# CREDENTIALS MATTER, BUT ONLY FOR MEN:

# EVIDENCE FROM THE S&P 500

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ABSTRACT: We study gender differences in the value of credentials in managerial labor markets. We use within-firm variation in S&P 500 status for marginal firms "just included" on the index and managers who joined a marginal firm before its addition to the index to obtain variation in S&P 500 experience. We then difference out any unobservables that affect both women and men within the same firm-year. Men with experience at an S&P 500 firm obtain more subsequent independent directorships and executive roles at other S&P 500 firms, but not at non-S&P 500 firms. The increase is 15-33% relative to the average. We observe no such relationship for women. Our results suggest that women and men are evaluated differently in the managerial labor market.

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Women have constituted at least 45% of the civilian labor force in each year since 1988. Despite this, the proportion of women holding senior management positions remains low. In 2018, the New York Times somewhat cheekily noted that there were more men named James than there were women among CEOs of Fortune 500 companies (Miller, Quealy, and Sanger-Katz, 2018). Scholars and commentators have advanced a variety of explanations for this underrepresentation. It may reflect a "pipeline problem," which leads to a lack of qualified women in the pool from which top managers can be selected. Alternatively, women may simply have, on average, less interest in, or aptitude for, high level managerial roles than men. Finally, women and men may be evaluated differently, which could lead to differential hiring and promotion patterns between genders.

We shed light on the last explanation by studying the careers of women and men who have *already* become executives or independent directors of some of the largest companies in the U.S. Among these individuals, we study the extent to which one particularly high-profile credential—experience as an executive or independent director of an S&P 500 company—leads to more future positions at other S&P 500 companies.

Our main result is that that while men with experience at S&P 500 firms are significantly more likely to obtain additional positions at other S&P 500 firms in the future, women are not. For men, experience at an S&P 500 firm is associated with 0.008 more future independent directorships and 0.004 more executive positions at other S&P 500 firms per year over the course of the next ten years, representing a 15% and 33% increase relative to the average, respectively. Both these increases are absent for women.

Our empirical strategy captures the effect of S&P 500 credentials on future career paths as long as there are no firm-specific time-varying unobservables correlated with S&P 500

inclusion that affect women and men differently. We proceed in four steps. First, we exploit the discretionary nature of the S&P 500's construction as a source of variation in this credential. To consider a set of comparable firms, our empirical strategy focuses on the managers of firms ranked 350-650 by market capitalization. Starting with managers of such large firms yields an initial set of comparable individuals who have made it quite far up the corporate hierarchy, mitigating concerns about ability or preferences at the outset. Size is a significant determinant of index membership, but among firms ranked 350-650, there remains considerable variation in index membership. The index methodology explicitly states that, subject to certain eligibility criteria, "[c]onstituent selection is at the discretion of the Index Committee," and that one of the factors that the committee considers is "sector balance" (S&P Dow Jones Indices, 2019).

Second, our models include fixed effects for firm, size rank, manager age cohort, and year. Including firm fixed effects eliminates cross-sectional variation between marginal firms on and not on the index and exploits within-firm changes in S&P 500 status. We also control for firm characteristics that the index committee discloses as relevant in its decisions, as well as an indicator for the manager's current employment status.

Third, to further reduce concerns about omitted variables, we restrict attention to instances where the manager was *already* associated with the firm when it was added to the index. We control separately for S&P 500 experience obtained by joining a firm already on the index, where endogenous manager-firm matching may confound the results.

Fourth, because our key coefficient of interest is the *difference* between men and women in the relationship between S&P 500 credentials and future positions, even firm-specific

time-varying unobservables not captured in the previous steps would only pose a challenge to our identification strategy if they affected men and women managers present at the same firm at the same time differently.

We address several additional concerns in robustness tests. First, notwithstanding the information in the publicly available index methodology documents, firms just included on the index may be different from those that just missed inclusion. If this were the case, these firm-level differences may imply differences between these firms' managers. To address this concern, we estimate a propensity score to gauge each firm's likelihood of being on the index. Following Crump, Hotz, Imbens, and Mitnik (2009), we then drop observations with propensity scores below 0.1 or above 0.9. We also use this score to implement inverse probability weighting in our regressions (Horvitz and Thompson (1952), Hirano, Imbens, and Ridder (2003)). Further, to ensure that our results are not driven by the size rank range that we employ, we repeat our tests using a larger (300-700) and a narrower (400-600) size rank range. Our results remain similar in all of these tests.

Another potential concern is that the index committee may be attempting to "pick winners" by selecting firms it believes will perform better, perhaps because their managers are more able. While this is theoretically possible, the committee has no incentive to do so, and doing so would be contrary to its objective of creating a proxy for the performance of the market as a whole. Nevertheless, we test for this explanation by including measures of the firm's future performance to proxy for beliefs about managerial ability. Our results remain unaffected by the inclusion of these variables.[1] Next, show that our results are not

[1]Inclusion on the S&P 500 may also have a direct short-term effect on returns. There has historically been evidence of an "inclusion effect," where a firm's stock experiences a positive abnormal return upon the announcement that it will be added to the index (Shleifer, 1986), although recent empirical work suggests that this phenomenon may no longer exist (Patel and Welch, 2017).

driven by survivorship bias (successful managers staying in the sample longer) and differential retirement ages. Finally, we confirm that our results are robust to the inclusion of other measures of qualifications.

Separating S&P 500 experience by the position the manager held at the S&P 500 firm we show that the difference in the value of the credential for men and women is driven by experience at lower-level executive roles and independent director positions; C-suite experience in the S&P 500 is equally valuable for both men and women.

Having established that S&P 500 experience is a valuable credential for men—but not for women—we explore potential mechanisms for this differential. As a starting point, we outline three potential explanations for the value of the credential. The first posits that firms use S&P 500 experience as an arbitrary screening mechanism to reduce the pool of candidates to a manageable size. To the extent that women represent a much smaller pool—approximately 13% of our sample—, and are evaluated separately from men, the credential may not be valuable to women because even women without the credential are hired. Exploiting both time series and cross sectional variation in the supply of available women candidates, we find no evidence to support this story.

Second, we study the possibility that managers at S&P 500 companies have access to networking opportunities that improve their subsequent career prospects. We find some limited evidence in support of this networking channel for the overall effect, but no evidence that this can explain the *difference* between men and women.

Third, we consider the possibility that experience at an S&P 500 company allows managers to build human capital that is transferable across S&P 500 companies. This might include experience interacting with analysts, institutional investors, or the media, all of

which tend to focus disproportionately on companies in the index. We find evidence consistent with this hypothesis, albeit in a form that is limited to industry-specific, as opposed to general, human capital. Our findings are therefore consistent with the view that this human capital is evaluated differently in the hands of men and women.

Our work relates to several literatures. The first is the large and active literature examining the underrepresentation of women on corporate boards (Adams and Kirchmaier (2016), Kim and Starks (2016), Field, Souther, and Yore (2020)), and among top executives (Matsa and Miller, 2011; He and Whited, 2023). A growing literature examines the effects of policies aimed and reducing this underrepresentation (Ahern and Dittmar (2012), Ferreira, Ginglinger, Laguna, and Skalli (2017), Hwang, Shivdasani, and Simintzi (2018), Gertsberg, Mollerstrom, and Pagel (2021)), as well as the role of women on corporate boards more generally.[2] Ahern and Dittmar (2012) show that after Norway imposed a quota mandating that at least 40% of directors be female, older male directors with more CEO experience were replaced by younger female directors with less CEO experience. Our findings suggest that even experienced women may not always be selected for executive and board roles, and that differential assessment of credentials may cause the pool of qualified women to appear even smaller than it is.

Matsa and Miller (2011) find evidence of a "gender spillover" effect: firms with more women on their boards are more likely to employ women as top executives. Consistent with their findings, our results point to the importance of the supply of female directors, and suggest a new channel that affects it.

[2] Adams and Funk (2012) show that female and male directors differ systematically in their core values and risk attitudes. Adams and Ferreira (2009) and Kim and Starks (2016) find that gender diversity leads to better monitoring. Bernile, Bhagwat, and Yonker (2018) find that it is associated with lower risk and higher performance, while Adams and Ferreira (2009) document mixed effects on performance.

A separate literature shows that, in a host of contexts, women receive less credit for similar work than men (Sarsons, 2017b; Sarsons, Gërxhani, Reuben, and Schram, 2021; Koffi, 2021, 2025; Benson, Li, and Shue, 2021), or are punished more harshly for similar mistakes (Sarsons, 2017a; Egan, Matvos, and Seru, 2022). We bring together and extend these two streams of the literature by showing that S&P 500 experience predicts future executive positions and board seats at S&P 500 firms for men, but not for women. We interpret this as evidence that S&P 500 experience is valuable—but only for men—in the managerial labor market.[3]

Finally, our work contributes to the large literature examining the labor market for independent directors, including the value of career histories and reputation in this market.[4] The perceived value of a newly appointed director depends on the director's reputation. Signals about reputation can be positive (Fich (2005), Harford and Schonlau (2013)) or negative (Fich and Shivdasani, 2007), or using a different characterization, shareholder-friendly or management-friendly (Levit and Malenko, 2016). Past work experience is also important in top executive hiring (Kaplan, Klebanov, and Sorensen (2012), Custódio, Ferreira, and Matos (2013), Custódio and Metzger (2013, 2014)).

[3]Our results also point to segmentation in the managerial labor market between firms on and not on the S&P 500 index, a financial product that is neither designed nor marketed as certification of manager (or firm) quality. These findings therefore also relate to the literature studying spillovers from association with indices or other "prestigious" groupings *outside* of financial markets. Focke, Maug, and Niessen-Ruenzi (2017) show that prestige stemming from Fortune's ranking of America's most admired companies is a source of nonpecuniary benefits for top executives. Chattopadhyay, Shaffer, and Wang (2020) find that firms aspire to be a part of new market index launched in Japan.

[4]On average, independent directors do provide value to shareholders, with significant variation in this value across directors (Nguyen and Nielsen, 2010).

# 1. Data and Sample Construction

## 1.1. *Eligible Firms*

We exploit the discretionary nature of changes to the constituents of the S&P 500 index in our analysis. Unlike the Russell 1000 and Russell 2000 indices, which are constructed using fairly mechanical rules, the S&P 500 methodology provides the index committee—a group of individuals employed by S&P Dow Jones Indices, LLC—with a substantial amount of discretion in selecting which securities to add to, or remove from, the index. For example, Robertson (2023) shows that the actual set of S&P 500 constituents departs substantially from a more mechanical alternative, including the set of the 500 largest securities in CRSP on the final trading day of the prior year. For the period beginning in 2015, S&P provides additional information regarding the characteristics that it uses to determine eligibility for addition to the index. These characteristics include size (i.e., market capitalization), IPO seasoning, and proxies for liquidity and profitability. Subject to the eligibility criteria, selection of specific constituents is at the discretion of the index committee. In making its constituent selection decisions, the index committee also considers "[s]ector balance," where sector is defined by Global Industry Classification Standard ("GICS") code (S&P Dow Jones Indices, 2019). We include controls for the relevant characteristics in our analysis using accounting data from Compustat and security data from CRSP. We obtain S&P 500, 400, and 600 constituent data from CapitalIQ.

We examine individuals who entered the sample through their association with firms ranked [350,650], thereby focusing on the range where the committee's discretion is at its greatest.[5] To do so, we compute the equity market capitalization of each security in CRSP

[5]While the size ranks are calculated at the security level, the remainder of the controls are at the firm level. We discuss the matching from securities to firms in Section 1.2.

on the last trading day of each year between 1979 and 2021 by multiplying the number of shares outstanding by the price. We use these sizes to assign size ranks to firms for each year between 1980 and 2022. A manager enters our sample the year she first becomes associated with a firm in the size range [350, 650], either because she joined a firm in that range or because a firm she was already associated with entered that range. The manager then remains in our sample until she leaves the BoardEx dataset or the end of the sample period, whichever is sooner.[6]

Figure 1 provides support for our approach. While the number of firm $\times$ year observations on the S&P 500 decreases monotonically as rank increases, there is a substantial mass of firm $\times$ year observations across that size rank range [350, 650] both on and off the S&P 500. Notably, unlike the Russell indices, there is no bunching in the density around the 500 rank cutoff. These observations demonstrate that while size (rank) is an important determinant of index inclusion, it is far from the only only determinant.

To further confirm that firms in the 350-650 range that are on the index are comparable to firms not on the index, we estimate a propensity score using a probit regression. The dependent variable is a dummy variable equal to one if a firm is on the index, and zero otherwise. The independent variables are characteristics that, according to the index documentation, are used to determine index inclusion. We estimate this model for the entire set of firms in the CRSP-Compustat merged database.[7]

[6]Occasionally, after entering our sample in year $t$, a manager will hold no positions in year $t + j$, but then obtain a further position in year $t + j + k$. In such cases, because we include firm level controls, and the individual has no associated firm in year $t + j$, the individual will not appear in our sample in year $t + j$, but will reappear in year $t + j + k$. This movement in and out of the sample is fairly uncommon. Gaps account for 5.02% of potential manager $\times$ years, while we observe the remaining approximately 95%.

[7]The results of this probit regression are presented in Table IA.1 of the Internet Appendix. All of the statistically significant regression coefficients have the expected sign.

Figure 2 shows the propensity scores of the observations in our sample. All observations are on the common support of the treated (on the index) and control (not on the index) distributions, validating our approach based on rank cutoffs (Smith and Todd, 2005). Both distributions have very significant mass between 0.3 and 0.7. The estimated propensity scores suggest that the firms employing the managers in our sample had a similar likelihood of being included on the index. This result lends support to our claim that, for managers of firms in the 350-650 range, once we control for observable firm characteristics, the firms on the index are similar to the ones that are not.

### 1.2. *Executive and Board Member Data*

Data on executive and independent director positions, gender, and age are from BoardEx.[8] We extract the number of new positions for each year in the sample from the information on each individual's work history and board appointments. We also separate executive positions and independent (non-executive) director positions, positions at public and private firms, and positions at firms on and off the S&P 500. We classify a person-year observation as a within-firm promotion if a person has a role (job title) ending at a firm in one year and is listed with a different role at the same firm starting in the same year or the subsequent year. We do not consider such within-firm promotions to be new positions. We merge information from BoardEx with CRSP and Compustat on CUSIP.[9]

[8] BoardEx reports the birth date or year of individuals, which allows us to compute their age.

[9] Fracassi and Tate (2012) and Engelberg, Gao, and Parsons (2013) provide details on merging BoardEx with CRSP-Compustat and the coverage of BoardEx. Issues with merging and with data coverage are less severe in our context because we focus on a subset of the largest firms listed in the United States.

### 1.3. *Descriptive Statistics*

Our sample is comparable to those used in other studies of executive or independent director labor markets. Table 1 presents summary statistics for the managers and firms in our sample. Panel A contains the sample used in Section 3: managers (i.e., executives and independent directors) who, at some point between 1980-2022, were associated with a firm ranked between 350-650 by size that year. We follow these individuals until their last appearance in BoardEx, or the end of the sample period, whichever is first. Because a manager in the sample who is associated with $n$ firms in year $t$ appears in the sample $n$ times in that year, the unit of observation is a manager $\times$ firm $\times$ year.

Firms in our sample have an average equity market capitalization of $9 billion, slightly higher than the sample average of $6.5 billion in Cai, Nguyen, and Walkling (2022). We follow the index guidelines and measure profitability as net income excluding discontinued operations.[10] To render the measure comparable across firms, we scale it by total assets. The average of approximately 3% is slightly lower than the ROA of 4% reported by Cziraki and Jenter (2020).

Panel B of Table 1 examines differences between men and women in our sample. Men are older when they enter the sample (aged 56.7 years vs. 54.4 for women), and especially when they leave (67.1 years vs 63). The difference is larger for independent directorships than for executive positions. The average (median) age at which men retire from their last independent director position is 67.7 (69) years for men, but 63.2 (64) years for women: thus, men step down from directorships after the traditional retirement age of 65 years, while women do so 1-2 years before.[11]

[10]The index guidelines state that net income excluding discontinued operations must be positive for a firm to be considered for addition.

[11]Executive retirement increases at age 65 (Jenter and Lewellen (2015), Cziraki and Groen-Xu (2020)).

As a result, men spend almost two years longer in the sample than women. Women have held slightly more independent directorships than men when they enter the sample, on average, but men have held more executive positions. In contrast, women have larger networks, whether we consider all connections or only connections through employment. Finally, women enter the sample at firms that are slightly larger: while there is no gender difference for executives entering the sample, independent directors who are women enter the sample at marginally larger firms.

## 2. Empirical Strategy

We examine the career implications of experience as an executive or director of an S&P 500 company. To do so, we regress the number of new positions a person obtained in a given year $t$ on whether she has served as an executive or independent director of a firm that was on the S&P 500 and in the range [350, 650] of size at some point in the past (up to and including year $t-1$). We therefore estimate the following regression:

$$\begin{aligned} NewPositions_{i,t} =& \alpha + \beta \times S\&P500ExperienceNew_{i,t-1} \\ &+ \gamma \times S\&P500ExperienceNew_{i,t-1} \times Female_i \\ &+ \delta \times S\&P500ExperienceEstablished_{i,t-1} \\ &+ \eta \times S\&P500ExperienceEstablished_{i,t-1} \times Female_i \\ &+ \mu \times Female_i + \Phi_{i,t-1} + \Psi_{i,j,t-1} + \tau_{t-1} + \varepsilon_{i,t} \end{aligned} \tag{1}$$

where $i$ indexes individual managers and $j$ indexes the firm(s) individual $i$ is associated with in year $t-1$. A manager enters our sample the first time that she is associated with a firm in the [350, 650] size rank range. In our main analysis, we retain each manager for 10

years from their first appearance in the sample—the average (median) number of years a manager spends in the unrestricted sample is 10.75 (9) years. Fixing the horizon at 10 years circumvents endogenous changes in sample composition whereby more successful managers may stay in the sample longer.[12]

$NewPositions_{i,t}$ represents the number of new positions held by individual $i$ in year $t$. $S\&P500Experience_{i,t-1}$ is a dummy variable equal to one if individual $i$ has been an executive or independent director of an S&P 500 company within the range [350, 650] of size at some point in the past, up to and including year $t-1$ (and zero otherwise). We separate S&P 500 experience into $S\&P500ExperienceNew_{i,t-1}$ and $S\&P500ExperienceEstablished_{i,t-1}$ to isolate two channels.

First, a manager with S&P 500 experience may be viewed as having a stronger resume simply by virtue of this credential. This stronger resume may, in turn, lead to better subsequent career outcomes. We focus our analysis on this channel by exploiting the timing of when a manager becomes associated with an S&P 500 firm. If, within the [350, 650] range, conditional on covariates, firms on the index are similar to those that are not, managers whose spell at a firm began *before* the firm was added to the S&P 500 should also be similar to managers of firms that were not. Any relationship between such experience and future career outcomes can therefore be interpreted as the result of a treatment on the manager.[13] We refer to these firms as "new" S&P 500 firms ($S\&P500ExperienceNew_{i,t-1}$).

Second, a positive correlation between index experience and future roles may indicate that *firms* benefit from S&P 500 inclusion as they are able to select from a different (and potentially better) pool of candidates. S&P 500 firms may be able to attract

[12] We revisit how changes in the horizon we impose affect our results in Section 4.3.

[13] One mechanism for this treatment is that the individual is added to the set of managers considered for future positions.

managers with certain characteristics (such as ability) that are correlated with the number of future managerial positions.[14] For managers whose association with a firm began after the firm was added to the S&P 500—which we refer to as "established" S&P 500 firms—the fact that a manager joined the firm may reflect the firm's S&P 500 status ($S\&P500ExperienceEstablished_{i,t-1}$).

Throughout the paper, we focus on $S\&P500ExperienceNew_{i,t-1}$ as it offers the cleanest way to capture the benefit of S&P 500 experience to the manager. We include both types of experience in the regressions simultaneously to hold one type of effect constant while measuring the other.[15] $Female_i$ is an indicator for managers who are women, $\Phi_{i,t-1}$ is a vector of controls related to individual $i$ in year $t-1$, $\Psi_{i,j,t-1}$ is a vector of controls related to firm $j$ in year $t-1$, $\tau_{t-1}$ is a vector of year fixed effects, and $\varepsilon_{i,t}$ is the error term. Because an individual may appear more than once in a given year (for example, because she is on the board of multiple firms that year), we implement a weighted least squares (WLS) regression, where each observation is weighted by the inverse of the number of times that individual appears in the data in the relevant year.

All our tests contain managers who entered the sample through their affiliation with a firm ranked 350 to 650 by size. The distribution of firm size has a long right tail, and the largest firms on the S&P 500 are different on several dimensions, including prestige, top executive hiring (Cziraki and Jenter (2020)), information asymmetry (Cziraki, Mondria, and Wu (2021)), and analyst coverage (Martineau and Zoican (2019)). We mitigate these

[14] Bertrand and Schoar (2003), Tervio (2008), Gabaix and Landier (2008), Eisfeldt and Kuhnen (2013), Fee, Hadlock, and Pierce (2013), Custódio and Metzger (2014), Matveyev (2017), and Kotter and Larkin (2024), study endogenous matching between firms and executives, while Matveyev (2016) and Ferreira, Ginglinger, Laguna, and Skalli (2017) examine matching between firms and directors.

[15] Because a manager can be affiliated with multiple firms over the course of her career, the same manager can have both types of experience during her time in the sample.

issues by focusing on firms in the 350-650 range. To the extent that working for the largest firms in the US carries a higher prestige value, our estimates using firms ranked 350-650 will understate the value of having S&P 500 experience on one's resume, since our estimates rely on variation among the less prestigious firms on the S&P 500.Focusing on managers of firms ranked 350-650 yields an initial set of individuals who have made it quite far up the corporate hierarchy, mitigating concerns about ability or preferences.

We add a variety of controls and fixed effects to our regressions in an attempt to rule out alternative explanations. These controls and fixed effects address three dimensions: (1) individual manager characteristics, (2) characteristics of the firm(s) the individual is *currently* associated with, and (3) economy-wide features of the labor market over time.

At the individual level, we include fixed effects for the manager's age and the rank of the firm through which she entered the sample, as well as an indicator variable to control for whether manager $i$ is currently employed as an executive in year $t-1$. Age fixed effects allow us to compare managers in similar stages of their career. Rank fixed effects ensure that we compare managers who entered the sample through their association with firms of similar size rank over time, which holds constant, to an approximation, the likelihood of being on the index. The current executive indicator controls for the fact that an executive position requires a significant time commitment, which may preclude a manager from taking up another executive position concurrently at a different firm. The same does not hold for independent directorships.

With respect to the firms that the individual is associated with, we control for characteristics similar to those that the S&P 500 index committee considers in deciding whether or not to include a firm on the index: natural log of size (defined as shares outstanding times

share price), two proxies for liquidity (minimum monthly trading volume over the last 6 months, and dollar value traded over the past year divided by average market value over the past year), a dummy indicating that the firm's IPO date was at least one year ago, dummies for eligible share class and exchange, earnings in the most recent quarter and year, and a dummy indicating that earnings were positive in the past quarter.[16]

These variables also capture aspects of the firm's position in the labor market for executives and directors. Large, profitable firms may be more attractive, or may attract managers with different expertise compared to smaller, less profitable firms. We provide detail regarding the construction of these variables in the caption to Table 1. In our preferred specifications, we also add firm fixed effects to eliminate any cross-sectional differences across firms and focus on *within-firm* variation in S&P 500 inclusion over time. Finally, we include calendar year fixed effects to capture changes in economic conditions and the way hiring is conducted (which could include improvements in information and communication technology, professional networking websites, search firms, etc.).

### 2.1. *Similarity of Managers at Firms on vs. not on the S&P 500*

Table 1 Panel C compares managers entering the sample through an affiliation with an S&P 500 firm (ranked 350-650 by size) to those entering the sample by working at a non-S&P 500 firm. Seventeen percent of managers at S&P 500 firms in the 350-650 range are women compared to only 11% of managers entering the sample through non-S&P 500 firms. Notwithstanding this, the differences between managers along other observable characteristics are economically small. Managers in both groups are age between 56 and 57 years old (with medians of 56 and 57).

[16]The committee also considers the industry composition of the S&P 500. In our analysis, industry fixed effects are subsumed by firm fixed effects.

Managers of non-S&P 500 (S&P 500) firms have accumulated 5 (4) roles on average, or 4 (3) at the median. This difference is due to non-executive directorships: managers at non-S&P 500 firms have accumulated an average of 3.6 compared to 3.0 for managers at S&P 500 firms. Differences in past executive roles, CEO roles, and roles at public firms are economically small. These patterns of covariate balance support our empirical approach of comparing managers entering the sample at marginal S&P 500 and non-S&P 500 firms.

## 3. RESULTS

### 3.1. *S&P 500 Experience and Future Positions for Men vs. Women*

Table 2 shows the main results. We separately regress the number of new independent directorships (Panel A) and executive positions (Panel B) at S&P 500 firms on past experience with an S&P 500 firm (as an executive or as an independent director) where the manager joined the firm before it was added to the index. The results in columns 1-3 of Table 2 indicate that individuals with experience at an S&P 500 firm obtain significantly more new such roles in the future than otherwise similar individuals. This relation holds using fixed effects for calendar year, the individual's age, and the size rank of the firm that the individual was affiliated with when they entered the sample (column 1). In column 2, we add fixed effects for the firm(s) with which the individual is affiliated at the time she obtains the new roles. Doing so eliminates cross-sectional variation between firms and focuses the identification of *S&P 500 Experience* on firms that are added to, or removed from, the index. Focusing on within-firm variation in S&P 500 status, we continue to find a significant association between *S&P 500 Experience* and future positions at S&P 500 firms. Column 3 controls for firm characteristics. As we add more fixed effects and

controls to the model, the coefficient of *S&P 500 Experience* remains highly statistically significant. Including controls, in column 3, changes the results little relative to column 2.

According to our preferred specification in Panel A (column 3), having (executive or director) experience a new S&P 500 firm—i.e. a firm that was added to the S&P 500 after the manager joined—is associated with approximately 0.0078 more new directorships in each future year. This corresponds to an increase of 15% relative to the unconditional yearly likelihood of obtaining a new independent directorship at an S&P 500 firm (0.053, Table 1). A different interpretation is that if a (male) manager becomes affiliated with an S&P 500 firm halfway through his "career" in the sample, on average, this translates into approximately 0.04 = ($10/2 \times 0.0078$) more independent directorships in second half of his life in the sample, or a 1/25 probability of obtaining one additional directorship.[17]

This increase in independent directorships is completely absent for women: in columns 2 and 3, the interaction term is negative, statistically significant, and larger in absolute value than the overall slope coefficient. The net effect for women is therefore negative, although not statistically significant.[18] We interpret this as evidence that S&P 500 experience leads to more future S&P 500 directorships for men, but not women.

Panel B of Table 2 reports similar patterns for executive positions. S&P 500 experience is associated with significantly more new executive positions (for men) at S&P 500 firms. The coefficient of 0.366 (column 3) corresponds to an increase of 33% relative to the sample average of new executive positions per year obtained at an S&P 500 firm (0.011, Table

[17] In untabulated tests, we find that changes to the executive suite and to independent directorships happen gradually. We find no consistent evidence that the turnover rate of executives or of independent directors is higher in the year after a firm is added to the S&P 500 or removed from it.

[18] The p-value of an F-test under the null hypothesis that the sum (-.378) is equal to zero is 0.45. Summing all three coefficients, the results indicate that there is no difference between women with S&P 500 experience and men without it (point estimate = -0.015, p=0.97).

1). Again, only men experience this increase: the interaction for women is negative, statistically significant, and offsets the level increase.[19] Summing the two coefficients, the net effect for women is both economically and statistically indistinguishable from zero.[20] The results also indicate that women *with* S&P 500 experience obtain fewer subsequent executive positions than men *without* this credential: the sum of the three coefficients is negative (-0.451) and statistically significant (p=0.001).

Columns 4-6 of Table 2 show that having S&P 500 experience is not associated with more roles at firms that are not on the S&P 500. For executive positions (Panel B), the absolute value of the coefficients in columns 5 and 6 is similar to the corresponding estimates in columns 2-3. The decrease in executive positions at non-S&P 500 firms for men is consistent with a capacity constraint: once (male) managers have experience at an S&P 500 firm, they allocate more of their time to other positions at firms on the S&P 500. Because it is uncommon to be an executive at more than one firm at the same time, this results in fewer executive positions at firms not on the S&P 500.[21]

The negative interaction terms for women indicates that while men benefit from S&P 500 experience, women do not. This suggests that the managerial labor market values

[19]Table IA.2 in the Internet Appendix confirms that S&P 500 experience at new firms is associated with more independent directorships and more executive positions at S&P 500 firms if we do not interact the coefficient with gender. This is unsurprising as the majority of managers are men. We also find a positive and significant coefficient if we do not split experience by whether it was obtained at new or established S&P 500 firms (columns 2 and 4).

[20]The p-value of an F-test under the null hypothesis that the sum is zero is 0.60.

[21]For robustness, Table IA.3 in the Internet Appendix repeats the analysis using positions at firms on the S&P MidCap 400 or S&P SmallCap 600 rather than all non-S&P 500 positions. The point estimates in columns 5 and 6 on both the main effect and the interaction term remain statistically indistinguishable from zero in Panel A. The point estimates on the main effect in Panel B are more precisely estimated, but are also considerably closer to zero (-0.172 compared to -0.470 in column 6). The sum of the coefficients shows that for women, the number of new executive positions at S&P 400 and S&P 600 firms does not change after they obtain experience at an S&P 500 firm—similar to the baseline result in Table 2.

S&P 500 credentials of men and women differently. Our interpretation is that the managerial labor markets for men and women are at least partly segmented.[22] This main result is robust across a wide range of alternative specifications. Table 3 compares the results in column 3 of Table 2 across several alternative specifications.[23]

3.1.1. *Restricting the Sample Based on the Propensity Score.* Marginal S&P 500 and non-S&P 500 firms may differ along observable characteristics. To address this concern, we follow Crump, Hotz, Imbens, and Mitnik (2009) and restrict the sample to observations with estimated propensity scores between 0.1 and 0.9.[24] Our results remain similar, as shown in column 2 of Table 3, suggesting that selection on observables is not driving our results.

3.1.2. *Inverse Probability Weighting.* To further assuage the concern that that the covariate distributions of S&P 500 and non-S&P 500 firms are different, in addition to restricting the sample based on the propensity score, we apply inverse probability weighting to the model in Table 2 using the propensity score (Horvitz and Thompson (1952), Rosenbaum (1987), Hirano, Imbens, and Ridder (2003)). Column 3 of Table 3 shows that the results remain similar.

3.1.3. *Selection into the S&P 500 Based on Expected Future Performance.* A possible alternative explanation of our results is that the committee's decision to add a firm to the S&P 500 index is based on its expectation of the firm's future performance. Managers (executives or independent directors) with higher ability may both cause better future performance

[22] We discuss other interpretations in Section 4.

[23] Estimates of the level coefficient, *S&P 500 Experience, New Firms* may be biased when treatment is staggered in adoption and varies with time (De Chaisemartin and d'Haultfoeuille, 2020; Baker, Larcker, and Wang, 2022) To address any such concerns, we implement a stacked regression estimator following Gormley and Matsa (2011); Cengiz, Dube, Lindner, and Zipperer (2019) in Table IA.4 in the Internet Appendix. The sign, magnitude, and significance of our results remain very similar in both the models with and without the interaction term for female managers.

[24] Section 1.1 discusses the propensity score analysis. Figure 2 shows the distribution of propensity scores.

and obtain more subsequent positions. This is unlikely to be the main explanation of our results for two reasons. First, picking winners is *not* the stated goal of the index committee and deviates from its published methodology. Hence, committee members have no incentives to engage in picking winners.

Second, we show that controlling for expected future performance does not change our main results. In column 4 of Table 3, we control for proxies of the committee's expectation of the company's future performance: the natural logarithm of equity market capitalization, stock returns, and earnings before extraordinary items scaled by total assets measured in year $t+1$. Our results remain very similar to those in Table 2, suggesting that selection on manager ability (to the extent that it is correlated with future firm performance) is not driving our results.

3.1.4. *Varying Rank Cutoffs.* Our results are robust to varying the rank cutoffs used to determine which individuals enter our sample. Rather than [350, 650], columns 5-6 of Table 3 use the broader range of [300, 700] and the narrower range of [400, 600], respectively. Using both ranges, our results remain similar, although the significance of one of the point estimates of interest declines using the tighter range of [400, 600]. This may be because we are relying on a smaller set of firms and managers to estimate the coefficients.

3.1.5. *Survivorship Bias: Success and Retirement.* Individuals who are less successful in their career may exit the sample earlier. In Table 3 column 7, we restrict the analysis to individuals who spend *at least* 10 years (the average horizon of an individual) in our sample. Men are older and spend a longer time in the sample than women, on average (Table 1 Panel B). To ensure that age differences across men and women are not driving

our results, Table 3 column 8 repeats the analysis for observations with manager age below 67, the average age at which men leave the sample. None of the point estimates of interest or their statistical significance change very much relative to Table 2, indicating that survivorship bias or retirement are unlikely to have a major effect on our results.[25]

3.1.6. *Other Qualifications.* Firms likely consider a wide range of qualifications besides S&P 500 experience when appointing new executives (Kaplan, Klebanov, and Sorensen (2012), Custódio, Ferreira, and Matos (2013), Niessen-Ruenzi and Zimmerer (2023)) and independent directors (Fedaseyeu, Linck, and Wagner (2018)). Table 3 column 9 shows that our results remain similar when we control for functional experience (including finance, management, legal and consulting, politics, military, and academic) and educational credentials (an undergraduate, advanced, or MBA degree) following Fedaseyeu, Linck, and Wagner (2018) and Field, Souther, and Yore (2020).

### 3.2. *Separating S&P 500 Experience by Position*

Experience at an S&P 500 firm may be perceived differently depending on the role the person held. Such a pattern may in turn shed light both on the interpretation of the credential itself and on the differential effect of that credential on the careers of men and women. If women are more likely obtain S&P 500 experience by way of a lower-level executive position or an independent directorship, that may explain why they appear to benefit less from the credential than men who obtained it as a CEO or C-suite executive. We separate S&P 500 experience into five categories (Bertrand and Hallock (2001); Helfat, Harris, and Wolfson (2006)): (i) Chief Executive Officers, (ii) C-suite executives other than

[25]Women facing childcare responsibilities may also affect our results if they turn down professional positions at differing rates throughout their career. In this case, we should see a stronger gender difference for younger women. In Table IA.5 in the Internet Appendix, we split the sample of women at age 60 and find no statistically significant difference in the gender gap between these groups.

the CEO, such as CFO, COO, President, or Executive Chair (iii) Vice-Presidents, including Executive VP and Senior VP, (iv) Independent directors including independent (vice) chair(wo)men, and (v) All other positions, e.g., General Counsel, Treasurer, Secretary, etc.

We then repeat the regressions in Table 2 replacing the indicator variable for S&P 500 experience with the five indicators corresponding to these categories. The results, shown in Table 4, suggest that experience at higher ranks of the organization is less likely to be downplayed for women relative to men.[26]

Table 4 column 1 shows that independent director experience at an S&P 500 firm is associated with more future independent director positions at other S&P 500 firms for men, but not for women. We also find a negative interaction term for "other" positions. This may reflect a composition effect, in which, among this catchall category, women hold meaningfully different positions from men. The coefficient of the interaction term loses significance and changes signs (i.e., becomes positive) for positions higher in the corporate hierarchy. Both men and women CEOs at S&P 500 companies obtain future independent directorships at other S&P 500 companies at approximately the same rate.

Table 4 Column 2 shows that CEO and C-suite experience at an S&P 500 firm leads to more future executive roles at other S&P 500 firms for both men and women. The interaction terms for women are positive, albeit insignificant. In contrast, only men with S&P 500 experience below the C-suite see an increased likelihood of future executive positions in the S&P 500; women receive no additional positions. In sum, our findings suggest that the difference between the perception of women's and men's experience is driven

[26]We focus the interpretation on the overall pattern of the coefficient estimates for two reasons. First, any such categorization is bound to be coarse and not completely precise (Groysberg, Kelly, and MacDonald, 2011; Guadalupe, Li, and Wulf, 2014). Second, each dummy variable has fewer values of 1 than the main independent variables.

by experience at lower-level executive roles and independent director positions. C-suite experience in the S&P 500 is equally valued for both men and women.

## 4. Interpreting the S&P 500 Credential

The interpretation of our main result—that S&P 500 experience is valuable for men but not for women—depends in part on the interpretation of the credential itself. We consider three explanations.

First, experience at an S&P 500 company may represent an arbitrary screening device used to winnow the pool of candidates to a manageable size ("superfluous bauble"). To the extent that the relevant decision-makers view men and women as distinctive classes of candidates, the pool of women may be small enough that the screening device is unnecessary. Under this explanation, the (arbitrary) credential does not matter for women because, ceteris paribus, women receive subsequent opportunities *regardless* of whether or not they have the "credential."

Second, managers at S&P 500 companies may benefit from valuable networking opportunities with other such managers ("network"). Our results may reflect the differential benefit that men and women receive from these networking opportunities. Finally, since S&P 500 companies receive a disproportionate amount of attention and institutional ownership, experience at one such firm may help managers accumulate human capital transferable to other such firms ("human capital"). This mechanism may account for a gender gap if men and women build up human capital at different rates or if the labor market perceives the value of S&P 500 experience to be different when held by men and women. The first explanation is difficult to reconcile with the latter two, while the "network" and

"human capital" explanations are not mutually exclusive. In this section, we conduct a battery of tests to understand which explanations are most likely driving our results.

### 4.1. *Superfluous Bauble*

Under the superfluous bauble explanation, the S&P 500 credential is useful to men, but not to women, because women are viewed as qualified—and receive managerial positions—*even without* S&P 500 experience. This interpretation hinges on the idea that there are far fewer women candidates than men. To test this story, we exploit time-series and cross-sectional variation in the size of the pool of available women. First, while women still represent a minority of plausible candidates for top managerial positions, their numbers have grown dramatically over our sample period. Second, we exploit the fact that managers tend to stay within the same industry and that the percentage of women in the labor market differs widely across industries. Taken together, these observations imply that the *differential* reliance on superfluous baubles is likely to be most prevalent in industries with relatively few women, and least prevalent in industries with a large proportion of women among rank and file employees.

To study time-series variation in the coefficient estimates, we repeat the main analysis for each (overlapping) 10-year period within our sample. We plot the coefficient on the interaction term from each of these regressions in Figure 3, showing the last year of each 10-year period on the horizontal axis. If the negative interaction term reflects a tiny pool of available women, the coefficient of the interaction term should be increasing over time as the pool of available women has grown.

We find little evidence of this. Figure 3 shows that the coefficient on the interaction term follows no systematic pattern over time for either independent directorships or executive positions. For independent directorships, the coefficients exhibit a wave pattern: an increase in the 1990s, a decline between the late 1990s and the mid-2000s, another increase through the mid-2010s, and another gentle decline thereafter. The point estimates for executive positions fluctuate even less. In all cases, the confidence intervals overlap, and contain the point estimate from the main specification in Table 2.[27]

Next, we exploit cross-sectional variation in the percentage of women employees across industries. Previous work has documented significant variation in the percentage of women in board or executive positions across industries (e.g., Bertrand and Hallock (2001), Hillman, Shropshire, and Cannella Jr (2007), Ahern and Dittmar (2012), Huang and Kisgen (2013), Adams and Kirchmaier (2016)) and segmentation of managerial labor markets by industry (Cremers and Grinstein, 2014). Consequently, the number of women available for managerial positions in an industry should increase with the fraction of women employees in that industry. Accordingly, firms in industries with a low (high) percentage of women employees should be most (least) likely to require the superfluous bauble for men but not for women.

[27] This analysis is robust to a battery of alternative specifications. First, in untabulated results, we repeat the analysis from Figure 3 using the total effect of S&P 500 experience for women (the sum of the coefficients on S&P 500 experience and its interaction with the female indicator) and again find no clear pattern. Second, Table IA.6 in the Internet Appendix uses a triple interaction specification to test whether the interaction term changes between the first and second part of the sample. The difference is not statistically significant for either independent directorships or executive positions. In doing so, use two different years to split the sample. Our preferred split is 2006, which represents the midpoint of the observations in our sample (49 versus 51%) as data are sparser in the early years. We also present the results splitting the sample in 2001, which is the midpoint of years in the sample (22 versus 21 years). In untabulated tests, we repeat the analysis using 2002, 2003, 2004, and 2005. The difference is not statistically significant for independent directorships or executive positions for any of these split years.

Figure 4 plots the interaction term between S&P 500 experience and the female indicator on the vertical axis against the percentage of workers in each SIC division who are women on the horizontal axis.[28] We find no clear relationship between the coefficient of the interaction term and the percentage of women workers in an industry.[29] Overall, neither of these tests provides evidence in favor of the superfluous bauble hypothesis.

### 4.2. *Networks*

Along with credentials and experience, firms' hiring of executives and directors is based on other factors, including personal connections (Fracassi and Tate (2012), Cai, Nguyen, and Walkling (2022), Cziraki and Jenter (2020)). Knowing a director candidate personally may provide a more precise signal of the candidate's ability than having information about the individual's credentials. We therefore examine the extent to which the value of the S&P 500 credential is related to managers' networks. To do so, we interact S&P 500 experience with an indicator for women managers and an indicator for whether the manager is highly connected. We obtain information on managers' connections from BoardEx and call a manager highly connected if she has more connections than the median of all managers in the same industry-year. We use two industry classifications: 4-digit SIC codes (odd-numbered columns) and the text-based classification developed by Hoberg and Phillips (2010, 2016) calibrated to a granularity similar to 4-digit SIC codes, yielding 500 separate industries (even-numbered columns).

[28] We obtain data on the percentage of women workers from the Bureau of Labor Statistics, https://www.bls.gov/cps/tables.htm#charemp and map their industry classifications manually into SIC divisions.

[29] As with the time series analysis, in untabulated results, we repeat the analysis from Figure 4 using the total effect of S&P 500 experience for women (the sum of the coefficients on S&P 500 experience and its interaction with the female indicator). Here again, we find no clear pattern.

Table 5 shows the results. We are most interested in the interaction term *S&P 500 Experience, New Firms* $\times$ *Highly Connected* and the triple interaction *S&P 500 Experience, New Firms* $\times$ *Female* $\times$ *Highly Connected*. The interaction of S&P 500 experience and the highly connected dummy is not statistically significant for independent directorships (columns 1-2). It is negative and statistically significant in column 4 (using the Hoberg-Phillips industry classification) but not in column 3 (using SIC codes). This suggests that network connections and S&P 500 work experience may be substitutes when individuals are considered for executive positions at S&P 500 firms. The triple interaction of S&P 500 experience, the highly connected indicator, and the indicator for women is not statistically significant in any specification.[30]

Looking at the level coefficients, we continue to find that experience at new S&P 500 firms is associated with more future executive and independent director positions, even after controlling for whether the manager is highly connected, and interaction terms. Our results also reflect the well-established finding from the literature that highly connected individuals are more likely to obtain future positions (Fracassi and Tate, 2012; Cai, Nguyen, and Walkling, 2022).

To summarize, when it comes to future executive positions, we find some evidence that managers with smaller networks benefit more from S&P 500 experience than managers with larger networks. We find no such pattern with respect to future independent directorships. Further, there is no evidence that women and men benefit differently from S&P

[30]We obtain qualitatively similar results using coarser industry definitions, and/or using terciles, quintiles, or deciles.

500 experience depending on the size of their network. Overall, while this evidence provides some support for the network interpretation of the credential, it does not account for the gender difference we observe.

### 4.3. *Human Capital*

The third interpretation of the S&P 500 credential is that it gives managers the opportunity to gain a particular set of skills that are specific to S&P 500 firms. Such skills may include interacting with large institutional shareholders (Appel, Gormley, and Keim (2016)) and analysts (Martineau and Zoican (2019)), or managing investor attention (Cziraki, Mondria, and Wu (2021)) and media scrutiny (Kuhnen and Niessen (2012)).[31]

Because human capital takes time to accumulate, under this interpretation, the impact of the credential should only appear over time. To investigate this, we vary the number of years we keep each manager in our sample. Rather than retaining individuals for 10 years from their first appearance in the sample, we repeat the analysis in Table 2 retaining only the first 5 years in the sample, and then again with the entire sample. By comparing the results across horizons, we gauge how the relationship between S&P 500 experience and subsequent positions changes over time.

Table 6 shows that the benefit to men of obtaining S&P 500 experience appear within five years, and remain similar thereafter. Interestingly, women with S&P 500 experience are not significantly less likely to obtain independent directorships (column 1) or executive positions (column 4) than men at the 5-year horizon. The significant difference between men and women emerges as we move from a 5-year horizon to a 10-year horizon

[31]To the extent that the credential reflects human capital, it could be general—i.e., transferable across firms and industries—or industry specific. Table IA.7 in the Internet Appendix shows that S&P 500 experience predicts new positions at S&P 500 firms in industries where the manager has work experience, but not in other industries.

(columns 1-2 and 4-5 for independent directorships and executive positions, respectively). As discussed in Section 3.1, the negative coefficient on the interaction completely offsets the positive coefficient on S&P 500 experience. The point estimates and statistical significance on the four experience coefficients—the experience term and its interaction with the indicator for women, for both independent directorships and executive positions—remain similar as we move from 10 years to the entire career (columns 2-3 and 5-6).[32] In sum, S&P 500 experience is valuable to men within 5 years of their initial experience, and remains valuable for the rest of their careers. In contrast, it stops being valuable to women at some point between five and ten years after they first begin to accumulate it. This, in turn implies that if our results are driven by accumulation of human capital specific to S&P 500 firms, this human capital would be accumulated fairly quickly and would then disappear for women but not for men.

## 5. Conclusion

We study how the same credentials predict career outcomes for women and men in the labor market for top executives and independent directors. We focus on "marginal" S&P 500 firms, and rely on within-firm variation and managers who joined firms before they were added to the index. Finally, we difference out any unobservables that affect both women and men within the same firm-year. Focusing on managers of large, publicly

[32]The only notable change when moving from 10 years to the entire horizon is that the coefficient of the indicator for women increases from 0.4 to 0.6 and becomes statistically significant at the 1% level for independent directorships. This result suggests that women who stay in corporate careers longer are more likely to receive independent directorships, although this effect is more than offset for women with S&P 500 experience. At first blush, one may attribute this increase in the size and significance of the female coefficient in part to having more manager-year observations towards the end of our sample, when firms were actively seeking out women for their boards. However, this is unlikely to be the case: the coefficient remains 0.004 at both a 5-year and a 10-year horizon (columns 1 and 2). If the results were driven by a time trend, the point estimates should increase monotonically with longer horizons.

listed firms close to the threshold for S&P 500 index as our starting sample mitigates concerns about ability or preferences.

Strikingly, we show that S&P 500 experience leads to more future independent directorships and executive positions for men, but not women, suggesting that this credential is valuable for men, but not for women. The increase for men is significant, 15% relative to the sample average for independent directorships and 33% for executive positions. Yet a woman with S&P 500 experience obtains fewer future executive positions at S&P 500 firms than a man without it. This difference shows no time trend, is similar across industries, and is concentrated among women with S&P 500 experience in roles below the C-suite. We find no evidence that the credential is a superfluous bauble used to winnow the pool of men, and some limited support for both the interpretation that it operates through managers' networks and their human capital.

Our results have implications for the understanding of how firms recruit executives and directors, and of the role that experience at large public firms plays in their choice. The evidence shows that experience at an S&P 500 firm opens the door to future executive and non-executive positions at other S&P 500 firms for men, but not for women. Our findings raise the question of why women do not benefit from this experience as much as men do.

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FIGURE 1. Histogram of Size Rank
For Firms On vs. Not On the S&P 500

The two histograms show the empirical distribution of firm-year observations in CRSP that are on (left graph) and are not on (right graph) the S&P 500 index each year throughout our sample period 1980-2022 by their size ranking among all firms in CRSP. A rank of $k$ means that the firm is the $k$-th largest by equity market capitalization among all firms in CRSP that year. Size rankings are shown in bins of 50 ranks. The two dashed vertical lines in each graph represent the rank cutoffs of 350 and 650 used in the empirical analysis of the paper.

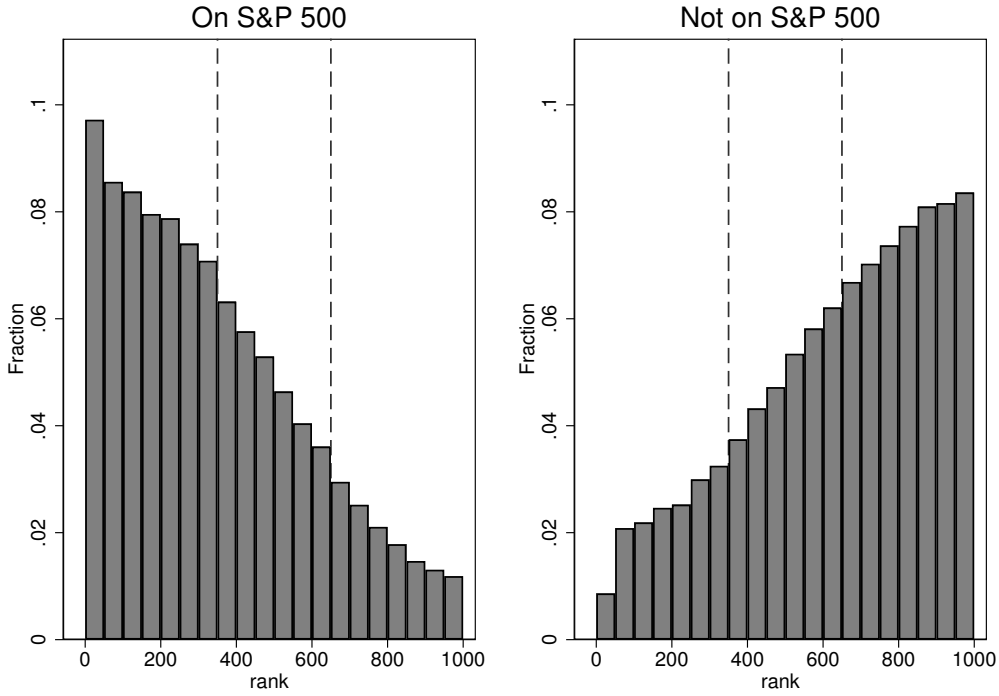


FIGURE 2. Propensity Score Distributions
For Firms On vs. Not On the S&P 500

The graph shows the distribution of estimated propensity scores for our regression sample using bins of 0.05. The light gray bars above the horizontal axis show the distribution of propensity scores for the treated observations (firms on the S&P 500), and the dark gray bars below the axis show the distribution for the control observations (firms not on the S&P 500). A firm enters our sample the year it is first in the size range [350, 650], and remains in the sample until 2022, or until it disappears from CRSP-Compustat, whichever is sooner. Propensity scores are estimated using a probit regression of all firms in CRSP-Compustat for the period 1980-2022, with the same covariates as listed in Table 2. The results of this probit regression are in Table IA.1 of the Internet Appendix.

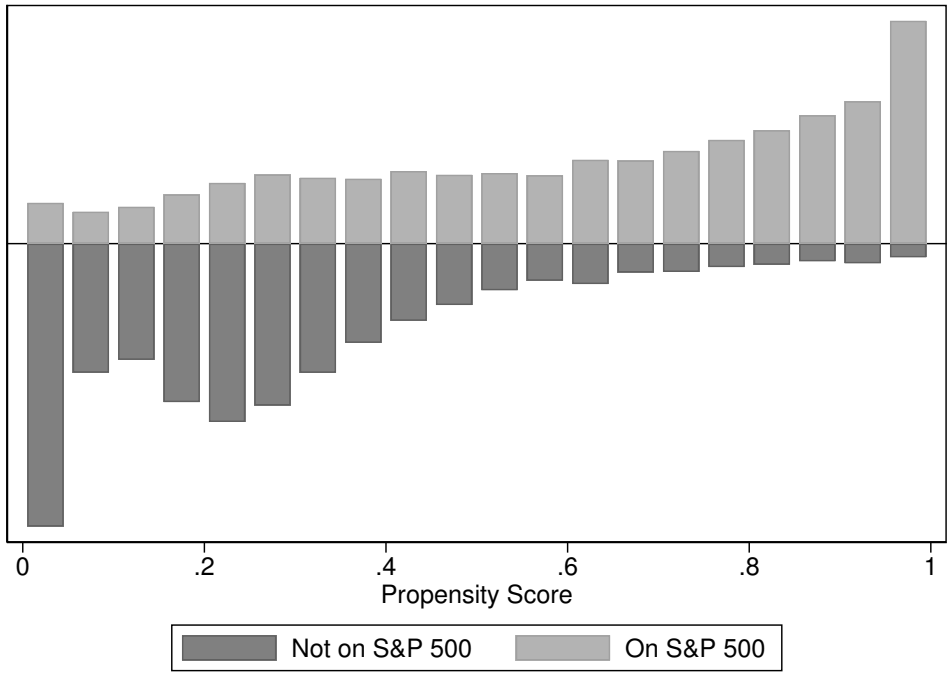


FIGURE 3. Difference in the Value S&P 500 Experience
For Women vs. Men, Over Time

This figure shows coefficient estimates from rolling 10-year periods within our sample. We re-estimate the model reported in column 3 of Table 2 for each 10-year period. The horizontal axis shows the last year of the period. The vertical axis shows the coefficient estimate of S&P 500 Experience, New Firm × Female and the 95% confidence interval. The first plot shows the coefficient estimate for New Independent Directorships as the dependent variable (Table 2 Panel A) and the second plot shows the coefficient estimate for New Executive Directorships (Table 2 Panel B).

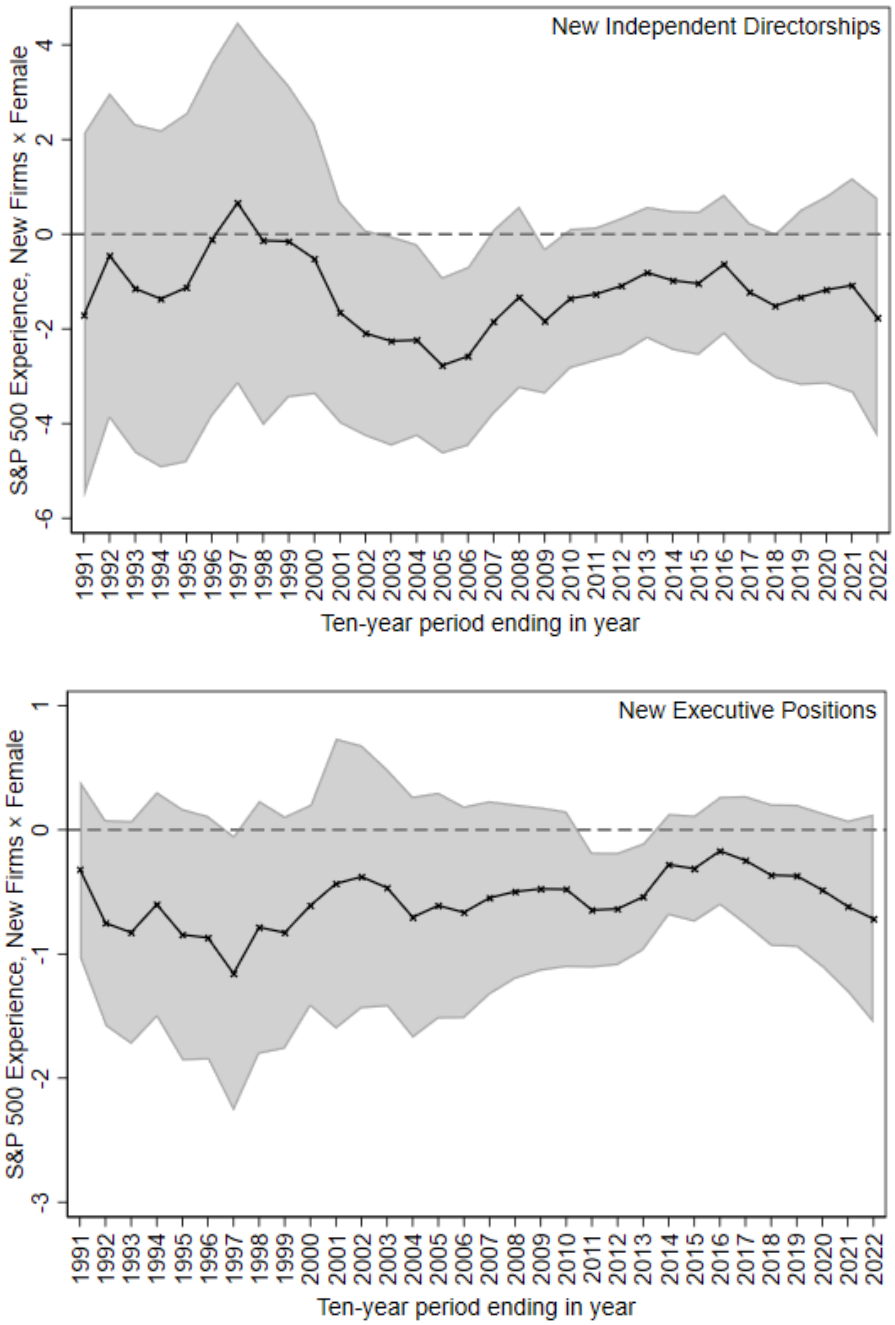
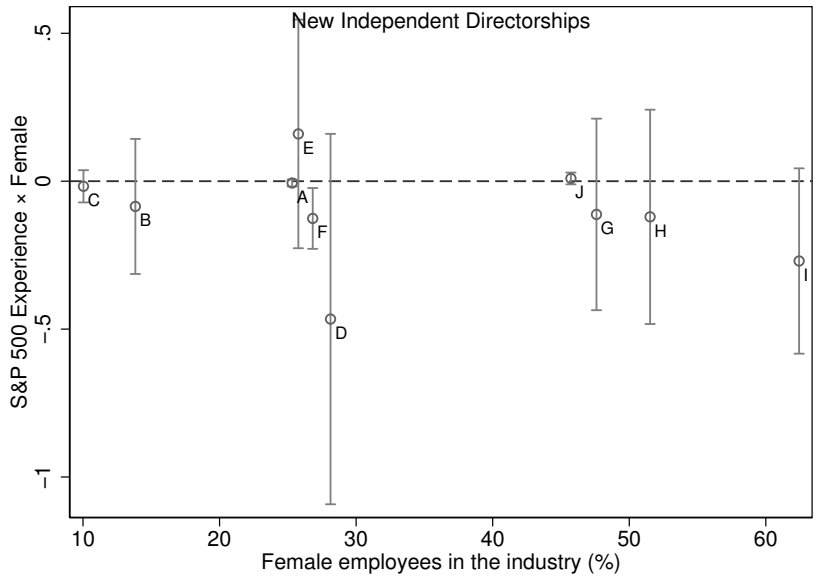
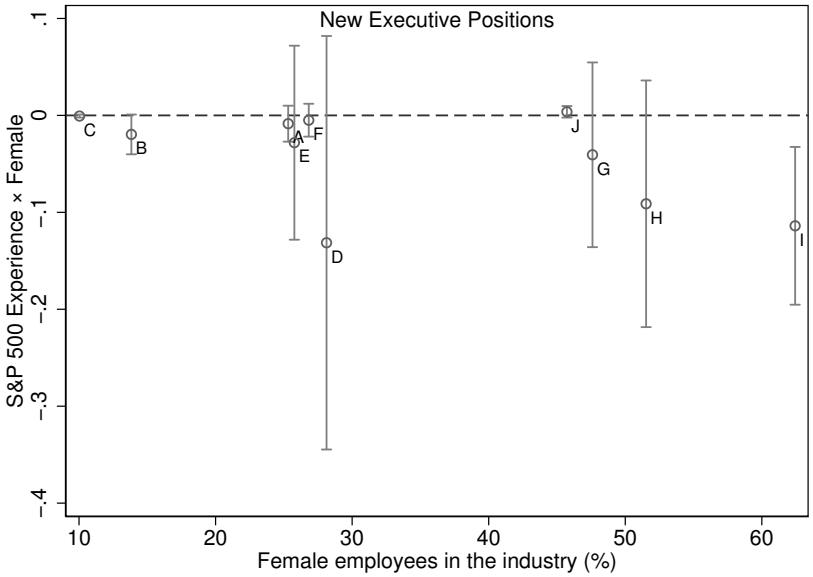


FIGURE 4. Difference in the Value S&P 500 Experience
For Women vs. Men, Across Industries

This figure shows coefficient estimates from different industries arranged by the percentage of workers in the industry who are women. We re-estimate the model reported in column 3 of Table 2 changing the dependent variable to the number of new positions obtained at S&P 500 firms in a particular industry. The horizontal axis shows the percentage of workers in that industry (SIC division) who are women, obtained from the Bureau of Labor Statistics. The vertical axis shows the coefficient estimate of S&P 500 Experience, New Firm × Female and the 95% confidence interval. The first plot shows the coefficient estimate for New Independent Directorships in each industry as the dependent variable (Table 2 Panel A) and the second plot shows the coefficient estimate for New Executive Directorships in each industry (Table 2 Panel B). The SIC divisions labeled in each graph are A - *Agriculture, Forestry, And Fishing*; B - *Mining*; C - *Construction*; D - *Manufacturing*; E - *Transportation, Communications, Electric, Gas, And Sanitary Services*; F - *Wholesale Trade; G - Retail Trade*; H - *Finance, Insurance, and Real Estate*; I - *Services*; J - *Public Administration*.



## TABLE 1. Descriptive Statistics

This table presents descriptive statistics for our main regression sample. Executives and independent directors enter the sample when they first work for a firm ranked 350-650 by size in the CRSP database in any year between 1980-2022 and remain in the sample for a maximum of 10 years from their first appearance. During this time, we track all other positions they have at other firms. There are 3,740 unique firms and 10,918 unique managers (executives or independent directors) in our sample. Panel A shows the variables used in the analysis of manager careers in Section 3. The unit of observation in Panel A is a manager $\times$ firm $\times$ year. Panel B compares the characteristics of women and men in our sample. Panel C compares the careers of managers entering the sample through an affiliation with S&P 500 firms and non-S&P 500 firms. The last two columns in Panels B and C show the difference in means (medians) between the two groups. The symbols *, **, and *** indicate that the difference is statistically significant at the 10%, 5%, and 1% level, respectively. All dollar values are in millions of USD. *New Roles* is the number of new executive or director roles obtained by individual $i$ in year $t$. *New Roles at S&P 500 firms* is the number of new executive or director roles obtained by individual $i$ in year $t$ at firms that are on the S&P 500 in year $t$. *New Executive Roles (Independent Directorships) at S&P 500 firms* is the number of new executive roles (independent directorships) obtained by individual $i$ in year $t$ at firms that are on the S&P 500 in year $t$. *S&P 500 Experience* is an indicator variable equal to one if individual $i$ has had experience as an executive or director of an S&P 500 company at some point up to and including year $t-1$. *S&P 500 Experience, New (Established) Firm* is an indicator equal to one if individual $i$ was an executive or director of a company that was added to the S&P 500 company when it was added to the index (joined the company after it was added to the index) at some point up to and including year $t-1$. *Female* is an indicator variable equal to one if the manager is female. *Manager Age* is the manager's age in years. *Yearly Stock Turnover by Value* is the dollar value traded over the past year divided by average market capitalization (number of shares outstanding multiplied by share price) over the past year. Averages for both measures are taken over monthly values over the previous 12 months. *Min Monthly Trading Volume* is the minimum of monthly trading volume over the last 6 months. *Market Capitalization* is the number of shares outstanding multiplied by share price, obtained from CRSP. *IPO Date Was at Least 1 Year Ago* is an indicator variable equal to one if the first date on which the security appeared in CRSP was at least one year (365 days) ago. *Eligible exchange* is an indicator equal to one if the exchange code for the security, as defined by CRSP, is none of the following: Halted by Primary Listing Exchange, Suspended by Primary Listing Exchange, Not Trading on Primary Listing Exchange, Bats (As Quoted By NASDAQ), Boston Stock Exchange, Chicago Stock Exchange, Pacific Stock Exchange, Philadelphia Stock Exchange, Toronto Stock Exchange, and Over-The-Counter (Non-NASDAQ Dealer Quotations) (exched -2, -1, 0, 5, 10, 13, 16, 17, 19, and 20). *Eligible Share Class* is an indicator equal to one if the share class for the security, as defined by CRSP, is equal to either "Ordinary Common Shares - Securities which need not be further defined" or "Ordinary Common Shares - REIT's (Real Estate Investment Trusts)" (shrcd 11 or 18). *Past Year Earnings* is net income excluding discontinued operations (per the S&P 500 index guidelines), scaled by total assets, measured in the previous year. *Past Year Earnings > 0* is an indicator equal to one if past year yearnings are positive. *Age Entered (Left) Sample* is the age of the manager, in years, at the time that she entered (left) the sample. *Age Entered Sample as Executive (Independent Director)* and *Age Left Sample as Executive (Independent Director)* are defined analogously but condition on individuals entering or leaving the sample in an executive (independent director) role. *Spell in Sample* is the total number of years a manager spends in the unrestricted sample – including her entire career history available. *Past Roles* is the total number of positions that the individual has held in the sample up to and including year $t-1$. *Past Executive/Independent/CEO Roles* and *Roles at Public Firms* are defined analogously. *Nr of Connections* is the total number of connections of the individual. *Nr of Employment Connections* is the number of connections established through employment at the same firm. *Firm Rank at Entry* is the rank of the firm (by size in the CRSP database) that the individual was affiliated with when entering the sample. *Firm Rank at Entry, Executive (Independent Director)* is defined analogously but conditions on individuals entering the sample in an executive (independent director) role.

**Panel A — Managerial Careers and Firm Characteristics**

| | Mean | Median | SD | N |
|---|---|---|---|---|
| New Roles | .423 | 0 | .842 | 115,381 |
| New Roles at S&P 500 firms | .0776 | 0 | .29 | 115,381 |
| New Executive Roles at S&P 500 Firms | .0112 | 0 | .11 | 115,381 |
| New Independent Directorships at S&P 500 Firms | .0532 | 0 | .237 | 115,381 |
| Index Experience | .584 | 1 | .493 | 115,381 |
| Joined Firm Before Inclusion | .19 | 0 | .392 | 115,381 |
| Joined Firm After Inclusion | .423 | 0 | .494 | 115,381 |
| Female (d) | .125 | 0 | .33 | 115,381 |
| Manager age | 59.9 | 60 | 8.26 | 115,381 |
| Yearly stock turnover by value | 2.2 | 1.61 | 2.24 | 115,381 |
| Min monthly trading volume (m$) | 24.4 | 8.38 | 68.9 | 115,381 |
| Market capitalization (m$) | 9,154 | 3,625 | 23,988 | 115,381 |
| IPO date was at least 1 year ago (d) | .959 | 1 | .199 | 115,381 |
| Eligible exchange (d) | .999 | 1 | .0346 | 115,381 |
| Eligible share class (d) | .909 | 1 | .288 | 115,381 |
| Past year earnings | .0293 | .0409 | .282 | 115,381 |
| Past year earnings > 0 (d) | .764 | 1 | .424 | 115,381 |

**Panel B — Careers of Women and Men**

| | Women | | Men | | Difference in | |
|---|---|---|---|---|---|---|
| | Mean | Median | Mean | Median | Means | Medians |
| Age Entered Sample | 54.4 | 55 | 56.7 | 57 | 0.04*** | 0.035*** |
| Age Left Sample | 63.0 | 63 | 67.1 | 69 | 0.062*** | 0.087*** |
| Age Entered as Indep. Dir. | 54.6 | 55 | 57.7 | 58 | 0.052*** | 0.052*** |
| Age Left as Indep. Dir. | 63.2 | 64 | 67.7 | 69 | 0.068*** | 0.072*** |
| Age Entered as Executive | 51.7 | 52 | 53.2 | 54 | 0.029** | 0.037 |
| Age Left as Executive | 56.0 | 57 | 59.4 | 60 | 0.058*** | 0.05*** |
| Spell in Sample | 9.5 | 8 | 11.4 | 10 | 0.163*** | 0.2*** |
| Past Roles | 4.3 | 3 | 4.8 | 4 | 0.105*** | 0.25*** |
| Past Indep. Directorships | 3.5 | 3 | 3.4 | 2 | 0.054* | 0.333** |
| Past Exec. Roles | 0.7 | 0 | 1.4 | 1 | 0.487*** | 1*** |
| Nr. of Connections | 1,960.7 | 1,124 | 1,155.3 | 484 | 0.411*** | 0.569*** |
| Nr. of Employment Connections | 1,375.1 | 618 | 851.1 | 336 | 0.381*** | 0.456*** |
| Firm Rank at Entry | 493.6 | 508 | 505.7 | 524 | 0.024*** | 0.031*** |
| Firm Rank at Entry, Exec. | 508.3 | 511 | 515.5 | 527 | 0.014 | 0.03 |
| Firm Rank at Indep. Dir. | 504.9 | 510 | 516.3 | 528 | 0.022*** | 0.034*** |

**Panel C — Careers of Managers Entering the Sample at Firms on and not on the S&P 500**

| | Non-S&P 500 Firms | | S&P 500 Firms | | Difference in | |
|---|---|---|---|---|---|---|
| | Mean | Median | Mean | Median | Means | Medians |
| Female (d) | 0.112 | 0 | 0.169 | 0 | 0.336*** | 0 |
| Manager Age | 56.47 | 57 | 56.228 | 56 | 0.004 | 0.018* |
| Past Roles | 4.929 | 4 | 4.312 | 3 | 0.125*** | 0.25*** |
| Past Indep. Directorships | 3.579 | 3 | 3.013 | 2 | 0.158*** | 0.333*** |
| Past Exec. Roles | 1.35 | 1 | 1.298 | 1 | 0.038* | 0 |
| Past CEO Roles | 0.673 | 0 | 0.648 | 0 | 0.037 | 0 |
| Past Roles at Public Firms | 2.696 | 2 | 2.512 | 2 | 0.068*** | 0 |

TABLE 2. Subsequent Career Outcomes

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in Panel A is the number of new independent directorships obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in Panel B is the number of new executive positions obtained by individual $i$ in year $t$, multiplied by 100. Columns (1) - (3) of each panel relate to future roles at S&P 500 firms; columns (4) - (6) relate to future roles at non-S&P500 firms. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls* include the natural logarithm of equity market capitalization, two proxies for liquidity ((i) minimum monthly trading volume over the last 6 months, and (ii) dollar value traded over the past year divided by average market value over the past year), a dummy indicating that the firm's IPO date was at least one year ago, dummies for eligible share class and exchange, earnings before extraordinary items scaled by total assets in each of the past quarter and the past year, and dummies indicating that earnings before extraordinary items were positive in each of the past quarter and year. *Established Firm Controls* represent a dummy variable equal to one if individual $i$ became an executive or director of a company already on the S&P 500 company at some point up to and including year $t-1$, as well as a term interacting this with *Female*. *Current Exec. Control* is a dummy variable equal to one if the individual is employed as an executive in year $t-1$. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | S&P 500 Firms | | | Non-S&P 500 Firms | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Panel A: New Independent Directorships* | | | | | | |
| S&P 500 Experience, | 0.989*** | 0.811*** | 0.781*** | -2.617*** | -0.982 | -0.829 |
| New Firms | (6.09) | (3.93) | (3.81) | (-3.79) | (-1.33) | (-1.12) |
| S&P 500 Experience, | -0.709 | -1.152** | -1.159** | -0.507 | -2.601 | -2.586 |
| New Firms × Female | (-1.52) | (-2.24) | (-2.26) | (-0.30) | (-1.45) | (-1.44) |
| Female | 0.625** | 0.362 | 0.363 | -3.552*** | -1.415 | -1.360 |
| | (2.47) | (1.29) | (1.29) | (-3.13) | (-1.19) | (-1.14) |
| Adjusted $R^2$ | 0.017 | 0.024 | 0.024 | 0.021 | 0.070 | 0.070 |
| N | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 |
| *Panel B: New Executive Positions* | | | | | | |
| S&P 500 Experience, | 0.526*** | 0.389*** | 0.366*** | -1.167*** | -0.476* | -0.470* |
| New Firms | (7.63) | (4.39) | (4.16) | (-5.05) | (-1.80) | (-1.77) |
| S&P 500 Experience, | -0.424*** | -0.435*** | -0.437*** | 0.618 | 0.405 | 0.402 |
| New Firms × Female | (-3.51) | (-2.98) | (-3.00) | (1.35) | (0.78) | (0.77) |
| Female | -0.307*** | -0.375*** | -0.380*** | -2.996*** | -2.617*** | -2.613*** |
| | (-4.62) | (-4.68) | (-4.72) | (-9.43) | (-7.35) | (-7.33) |
| Adjusted $R^2$ | 0.005 | -0.005 | -0.005 | 0.012 | 0.028 | 0.028 |
| N | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 |
| Firm Controls | | | Yes | | | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | | Yes | Yes |

TABLE 3. Subsequent Positions at S&P 500 Firms
Robustness Tests

This table presents results from nine alternative specifications of the model used to estimate the results presented in Table 2. The dependent variable in Panel A is the number of new independent directorships at S&P 500 companies obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in Panel B is the number of new executive positions at S&P 500 companies obtained by individual $i$ in year $t$, multiplied by 100. For convenience, column (1) repeats column (3) from Table 2. Column (2) restricts the sample to observations with estimated propensity scores between 0.1 and 0.9. Column (3) does the same as column (2), but then reports the coefficient estimates from regressions reweighted using Inverse Probability Weights. Column (4) controls for future firm performance: the natural logarithm of equity market capitalization, stock returns, and earnings before extraordinary items scaled by total assets, all measured in year $t+1$. Columns (5) and (6) use include only individuals who were associated with a firm ranked within the range [300, 700] and [400, 600] by size, respectively. Column (7) restricts attention to managers who remained in the sample for at least 10 years. Column (8) restricts attention to managers who are under 67 years old to account for differential retirement ages. Column (9) controls for other measures of qualifications labeled *Experience Controls*: separate indicator variables for functional experience in finance, management, legal and consulting, politics, military, and academia; and separate indicators for undergraduate, advanced, or MBA degrees. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. Except for columns (5) and (6), we include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Future Performance Controls* include the natural logarithm of equity market capitalization, earnings before extraordinary items scaled by total assets, and stock returns, measured in year $t+1$. All models contain *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control*, which have the same meaning as in Table 2. They also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm. Standard errors are clustered by firm. The symbols *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | Baseline | PS | IPW | Future | [300, 700] | [400, 600] | $\geq$ 10 yrs | Retirement | Qualifications |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| *Panel A: New Independent Directorships* | | | | | | | | | |
| S&P 500 Experience, | 0.781*** | 0.851*** | 0.795*** | 0.781*** | 0.612*** | 0.763*** | 0.690*** | 0.748*** | 0.757*** |
| New Firms | (3.81) | (3.45) | (2.76) | (3.80) | (2.80) | (3.84) | (2.83) | (2.98) | (3.51) |
| S&P 500 Experience, | -1.159** | -1.186** | -1.421** | -1.160** | -1.304** | -1.138** | -1.276** | -1.385** | -1.294** |
| New Firms × Female | (-2.26) | (-2.12) | (-2.11) | (-2.26) | (-2.52) | (-2.33) | (-2.11) | (-2.19) | (-2.41) |
| Female | 0.363 | 0.356 | 0.641 | 0.364 | 0.431 | 0.521* | 0.060 | 0.631* | 0.626** |
| | (1.29) | (1.04) | (1.44) | (1.30) | (1.33) | (1.95) | (0.18) | (1.93) | (2.08) |
| *Panel B: New Executive Positions* | | | | | | | | | |
| S&P 500 Experience, | 0.366*** | 0.329*** | 0.357*** | 0.367*** | 0.314*** | 0.345*** | 0.418*** | 0.384*** | 0.335*** |
| New Firms | (4.16) | (3.07) | (3.09) | (4.17) | (3.36) | (4.01) | (4.21) | (3.63) | (3.62) |
| S&P 500 Experience, | -0.437*** | -0.381** | -0.326* | -0.436*** | -0.282* | -0.516*** | -0.516*** | -0.538*** | -0.376*** |
| New Firms × Female | (-3.00) | (-2.39) | (-1.78) | (-3.00) | (-1.77) | (-3.57) | (-2.97) | (-2.83) | (-2.73) |
| Female | -0.380*** | -0.435*** | -0.620*** | -0.380*** | -0.403*** | -0.251*** | -0.417*** | -0.428*** | -0.300*** |
| | (-4.72) | (-4.13) | (-4.38) | (-4.73) | (-5.57) | (-3.15) | (-4.42) | (-4.44) | (-3.55) |
| N | 115,381 | 72,396 | 72,396 | 115,381 | 99,075 | 127,039 | 93,383 | 90,495 | 108,003 |
| Future Performance Controls | | | | Yes | | | | | |
| Experience Controls | | | | | | | | | Yes |

TABLE 4. Subsequent Career Outcomes, by S&P 500 Experience

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in column (1) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in column (2) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. *S&P 500 Experience, New Firms* captures whether individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. We include indicators for five separate categories of S&P 500 experience: (i) *Chief Executive Officers*, (ii) *Other C-suite* executives such as CFO, COO, President, or Executive Chair (iii) *Vice-Presidents*, including Executive VP and Senior VP, (iv) *Independent Directors* including independent (vice) chair(wo)men, and (v) All *Other Roles*, such as General Counsel, Treasurer, and Secretary. *Female* is a dummy variable equal to one if individual $i$ is female. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. All models contain *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control*, which have the same meaning as in Table 2. They also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | Executive Positions |
|---|---|---|
| | (1) | (2) |
| S&P 500 Experience, New Firms, CEO | 1.607*** | 1.597*** |
| | (3.26) | (5.10) |
| S&P 500 Experience, New Firms, Other C-Suite | -0.149 | 1.221*** |
| | (-0.26) | (2.79) |
| S&P 500 Experience, New Firms, VP, SVP, EVP | 0.850 | 0.919** |
| | (1.36) | (2.08) |
| S&P 500 Experience, New Firms, Independent Director | 0.832*** | -0.125 |
| | (3.52) | (-1.14) |
| S&P 500 Experience, New Firms, Other Roles | 0.666 | 0.137 |
| | (0.78) | (0.31) |
| S&P 500 Experience, New Firms, CEO × Female | 4.142 | 1.091 |
| | (0.87) | (0.48) |
| S&P 500 Experience, New Firms, Other C-Suite × Female | 0.564 | 2.930 |
| | (0.10) | (0.44) |
| S&P 500 Experience, New Firms, VP, SVP, EVP × Female | 0.725 | -1.112* |
| | (0.35) | (-1.91) |
| S&P 500 Experience, New Firms, Independent Director × Female | -1.132** | 0.010 |
| | (-1.99) | (0.07) |
| S&P 500 Experience, New Firms, Other Roles × Female | -3.035* | -0.830 |
| | (-1.83) | (-1.26) |
| Female | 0.496* | -0.387*** |
| | (1.72) | (-4.25) |
| Adjusted $R^2$ | 0.026 | -0.001 |
| N | 115,381 | 115,381 |

TABLE 5. Subsequent Positions at S&P 500 Firms
Interaction Between Experience, Gender, and Connections

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in columns (1) and (2) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (3) and (4) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was an independent director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. *Highly Connected* is a dummy variable equal to one if individual $i$ had at least the median number of connections among individuals within the same industry in year $t$. In odd columns, industry is defined by 4-digit SIC code. In even columns, industry is defined using the Hoberg-Phillips 500 Text-based Fixed Industry Classifications (TFIC). We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | | Executive Positions | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| S&P 500 Experience, New Firms | 0.630*** | 0.772*** | 0.491*** | 0.602*** |
| | (2.60) | (3.10) | (3.97) | (4.77) |
| S&P 500 Experience, New Firms × Female | -1.118* | -1.474** | -0.743*** | -0.640** |
| | (-1.91) | (-2.54) | (-3.98) | (-2.36) |
| S&P 500 Experience, New Firms × Highly Connected | 0.094 | -0.264 | -0.187 | -0.443** |
| | (0.27) | (-0.75) | (-1.01) | (-2.50) |
| S&P 500 Experience, New Firms × Female × Highly Connected | -0.403 | 0.420 | 0.395 | 0.241 |
| | (-0.43) | (0.45) | (1.22) | (0.75) |
| Female | 0.364 | 0.352 | -0.342*** | -0.353*** |
| | (1.19) | (1.15) | (-3.93) | (-4.05) |
| Highly Connected | 0.772*** | 0.870*** | 0.183*** | 0.241*** |
| | (4.10) | (4.79) | (2.61) | (3.25) |
| Firm Controls | Yes | Yes | Yes | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes |
| Firm FE | Yes | Yes | Yes | Yes |
| Industry Definition | SIC4 | TFIC500 | SIC4 | TFIC500 |
| Adjusted $R^2$ | 0.026 | 0.025 | -0.006 | -0.006 |
| N | 98,363 | 98,363 | 98,363 | 98,363 |

TABLE 6. Subsequent Positions at S&P 500 Firms, Varying Horizons

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in columns (1) - (3) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (4) - (6) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. In columns (1) and (4), we restrict attention to each individual's first 5 years in our sample. In columns (2) and (5), we restrict attention to each individual's first 10 years in our sample. In columns (3) and (6), we include all years. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *S&P 500 Experience, Established Firms* is a dummy variable equal to one if individual $i$ became a director or executive of a company already on the S&P 500 company at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | | | Executive Positions | | |
|---|---|---|---|---|---|---|
| | 5 years | 10 years | All years | 5 years | 10 years | All years |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| S&P 500 Experience, New Firms | 0.511* | 0.781*** | 0.631*** | 0.521*** | 0.366*** | 0.482*** |
| | (1.67) | (3.81) | (4.34) | (3.52) | (4.16) | (7.09) |
| S&P 500 Experience, New Firms × Female | -0.078 | -1.159** | -1.344*** | -0.333 | -0.437*** | -0.416*** |
| | (-0.11) | (-2.26) | (-3.56) | (-1.34) | (-3.00) | (-2.90) |
| Female | 0.364 | 0.363 | 0.646*** | -0.317*** | -0.380*** | -0.366*** |
| | (1.06) | (1.29) | (2.70) | (-2.85) | (-4.72) | (-4.62) |
| Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.028 | 0.024 | 0.024 | -0.007 | -0.005 | -0.003 |
| N | 65,887 | 115,381 | 176,350 | 65,887 | 115,381 | 176,350 |

Supplementary Internet Appendix to

# Credentials Matter, but Only for Men: Evidence from the S&P 500

Intended for online publication.

TABLE IA.1. Propensity Score Estimation: Determinants of Inclusion in the S&P 500 Index

This table presents the coefficient estimates from a probit regression of an indicator variable equal to one if the firm is on the S&P 500. The regression is estimated on the sample of all firms in CRSP-Compustat during the period 1980-2022. Independent variables are defined in Table 1. The table shows $t$ statistics in parentheses below the coefficient estimates. Standard errors are clustered at the GICS industry level. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | On the S&P 500 |
|---|---|
| Yearly Stock Turnover by Value (m$) | 0.012 |
| | (1.08) |
| Min Monthly Trading Volume (m$) | 0.002 |
| | (1.58) |
| Log Market Capitalization | 0.921*** |
| | (28.99) |
| IPO Date At Least 1 Year Ago (d) | 0.828*** |
| | (11.01) |
| Eligible Exchange (d) | 0.033 |
| | (0.08) |
| Eligible Share Class (d) | 1.477*** |
| | (10.47) |
| Past Year Earnings | -0.075 |
| | (-1.16) |
| Past Year Earnings > 0 (d) | 0.086 |
| | (1.04) |
| Constant | -20.756*** |
| | (-24.82) |
| Year FE | Yes |
| Pseudo $R^2$ | 0.450 |
| N | 66,611 |

## TABLE IA.2. Subsequent Positions at S&P 500 Firms
## Independent Directorships and Executive Positions

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in columns (1) - (2) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (3) - (4) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *S&P 500 Experience, Established Firms* is a dummy variable equal to one if individual $i$ became a director or executive of a company already on the S&P 500 company at some point up to and including year $t-1$. *Any S&P 500 Experience* is a dummy variable equal to one if individual $i$ has had experience as an independent directorships or executive of an S&P 500 company at some point up to and including year $t-1$. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | | Executive Positions | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| S&P 500 Experience, New Firms | 0.654*** | | 0.323*** | |
| | (3.28) | | (3.88) | |
| S&P 500 Experience, Established Firms | 1.209*** | | 0.208** | |
| | (5.53) | | (2.52) | |
| Any S&P 500 Experience | | 1.170*** | | 0.296*** |
| | | (5.94) | | (3.96) |
| Firm Controls | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes |
| Firm FE | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.024 | 0.024 | -0.006 | -0.006 |
| N | 115,381 | 115,381 | 115,381 | 115,381 |

TABLE IA.3. Subsequent Career Outcomes
Using S&P MidCap 400 and S&P SmallCap 600 Firms as Comparison

This table presents results from 6 alternative specifications of the model used to estimate the results presented in Table 2. The dependent variable in Panel A is the number of new independent directorships obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in Panel B is the number of new executive positions obtained by individual $i$ in year $t$, multiplied by 100. Columns (1) - (3) of each panel relate to future roles at S&P MidCap 400 or S&P SmallCap 600 companies; columns (4) - (6) relate to future roles at non-S&P500 companies. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | S&P 500 Firms | | | S&P 400 and S&P 600 Firms | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| *Panel A: New Independent Directorships* | | | | | | |
| S&P 500 Experience, | 0.989*** | 0.811*** | 0.781*** | -0.046 | -0.126 | -0.091 |
| New Firms | (6.09) | (3.93) | (3.81) | (-0.43) | (-0.91) | (-0.66) |
| S&P 500 Experience, | -0.709 | -1.152** | -1.159** | 0.260 | 0.002 | 0.007 |
| New Firms × Female | (-1.52) | (-2.24) | (-2.26) | (0.69) | (0.00) | (0.02) |
| Female | 0.625** | 0.362 | 0.363 | 0.343 | 0.481** | 0.487** |
| | (2.47) | (1.29) | (1.29) | (1.57) | (2.04) | (2.07) |
| Adjusted $R^2$ | 0.017 | 0.024 | 0.024 | 0.008 | 0.024 | 0.024 |
| N | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 |
| *Panel B: New Executive Positions* | | | | | | |
| S&P 500 Experience, | 0.526*** | 0.389*** | 0.366*** | -0.142*** | -0.176*** | -0.172*** |
| New Firms | (7.63) | (4.39) | (4.16) | (-3.41) | (-3.16) | (-3.11) |
| S&P 500 Experience, | -0.424*** | -0.435*** | -0.437*** | 0.206** | 0.176 | 0.176 |
| New Firms × Female | (-3.51) | (-2.98) | (-3.00) | (1.97) | (1.54) | (1.55) |
| Female | -0.307*** | -0.375*** | -0.380*** | -0.245*** | -0.193** | -0.192** |
| | (-4.62) | (-4.68) | (-4.72) | (-2.90) | (-2.05) | (-2.05) |
| Adjusted $R^2$ | 0.005 | -0.005 | -0.005 | 0.002 | 0.014 | 0.014 |
| N | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 |
| Firm Controls | | | Yes | | | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | | Yes | Yes |

TABLE IA.4. Subsequent Career Outcomes – Stacked Difference in Differences

This table reports the coefficient estimates from stacked differences-in-differences regressions that use never-treated individuals as controls. The dependent variable in columns (1) and (2) is the number of new independent directorships obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (3) and (4) is the number of new executive positions obtained by individual $i$ in year $t$, multiplied by 100. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include stack $\times$ age (the individual's age in year $t-1$), stack $\times$ year, stack $\times$ rank (the rank of the firm that caused the individual to enter the sample), and stack $\times$ firm fixed effects, as indicated at the bottom of each column. Standard errors are double-clustered by individual manager and by year. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Indepedent Directorships | | Executive Positions | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| S&P 500 Experience, New Firms | 0.708** | 0.841*** | 0.452*** | 0.515*** |
| | (2.44) | (2.75) | (3.26) | (3.34) |
| S&P 500 Experience, New Firms $\times$ Female | | -1.289* | | -0.754*** |
| | | (-1.71) | | (-2.88) |
| Female | | 0.419 | | -0.391*** |
| | | (1.31) | | (-4.36) |
| Firm Controls | Yes | Yes | Yes | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes |
| Stack $\times$ Year FE | Yes | Yes | Yes | Yes |
| Stack $\times$ Age FE | Yes | Yes | Yes | Yes |
| Stack $\times$ Rank FE | Yes | Yes | Yes | Yes |
| Stack $\times$ Firm FE | Yes | Yes | Yes | Yes |
| Adjusted $R^2$ | 0.033 | 0.033 | 0.010 | 0.011 |
| N | 115,381 | 115,381 | 115,381 | 115,381 |

## TABLE IA.5. Subsequent Positions at S&P 500 Firms Separating Women Managers Above/Below Age 60

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in columns (1) - (3) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (4) - (6) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. In columns (1) and (4), we restrict attention to each individual's first 5 years in our sample. In columns (2) and (5), we restrict attention to each individual's first 10 years in our sample. In columns (3) and (6), we include all years. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was a director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. *Female, Age≥60* is a dummy variable equal to one if individual $i$ is female and aged 60 or above. *Female, Age<60* is a dummy variable equal to one if individual $i$ is female and aged below 60. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | | | Executive Positions | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| S&P 500 Experience, | 0.988*** | 0.822*** | 0.792*** | 0.529*** | 0.379*** | 0.355*** |
| New Firms | (6.09) | (4.00) | (3.88) | (7.66) | (4.27) | (4.02) |
| S&P 500 Experience, | -0.710 | -1.190* | -1.200* | -0.413*** | -0.415*** | -0.420*** |
| New Firms × Female, Age≥60 | (-1.29) | (-1.92) | (-1.93) | (-4.24) | (-2.99) | (-3.01) |
| S&P 500 Experience, | -0.623 | -0.920 | -0.925 | -0.448** | -0.443** | -0.444** |
| New Firms × Female, Age<60 | (-0.92) | (-1.27) | (-1.27) | (-1.34) | (-3.00) | (-2.90) |
| Female | 0.604** | 0.362 | 0.365 | -0.317*** | -0.380*** | -0.366*** |
| | (2.42) | (1.29) | (1.30) | (-4.77) | (-4.68) | (-4.73) |
| Firm Controls | | | Yes | | | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | | Yes | Yes |
| Adjusted $R^2$ | 0.017 | 0.025 | 0.025 | 0.004 | -0.005 | -0.005 |
| N | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 |

## TABLE IA.6. Subsequent Positions at S&P 500 Firms
## Interaction Between Experience, Gender, and Time Period

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in columns (1) and (2) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (3) and (4) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was an independent director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. In odd columns, *Post Period* is a dummy variable equal to one if individual $i$ obtined the position after 2001. In even columns, *Post Period* is a dummy variable equal to one if individual $i$ obtined the position after 2006. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | | Executive Positions | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| S&P 500 Experience, New Firms | 0.383 | 0.905*** | 0.337** | 0.481*** |
| | (1.11) | (3.34) | (2.24) | (4.10) |
| S&P 500 Experience, New Firms | -0.911 | -1.670** | -0.117 | -0.420* |
| × Female | (-0.83) | (-2.11) | (-0.33) | (-1.91) |
| S&P 500 Experience, New Firms | 0.593 | -0.364 | 0.039 | -0.286* |
| × Post Period | (1.37) | (-0.96) | (0.21) | (-1.82) |
| S&P 500 Experience, New Firms | -0.382 | 0.970 | -0.431 | 0.019 |
| × Female × Post Period | (-0.32) | (1.01) | (-1.11) | (0.07) |
| Female | 0.334 | 0.305 | -0.389*** | -0.399*** |
| | (1.19) | (1.09) | (-4.84) | (-4.97) |
| Firm Controls | Yes | Yes | Yes | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes |
| Firm FE | Yes | Yes | Yes | Yes |
| Split Year | 2001 | 2006 | 2001 | 2006 |
| Adjusted $R^2$ | 0.024 | 0.024 | -0.005 | -0.005 |
| N | 115,381 | 115,381 | 115,381 | 115,381 |

## TABLE IA.7. Subsequent Positions at S&P 500 Firms In the Same / Different Industry

This table reports the coefficient estimates from weighted OLS regressions. The dependent variable in columns (1) - (4) is the number of new independent directorships at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. The dependent variable in columns (5) - (8) is the number of new executive positions at S&P 500 firms obtained by individual $i$ in year $t$, multiplied by 100. *Same Industry* refers to subsequent roles in an industry that the individual has previous work experience as an executive or an independent director. *Different Industry* refers to subsequent roles in an industry that the individual does not have previous work experience as an executive or an independent director. In odd columns, industry is defined by 4-digit SIC code. In even columns, industry is defined using the Hoberg-Phillips 500 Text-based Fixed Industry Classifications (TFIC). *S&P 500 Experience, New Firms* is a dummy variable equal to one if individual $i$ was an independent director or executive of a company at the time that the company was added to the S&P 500 at some point up to and including year $t-1$. *Female* is a dummy variable equal to one if individual $i$ is female. We include only individuals who were associated with a firm ranked within the range [350, 650] by size, measured by equity market capitalization (defined as the price multiplied by the number of shares outstanding, as reported in CRSP) at some point in the past. *Firm Controls*, *Established Firm Controls*, and *Current Exec. Control* have the same meaning as in Table 2. Models also include fixed effects (FE) for the individual's age in year $t-1$, calendar year, the rank of the firm that caused the individual to enter the sample, and firm, as indicated at the bottom of each column. Standard errors are clustered by firm. The symbols $^{*}$, $^{**}$, and $^{***}$ denote significance at the 10%, 5%, and 1% level, respectively.

| | Independent Directorships | | | | Executive Positions | | | |
|---|---|---|---|---|---|---|---|---|
| | Same Industry | | Different Industry | | Same Industry | | Different Industry | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| S&P 500 Experience, New Firms | 0.737*** | 0.587*** | 0.066 | 0.219 | 0.365*** | 0.270*** | -0.020 | 0.123*** |
| | (6.33) | (4.80) | (0.38) | (1.38) | (4.83) | (3.78) | (-0.45) | (2.71) |
| S&P 500 Experience, New Firms × Female | -0.746*** | -0.528** | -0.428 | -0.869** | -0.392*** | -0.327*** | -0.039 | -0.079 |
| | (-3.42) | (-2.24) | (-0.92) | (-2.23) | (-3.11) | (-3.01) | (-0.56) | (-0.96) |
| Female | 0.087 | -0.009 | 0.300 | 0.322 | -0.160*** | -0.189*** | -0.196*** | -0.169*** |
| | (0.90) | (-0.09) | (1.12) | (1.30) | (-3.44) | (-4.00) | (-2.79) | (-2.91) |
| Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Established Firm Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Current Exec. Control | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Age FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Rank FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry Definition | SIC4 | TFIC500 | SIC4 | TFIC500 | SIC4 | TFIC500 | SIC4 | TFIC500 |
| Adjusted $R^2$ | 0.021 | 0.015 | 0.019 | 0.020 | -0.009 | -0.009 | -0.004 | -0.007 |
| N | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 | 115,381 |