 (-0.05)	0.113 (0.33)	0.080 (0.23)	0.119 (0.33)
FEMALE \times LOW_EXPERIENCE (β_2)	-0.696*** (-6.05)	-0.800*** (-5.68)	-0.769*** (-4.94)	-0.766*** (-4.88)	-0.623*** (-5.78)	-0.741*** (-5.39)	-0.711*** (-4.81)	-0.735*** (-5.05)
HIGH_EXPERIENCE	-0.094 (-0.91)	-0.028 (-0.21)	0.024 (0.17)	0.002 (0.02)	-0.423*** (-3.11)	-0.398*** (-2.78)	-0.301* (-1.74)	-0.297* (-1.72)
AGE		-0.039*** (-5.38)	-0.037*** (-4.50)	-0.038*** (-4.39)		-0.037*** (-5.08)	-0.037*** (-4.40)	-0.037*** (-4.32)
TENURE		-0.003 (-0.18)	-0.007 (-0.38)	-0.004 (-0.25)		-0.002 (-0.15)	-0.002 (-0.10)	-0.001 (-0.08)
RETAINED		0.070 (0.46)	0.161 (0.99)	0.081 (0.49)		0.079 (0.52)	0.157 (0.97)	0.077 (0.47)
TIME_BTW_JOBS		0.249 (1.42)	0.350* (1.87)	0.311 (1.64)		0.234 (1.33)	0.335* (1.80)	0.297 (1.57)
PRIVATE_FIRM_HIRING		1.136*** (10.67)	1.086*** (9.30)	1.069*** (9.04)		1.128*** (10.59)	1.071*** (9.21)	1.053*** (8.94)
MASTERS			-0.057 (-0.37)	-0.062 (-0.41)			-0.047 (-0.30)	-0.053 (-0.35)
MBA			0.037 (0.32)	0.055 (0.48)			0.040 (0.35)	0.058 (0.50)
PHD			0.185 (0.70)	0.205 (0.77)			0.159 (0.60)	0.183 (0.68)
NUM_CERTIFICATES			-0.218 (-1.64)	-0.192 (-1.45)			-0.207 (-1.55)	-0.180 (-1.35)
NUM_FIRMS			-0.099*** (-3.60)	-0.102*** (-3.61)			-0.037 (-1.53)	-0.039 (-1.57)
NUM_BOARDS			0.111** (2.39)	0.116** (2.47)				
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Function FEs	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Coarse rank FEs	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Function \times coarse rank FEs	No	No	No	Yes	No	No	No	Yes
<i>p</i> -value $\beta_1 - \beta_2$ (Wald Test)	0.011	0.017	0.021	0.030	0.086	0.021	0.038	0.027
No. of obs.	5,197	4,269	3,684	3,671	5,197	4,269	3,684	3,671
Adj. <i>R</i> ²	0.392	0.430	0.437	0.442	0.393	0.431	0.436	0.441

Panel B. Manager's General Ability (GAI)

	1	2	3	4
FEMALE \times Hi_GAI (β_1)	-0.337* (-1.76)	-0.295 (-1.35)	-0.347 (-1.52)	-0.350 (-1.57)
FEMALE \times Lo_GAI (β_2)	-0.634*** (-4.98)	-0.707*** (-4.34)	-0.754*** (-4.23)	-0.782*** (-4.43)
Hi_GAI	-0.114 (-1.06)	-0.066 (-0.55)	-0.028 (-0.22)	-0.047 (-0.38)

(continued on next page)

TABLE 8 (continued)
Job Rank Changes by Experience and Ability

<i>Panel B. Manager's General Ability (GAI) (continued)</i>				
	1	2	3	4
AGE		-0.041*** (-5.30)	-0.040*** (-4.51)	-0.041*** (-4.50)
TENURE		0.005 (0.33)	0.001 (0.04)	0.001 (0.04)
RETAINED		0.026 (0.16)	0.142 (0.84)	0.065 (0.38)
TIME_BTW_JOBS		0.128 (0.70)	0.274 (1.39)	0.223 (1.12)
PRIVATE_FIRM		1.151*** (10.04)	1.089*** (8.76)	1.084*** (8.63)
MASTERS			-0.045 (-0.28)	-0.047 (-0.29)
MBA			0.051 (0.43)	0.067 (0.55)
PHD			0.228 (0.81)	0.211 (0.75)
NUM_CERTIFICATES			-0.165 (-1.17)	-0.145 (-1.02)
NUM_FIRMS			-0.101*** (-3.61)	-0.104*** (-3.59)
NUM_BOARDS			0.122*** (2.62)	0.125*** (2.66)
Year FEs	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes
Function FEs	Yes	Yes	Yes	No
Coarse rank FEs	Yes	Yes	Yes	No
Function × coarse rank FEs	No	No	No	Yes
p -value $\beta_1 - \beta_2$ (Wald test)	0.189	0.129	0.150	0.120
No. of obs.	4,758	3,935	3,419	3,404
Adj. R^2	0.394	0.432	0.439	0.444

managerial experience are not any more disadvantaged in the job market than their male colleagues.

In regressions 5–8, we instead proxy for high (low) experience with an indicator for whether the manager has served (has not served) on external boards prior to the M&A. The coefficients on the interaction of FEMALE with our proxy for low experience are again negative and statistically significant, whereas the interaction of FEMALE with our proxy for high experience is statistically indistinguishable from 0. The difference between these 2 interactions is statistically significant at the 5% level. These results suggest that the “gender penalty” for female executives in the post-M&A labor market might not affect those that have previously served on boards.

Panel B of Table 8 examines the influence of managerial ability (as measured using Custodio, Ferreira, and Matos (2013)) on gender differences in job mobility. High (low) managerial ability are indicators for GAI in the top tercile (bottom 2 terciles) of the sample distribution. We find that the interaction of executive gender and high managerial ability is only marginally significant in regression 1, suggesting that among executives with superior skills and experience, there appears to be no difference in the drop of rank post-M&A for men and women. However, the interaction of executive gender and low managerial ability is

significant, suggesting that among executives with limited skills and experience, women see a greater drop in rank compared to men. The difference between the interaction coefficients is statistically insignificant, however.

Taken together, our findings here suggest that the female disadvantage in the labor market may be reduced, or even eliminated, when women managers from target firms can show strong evidence of relevant prior experience. While these results are consistent with our thesis that enhanced information about managers' competence reduces the gender penalty in the labor market for women executives, they also point to an insidious advantage for male executives who are apparently not expected to show similar evidence of prior experience.

D. Managerial Promotions in Post-M&A Hiring Firms

We argue that a possible reason for hiring female managers post-M&A at lower ranks than their male counterparts is implicit bias, which makes it harder for decision-makers in the labor market (who are primarily men) to evaluate women executives compared to male executives. To the extent female executives are being under-placed relative to ability/experience, we would expect hiring firm managers to promote the female executives they hire at a faster rate as they learn about their true potential (as a way to offset the initial under-placement). Further, because experienced female managers are hired at ranks comparable to their male counterparts, we expect them to be promoted slower than less experienced (and likely under-placed) female colleagues, and at a similar pace to men.

We track job promotions for all target-firm managers in their subsequent post-merger employers between 2000 and 2018. We run a linear probability model where the dependent variable is an indicator for the manager being promoted that year. Because managers are unlikely to be promoted immediately after they start a new job, our analysis excludes data for managers recruited in the initial 2 years at the new job. [Table 9](#) presents the results. The main independent variable of interest is an indicator variable that the manager is female (FEMALE), it captures the extent to which female managers are promoted faster than male managers (regressions 1 and 2). To capture the extent to which female manager promotion rates differ with experience, we also include proxies for female high (low) experience and their interaction with FEMALE. In regressions 3 and 4, we proxy for high (low) experience indicators for the executive being in top tercile (bottom 2 terciles) of years of managerial experience, and in regressions 5 and 6 with indicators for the manager has (does not have) prior experience on an external board. Regressions include fixed effects for year, target firm, hiring firm, and function-rank at which the manager was hired. Regressions also include other control variables expected to affect promotion rates.

The coefficient on FEMALE is statistically significant and suggests that female managers are promoted at a rate that is 3 percentage points greater than their male colleagues (regressions 1 and 2). Considering that managers in our sample are promoted at a 5% rate, female managers are promoted at a rate that is 60% faster. When we measure experience with years of managerial experience, the coefficients on the interactions of FEMALE with our proxy for low experience are

TABLE 9
 Job Promotions for Target-Firm Managers in Their
 Subsequent Post-Merger Employers

In Table 9, we present OLS regressions explaining executive promotion probabilities. We track job promotions for all target-firm managers in their subsequent post-merger employers. The dependent variable is an indicator for a 1-year increase in executive's coarse rank. The main independent variables of interest are FEMALE, an indicator for manager is female, HIGH_(LOW)_EXPERIENCE, an indicator for executive's experience, and an interaction between the two variables. EXPERIENCE is measured with 2 different proxies, indicated in column headings. In regressions 3 and 4, we proxy for experience with years of managerial experience (EXEC_EXPERIENCE), and HIGH_(LOW)_EXPERIENCE is an indicator for manager is in the top tercile (bottom 2 terciles) of EXEC_EXPERIENCE. In regressions 5 and 6, we proxy for experience with an indicator for manager served on an outside board (OUTSIDE_BOARD), and HIGH_(LOW)_EXPERIENCE are indicators for served (did not serve) on an outside board. All regressions include fixed effects for hiring and target firms, year, and function by coarse rank at the time manager was hired. We exclude manager's first 2 years in the company. p -values of β_1 FEMALE + β_2 FEMALE \times EXPERIENCE are for marginal effects of both indicator variables set at 1. See the Appendix for variable definitions. Standard errors are clustered at the firm level. t -statistics are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

			EXEC_EXPERIENCE		OUTSIDE_BOARD	
	1	2	3	4	5	6
FEMALE	0.031* (1.67)	0.035* (1.69)				
FEMALE \times HIGH_EXPERIENCE (β_1)			0.004 (0.20)	0.004 (0.17)	-0.008 (-0.23)	0.005 (0.42)
FEMALE \times LOW_EXPERIENCE (β_2)			0.055** (2.31)	0.060** (2.32)	0.037* (1.75)	0.036* (1.70)
HIGH_EXPERIENCE			0.000 (0.02)	0.003 (0.25)	-0.004 (-0.75)	-0.004 (-0.84)
AGE	-0.003*** (-2.93)	-0.003*** (-2.59)	-0.003*** (-3.08)	-0.003*** (-2.69)	-0.003*** (-2.61)	-0.003*** (-2.34)
TENURE	0.002 (0.83)	0.003 (1.34)	0.001 (0.78)	0.003 (1.30)	0.001 (0.53)	0.003 (1.01)
EXEC_EXPERIENCE	-0.001 (-0.77)	-0.000 (-0.27)			-0.001 (-1.18)	-0.001 (-0.97)
MASTERS		-0.023 (-1.38)		-0.025 (-1.51)		0.019 (0.87)
MBA		0.002 (0.13)		0.001 (0.07)		-0.009 (-0.53)
PHD		-0.034 (-1.07)		-0.033 (-1.04)		0.004 (0.10)
NUM_CERTIFICATES		-0.026* (-1.78)		-0.026* (-1.72)		0.025 (1.36)
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Hiring FEs	Yes	Yes	Yes	Yes	Yes	Yes
Target FEs	Yes	Yes	Yes	Yes	Yes	Yes
Function \times coarse rank FEs	Yes	Yes	Yes	Yes	Yes	Yes
F -value $\beta_1 - \beta_2$ (Wald test)			0.029	0.030	0.09	0.180
No. of obs.	7,251	6,568	7,251	6,568	7,251	6,568
Adj. R^2	0.004	0.008	0.005	0.008	0.004	0.004

positive and statistically significant (regressions 3 and 4), while the coefficients on the interaction for FEMALE with our proxy for high experience, are indistinguishable from 0. The differences between these 2 coefficients are statistically significant at the 5% level. Results suggest that females with low experience are promoted at faster rates than their male colleagues, but females with high experience are promoted at comparable rates to their male colleagues. When we proxy for experience with indicators for whether the manager has prior experience on an external board, results are similar (regressions 5 and 6), except that the difference between the coefficients on the two interaction variables is statistically significant at the 10% level for regression 5 and statistically insignificant for regression 6.

Results are consistent with female managers being under-placed in their new firms, perhaps because their quality is initially difficult to evaluate as it is obscured by prevailing stereotypes (the implicit bias argument). With time, and as hiring managers learn of female managers' true potential, they are promoted at faster rates. Past experience alleviates the gender placement gap, as it makes quality easier to evaluate. This argument is consistent with our earlier results showing there is no gender gap for highly experienced females – the placement of experienced female managers is comparable to that of their male colleagues. This is consistent with the results in this section that suggest that experienced females are promoted at similar rates as their male colleagues.

IV. Conclusion

The present study casts new light on the relationship between executive gender and job mobility. It is well-known that, despite gender parity in educational achievement and labor market participation, women remain under-represented in executive roles, with men vastly outnumbering women above the middle management level all the way to the CEO position. Various possible reasons have been offered for the persistent and glaring gender gap in executive positions, but it has generally been difficult to address the endogeneity challenge inherent in linking executive gender with their placement in the corporate hierarchy. A novel possible approach to alleviating the endogeneity problem is to look at job mobility in the sample of target-firm managers displaced due to M&A activity. By tracking such managers over time after the acquisition, we are able to speak to whether, why, and when there are gender differences in managerial job mobility.

We proxy for job mobility in several different ways (based on compensation, and based on job transitions). While we report results primarily based on change over 10 coarse ranks before and post-M&A, results are robust across various measures. We find that, after the M&A, the labor market demand is greater for male managers than female managers, controlling for their rank and functional area. After the M&A, male managers drop less in rank compared to female managers. Differences in job search attributes, such as time taken to find the next job or “exit” from the managerial labor market, are not systematically different across gender in our sample. This suggests that the gender differences in managerial job mobility we find are not associated with differences in search effort or other choices made by male and female executives. Consistent with the notion that the bias against women in managerial roles may be implicit (Bertrand et al. (2005)), gender differences in managerial job mobility are alleviated in female-friendly firms where women are in CEO roles or have more than a token presence in upper-echelon positions. Women who have impressive work experience – either as senior manager or having served as a board member pre-M&A – are also not disadvantaged relative to male executives. Further, in managers' new post-merger jobs, female managers (who are initially under-placed) are promoted faster than male managers. Taken together, these results suggest that the “gender penalty” that women managers face in the labor market is alleviated when they are not viewed stereotypically by decision-makers, and thus less likely to be the target of implicit bias.

The positive news is that the presence of women in senior positions and the adoption of female-friendly policies by firms appear to blunt the effects of implicit gender bias in the managerial labor market. As more women reach the upper echelons of corporations, we may observe the gradual diminution of gender bias in the labor market.

Appendix. Variable Definitions

AGE: Manager's age, which equals calendar year minus manager's birth year. Source: BoardEx.

ATTRITION: Indicator for BoardEx does not track manager's employment record after M&A. Source: BoardEx.

CHG_COARSE_RANK: Coarse rank of a manager's first job after M&A minus last job in target firm. Source: BoardEx.

CHG_DETAILED_RANK: Detailed rank of a manager's first job after M&A minus last job in target firm. Source: BoardEx.

CHG_FIRM_SIZE: $\ln(\text{TOTAL_ASSETS})$ of hiring firm the fiscal year end after hiring date minus its value for target firm the fiscal year end before the M&A effective date. Source: Compustat.

CHG_INDUSTRY: Indicator for manager's first job after M&A and last job in target firm are in different industries. Industry is defined using Fama–French 12 industry classification. Source: Compustat.

CHG_RANK_COEFFS: Rank coefficient of a manager's first job after M&A minus last job in target firm. Source: BoardEx.

CHG_ROA: ROA of hiring firm the fiscal year end after hiring date minus its value for target firm the fiscal year end before the M&A effective date. Source: Compustat.

CHG_TOTAL_COMP: $\ln(\text{TOTAL_COMPENSATION})$ for hiring firm in the first full year of employment minus its value for target firm in the last full year of employment. Source: Capital IQ.

CHG_TRANS_RANK: Transitivity-based rank of a manager's first job after M&A minus last transitivity rank in target firm. Transitivity rank is estimated following Gayle et al.'s (2012) algorithm. Source: BoardEx.

COARSE_RANK: Job titles sorted into 10 ranks (0–9). A greater number means a more senior position. Source: BoardEx.

DETAILED_RANK: Job titles sorted into 33 ranks (0–32). A greater number means a more senior position. Source: BoardEx.

DISTANCE: The distance (in miles) between the headquarters of target firm and hiring firm. Source: BoardEx and Compustat.

EXEC_EXPERIENCE: Executive experience (in years) is defined as the effective date of M&A minus manager's first start role date in BoardEx divided by 365. HI_EXEC_EXPERIENCE (LO_EXEC_EXPERIENCE) are indicators for executive experience is in the top tercile (bottom 2 terciles) of the sample distribution. Source: BoardEx.

FEMALE_CEO: Indicator for hiring firm is led by a female CEO. Source: BoardEx.

FEMALE_EXECS_RATIO: Number of female managers divided by total number of managers in hiring firm the year prior to hiring the target-firm manager. Source: BoardEx.

FEMALE_LEADER: Indicator for hiring firm satisfies at least one of the following criteria: firm is led by a female CEO at any time between 2000 and 2018; of the top 5 ranked managers that worked in the company between 2000 and 2018 more than 10% are female or at least 2 are female; of all the managers that worked in the company between 2000 and 2018, more than 15% are female or at least 2 are female. Source: BoardEx.

FEMALES_BOARD_RATIO: Ratio of the number of female board members to the total board size in the hiring firm a year prior to hiring the target-firm manager. Source: BoardEx.

FEMALES_TOP5_RATIO: Ratio of the number of top-5 ranked female managers to the number of top-5 ranked managers in the hiring firm a year prior to hiring the target-firm manager. Source: BoardEx.

GAI: We follow Custodio, Ferreira, and Matos (2013) to construct the General Ability Index (GAI). $GAI = 0.268X_1 + 0.312X_2 + 0.309X_3 + 0.218X_4 + 0.153X_5$. X_1 is number of different positions a manager performed during his career. X_2 is number of different public firms a manager has worked for. X_3 is number of different industries (4-digit SIC) a manager has worked for. X_4 is an indicator variable for manager held a CEO position. X_5 is an indicator variable for manager has worked for a conglomerate firm. Each variable is measured as of M&A effective date. HI_GAI (LO_GAI) are indicators for GAI is in the top tercile (bottom 2 terciles) of the sample distribution. Source: BoardEx, Compustat.

IND_ADJ_ROA_TARGET: Target firm's industry-adjusted ROA the fiscal year before M&A effective date. ROA is Earnings before interest and tax (EBIT) scaled by total assets (AT). Industry ROA is median ROA of target firm's industry (4-digit SIC) that year. Source: Compustat.

MASTERS: Indicator for manager has a master's degree. Source: BoardEx.

MBA: Indicator for manager has an MBA degree. Source: BoardEx.

NETWORK: Network is the number of individual connections a manager has before M&A effective date outside the target firm. We consider 4 connection types: listed companies, unlisted companies, nonprofits/clubs/societies, and education. Source: BoardEx.

NUM_BOARDS: Number of boards a manager worked for prior to M&A, tracked using BoardEx.

NUM_CERTIFICATES: Number of certificates, such as CFA, CPA, the manager holds. Source: BoardEx.

NUM_FIRMS: Number of firms a manager worked for prior to M&A, tracked using BOARDX.

OUTSIDE_BOARD: Indicator for manager has served as an outside director by M&A effective date. $HI_OUTSIDE_BOARD$ ($LO_OUTSIDE_BOARD$) are indicators for served (did not serve) on an outside board. Source: BoardEx.

PHD: Indicator for manager holds a PhD degree. Source: BoardEx.

PRIVATE_FIRM: Indicator for manager's first hiring firm after M&A is private. Source: BoardEx.

RANK_COEFF: Coefficients from a regression of total compensation on indicators for job titles multiplied by 100.

RETAINED: Indicator for manager retained by acquiring firm. Source: BoardEx.

TENURE: Manager tenure (in years) in the target firm, which equals M&A effective date minus date s/he started to work for target firm divided by 365. Source: BoardEx.

TIME_BTW_JOBS: Manager's start role date in his/her first job after M&A minus his/her end role date in the target firm divided by 365. Source: BoardEx.

TOTAL_ASSETS_HIRING: Hiring firm's total assets in the fiscal year end after hiring date. Source: Compustat.

TOTAL_ASSETS_TARGET: Target firm's total assets the fiscal year before M&A effective date. Source: Compustat.

TOTAL_COMP_ALL: Managers' total compensation in each fiscal year from 2000 to 2018. Source: BoardEx.

TOTAL_COMP_TARGET: Total compensation in target firm the last full fiscal year before M&A effective date. Source: Capital IQ.

Supplementary Material

To view supplementary material for this article, please visit <http://doi.org/10.1017/S0022109023000820>.

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