Job Market Paper

How Do Firms Respond to Gender Quotas? Evidence From California's Senate Bill 826

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Abstract

More than one-third of US-listed companies had all-male corporate boards in 2015. Quotas are discussed as policy levers to increase gender diversity, but there is much controversy whether they can increase female representation without harming organizational outcomes. Using the passage of a California law in 2018 that required the presence of at least one woman on corporate boards by the end of the following year, I estimate the effects of gender quotas on firm performance. I find the quota reduced the share of all-male boards by thirty percentage points within one year, with no reductions in operating performance, firm values, or shareholder returns within three years. These results question why all-male boards were prevalent prior to the legislation. I find that women directors are less likely to possess top-level experience and employment connections with corporate executives, which both appear as viable explanations. These findings provide insight on why women continue to lack representation in corporate leadership.

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1 Introduction

In the United States, gender parity in top leadership positions remains a rare occurrence. A recent Pew report documents that as of 2020, women constituted 27% of Congress, 18% of state governors, and 7% of Fortune 500 CEOs.[1] The lack of gender parity in leadership comes despite sizable female representation in graduate and professional schools. Women comprised 38% of MBA graduates in 1995, yet twenty five years later, only represented 21% of corporate boards (Figure 1).

Gender quotas on the boardroom are often proposed as policy prescriptions to increase diversity, but it is unclear whether they should worsen, improve, or have no effect on financial performance. In a textbook argument, firms optimally choose the board of directors to maximize shareholder value. External factors that constrain the firm's ability to optimize, such as a government mandated gender quota, should then worsen outcome measures. It is frequently asserted that women are underrepresented in top corporate leadership positions because they possess less relevant work experience, such as prior board or c-suite roles (e.g. Ahern and Dittmar 2012). If so, the quota may coerce firms to hire female directors with less top-level experience who, in turn, reduce measures of financial performance.

A competing view highlights that quotas may incentivize companies to search for candidates with distinctive work experiences. These directors may improve financial performance by bringing new skills into the boardroom or monitoring corporate executives more closely.[2] Firms may not have previously considered quota-appointees for board positions because these candidates do not belong to the typical hiring networks used for recruitment (e.g. Hallock 1997). Applicants without

[1] https://www.pewresearch.org/social-trends/fact-sheet/the-data-on-women-leaders/

[2] One reason quota-appointed directors may be tougher monitors is that they are less likely to belong to the "Old Boys Club." To the extent that firms benefit from additional monitoring, the quota may improve financial performance. Note that excessive monitoring by the board may deteriorate firm outcomes (Adams and Ferreira 2009). Alternatively, quota-appointed directors may improve performance by bringing new skills to the boardroom. See Kim and Starks (2016) for empirical evidence that female directors possess skill-sets typically missing on corporate boards. Women may also be underrepresented in corporate leadership and improve financial performance if their managerial potential is systematically underestimated (Benson 2021). See Spitzer and Talley (2013) for a theoretical model demonstrating how even a single quota-appointed director may shift group-level decision making. Viewed through their model, quota-appointed directors may undertake costly investments in information acquisition that can shift the preferences of the median director.

referrals may be perceived as lower-ability or more-risky, which would systematically disadvantage women if they do not have connections to corporate leadership. However, quota-appointed directors may also be token appointments, lacking the influence to shape the board of directors' collective decision making. This may be especially true when the quota-appointed director is the sole female on a large board.

To investigate these considerations, I study how firms responded to California's SB826, the first gender-based quota for corporate boards in the United States.[3] The legislation passed in late 2018, and mandates that listed companies headquartered in California have at least one female director by the end of 2019. As an enforcement mechanism, annual fines ranging from $100,000 to $300,000 are levied on companies that fail to comply. In this paper, I ask whether companies subject to the quota added female representation, and if so, whether board gender diversity induced by the quota affected medium-run financial performance.[4]

I link data between BoardEx, Compustat, and the Center for Research in Security Prices (CRSP) to investigate whether the quota eliminated all-male boards, and if so, how gender-diversity induced by the quota affected financial performance. BoardEx contains the annual gender composition of corporate boards, allowing me to assess compliance with the legislation. I construct two annual measures of corporate performance – Return on Assets (ROA) and Tobin's Q – from Compustat's files. I use CRSP's daily security-level returns to calculate the returns from holding a portfolio of quota-affected companies. To identify the causal effects of the quota, I track firm-level outcomes of all domestic and listed companies that had no female board representation in 2017, the year prior to the reform. Among these companies, only the firms based in CA as of 2017 ("treated or quota-affected firms") had to change board composition or corporate form to abide with SB826's requirements. I use the firms based outside of California as my control group and verify that the

[3]For a list of gender quotas implemented outside the United States, see Table 1 of Terjesen, Aguilera, and Lorenz (2015). For a comparison of gender quotas across Europe, see Table 1 of Mensi-Klarbach and Seierstad (2020). SB826 does have additional requirements. By the end of 2021, companies with 5 directors are mandated to have at least 2 female directors and companies with 6 or more directors are required to have at least 3 female directors. I study how companies responded to the first stage of SB826.

[4]I follow convention by measuring financial performance using Tobin's Q, Return on Assets, and Shareholder Returns. See, for example, Adams and Ferreira (2009). "Medium-run" is defined to be the three years following the legislation's passage.

conditional independence assumption is likely to hold.[5] I consider specifications where the quota's effect may vary year over year (Event Study), but also those where the effect is presumed to be immediate and constant (Difference in Differences). Statistical precision is enhanced in the latter specification, though it is unable to recover whether the quota has time-varying effects.

The identification strategy leveraging quota-induced changes in board composition overcomes the fact that board structure is an equilibrium outcome designed to address a company's corporate governance issues (Adams, Hermalin, and Weisbach 2010). For example, managers of poorly performing companies may advocate for staggered boards to remain entrenched, while shareholders may elect outside directors to more closely monitor management (e.g. Gompers, Ishii, and Metrick 2003).[6] Similarly, I show that the board's gender composition also responds to internal conditions within the firm: growing firms adopt and subsequently maintain gender-diverse boards in the absence of policy pressures to diversify.[7] This descriptive finding is novel and highlights the usefulness of examining quota-induced changes in board gender diversity. Since growing firms add female directors, simple comparisons of financial outcomes before and after companies adopt gender-diverse boards risk overstating the positive impacts of diversity.

Overall, I find that SB826 successfully introduced gender diversity onto corporate boards without harming medium-run financial performance. Between 2017 and 2019, the number of California-based listed companies with all-male boards declined from 204 to 59, representing a 71% reduction. This dramatic increase in boardroom gender diversity may not be entirely attributable to the quota, since firms naturally adopt gender-diverse boards as they age. Consistent with this observation, difference-in-differences estimates indicate that SB826 reduced the share of all-male boards by a more modest 26%. Robustness tests suggest that these results are not driven

[5]The baseline "event study" econometric specification, stated in Equation 1, contains firm and industry by year fixed effects. Standard errors are clustered at the firm level. The quota's effects are identified based on a comparison of outcome changes between companies that did and did not have CA headquarters in 2017. The assertion that the conditional independence holds is supported by the fact that $\hat{\beta}^t, t \leq 2017 \approx 0$ for a variety of outcomes. Mackinnon and Webb (2019) discuss how standard errors may be underestimated when all treated units are part of a single cluster. Quantitatively similar results using the authors' Wild Bootstrap Randomization Inference procedure is available upon request.

[6]Directors in staggered boards have overlapping and multi-year terms. They are frequently used to prevent hostile-takeovers.

[7]As a result, mature firms are substantially more likely to have gender-diverse boards than newly listed firms.

by shifts in attitudes about women in leadership particular to California or selective attrition among quota-affected firms.[8]

An investment strategy of buying and holding a value-weighted portfolio of quota-affected companies from October 1st, 2018 (the first trading day after the legislation's signing) to December 31st, 2021 generates returns 24 percentage points above that from holding the S&P 500 index over the same period. In contrast, the identical strategy applied to firms in the control group would under-perform the S&P 500 by 34 percentage points.[9] The difference-in-difference specifications indicate that the legislation increased Tobin's Q by 7% and ROA by 5 percentage points – both effects are statistically significant at the 10% level. Point estimates in the event-study regressions are also positive, though statistical significance varies based on the choice of specification. Interpreted conservatively, my results imply that the quota did not worsen firm values or operating performance within three years and, if anything, improved them. These positive effects cannot be explained by modifications in policy the board influences, as rates of delistings, mergers and acquisitions, dividend issues, and changes in shares outstanding remain stable. The conclusion that SB826 plausibly improved operating performance remains valid under various econometric specifications, splits of the sample, and financial outcomes considered.

The relationships between SB826, financial outcomes, and company policy could be explained in several ways. One hypothesis is that firms continued business as usual and hired "token" female directors – those that have minimal influence on the board. If so, one might expect firms to comply with the quota by hiring less-credentialed women who do not serve on the most important committees. An alternative hypothesis is that quota-affected firms recruited qualified women outside of typical hiring pools, and that these women capably represented shareholder interests. I find strong support for the latter hypothesis, although some firms hired women who are unlikely to

[8]More specifically, my results are robust to a triple differences specification that includes companies that had gender-diverse boards in 2017 as a within-state control group. In addition, 'placebo tests' where I re-run the baseline-specification but consider companies with all-male boards in a year prior to 2017 provide null results. The placebo analysis implies that the first-stage results are not driven by differential mean reversion: California-based companies with all-male boards are not inherently more likely to add female directors.

[9]Similar patterns emerge from holding portfolios where each company is given equal weight – "equally weighted portfolios."

wield influence on the board.

As evidence, the quota reduced the share of the board with prior employment connections to corporate leadership by 5 percentage points, with more than 90% of women appointed after the quota serving as non-executive directors.[10] Companies that adopted gender-diverse boards because of the quota ("Complier Firms") were particularly likely to recruit female candidates from out-of-network. The two-stage-least-squares estimates indicate the quota lowered the share of the board with a prior connection to leadership by 8 percentage points among these firms. This finding indicates that SB826 raised the share of "outsiders" on the board, and complements research by Hwang, Shivdasani, and Simintzi (2018), who show that women appointed after the quota have different work-experiences and skills than the typical director. Further, quota-affected firms had many qualified candidates from whom to choose. Female directors rarely joined the boards of multiple treated companies, which might occur if few qualified female candidates are available. Quota-affected firms did not face additional litigation, as would be expected from demonstrably less capable boards.[11] Between 2018 and 2021, quota-affected companies experienced 3% higher employment than companies in the control group, which is consistent with research demonstrating that gender-diverse boards are less likely to undertake workforce reductions (Matsa and Miller 2013).

However, when I look at committee assignments, I see that SB826 also lowered the share of the board with prior executive experience by 2-3%, reflecting the fact that the typical female director is slightly younger and less experienced than her male counterpart. The audit committee is regarded as one of the most important institutions within corporate boards since its members monitor financial reporting and disclosure (Ferris, Jagannathan, and Pritchard 2003). Firms refrained from immediately placing women onto the audit committee but not from other roles on the compensation or nominating committees. This pattern is particularly prevalent in male-dominated industries, where the quota reduced the share of the board on the auditing committee by 4%. These facts notwithstanding, the "tokenism" theory is not entirely satisfactory. Firms typically decided to

[10]Non-Executive directors are board members who are not involved in the day-to-day management of the company.
[11]Litigation is measured based on whether companies were subject to a class action lawsuit.

hire women as non-executive directors as opposed to paying the relatively minor fines prescribed by the legislation.[12] Financial performance plausibly improved after the quota, and in most respects, quota-appointed directors play similar roles within the board as their peers.[13]

This paper contributes to literature that examines how gender diversity affects organizational outcomes. Research studying firm responses to SB826 has focused on stock price reactions in the immediate days following the legislation's announcement (Hwang, Shivdasani, and Simintzi 2018; Von Meyerinck et al. 2019; Gertsberg, Mollerstrom, and Pagel 2021; Greene, Intintoli, and Kahle 2020). These studies establish negative announcement returns ranging from 1-2%, but face the limitation that the effect may be driven by regulatory uncertainty or other bills signed on the same day.[14] I circumvent these challenges by analyzing the longer-run impacts of the quota. In that sense, my methodology more closely resembles the literature evaluating the longer-run effects of the 2003 Norwegian quota. Ahern and Dittmar (2012) find that the quota led to less experienced boards and lower firm values within 5 years. Bertrand et al. (2019) show that the female directors appointed after the quota were more qualified than those appointed before the quota along many dimensions. These results may not necessarily hold in the US context since the Norwegian quota required 40% female board representation while California's mandated the presence of a single female director. In the three years following SB826, the legislation has resulted in less experienced boards, but has not reduced financial performance.

Outside the immediate context of corporate boards, studies have arrived at various insights on how female leadership affects organizational outcomes. For instance, Gompers et al. (2022) find that gender diversity at the partner level increases fund returns. Chattopadhyay and Duflo (2004) study a 1992 gender quota in India that required one-third of local political positions be reserved for women. They document that women policy-makers invest more in projects that address the

[12]Non-executive directors have a median annual salary of 107,000 as of 2020. In contrast, executive directors have a median annual salary of 754,000 in 2020.

[13]There are no declines in the average committee load or predicted director compensation in response to the quota. Of course, the claim that directors play similar roles within the organization is subject to the recurring critique that they may behave differently in ways that are not measurable to the researcher.

[14]Von Meyerinck et al. 2019 document that the governor signed 183 bills on the weekend in which he signed SB826. Further, they show states with similar political leanings to California also experienced negative abnormal returns, suggesting regulatory uncertainty may contribute to the reaction.

needs of women. My paper contributes to the literature by showing that mandated gender diversity can introduce qualified women onto corporate leadership, thereby creating gains in equity without generating losses in efficiency.

This paper unfolds as follows. I discuss the quota's requirements in Section 2 and the data utilized in Section 3. In Section 4, I describe compliance with the legislation. Section 5 discusses the legislation's impacts on financial performance, while Section 6 inquires how the quota shifted the board's characteristics and decision-making. Section 7 concludes.

2 Legal Context

California Governor Jerry Brown signed into law Senate Bill (SB) 826 on 9/30/2018, which requires publicly-held corporations with a principal executive office in California to have at least one female director on the Board of Directors by December 31, 2019. By the end of 2021, companies with 5 directors are mandated to have at least 2 female directors and companies with 6 or more directors are required to have at least 3 female directors. I study how companies responded to the first stage of SB826, which is the very first board gender-quota in the United States.[15]

The legislation impacts companies based in California with shares listed on the New York Stock Exchange, NASDAQ, or NYSE American. SB826 does not cover private companies or listed companies with headquarters outside of California. Companies that fail to comply with the quota are subject to fines: each director seat required to be held by a female that is not actually held by a female for at least a portion of the calendar year counts as a violation. A fine of $100,000 is imposed for the first violation, and $300,000 for each subsequent violation.[16] California-based

[15] According to the CA Secretary of State, "A female is an individual who self-identifies her gender as a woman, without regard to the individual's designated sex at birth." Publicly-held companies have shares listed on the New York Stock Exchange, NASDAQ, or NYSE American. SB826 does cover companies listed on foreign exchanges with headquarters in CA. I exclude consideration of these companies since my analysis focuses on domestic and listed companies. Between 2015 and 2020, no state besides California has passed a corporate board gender quota that enforces fines on non-compliant companies. On May 13th, 2022, Los Angeles Superior Court Judge Maureen Duffy-Lewis found that SB826 violates the equal protection clause of California's constitution: https://corpgov.law.harvard.edu/2022/06/12/california-gender-board-diversity-law-is-held-unconstitutional/

[16] For example, a listed California-based company that has no female board members between 1/1/2019 and 12/31/2020 would owe a fine of $400,000. Failure to file timely board gender information with California's Secretary

firms impacted by SB826 have a couple of options to avoid paying fines. First, shareholders of these companies can add a female board member by the end of 2019, either by replacing an existing male director or by expanding the size of the board. Second, these companies can evade the reach of the legislation by going private or changing headquarter location.

Firm responses to California's gender quota can provide guidance on the efficacy of more recent boardroom diversity, equity, and inclusion (DEI) efforts. In late 2020, California Governor Newsom approved additional legislation which requires companies subject to SB826 to have at least one director from an underrepresented community by the end of 2021.[17] In mid-2021, the Securities and Exchange Commission approved NASDAQ's board diversity disclosure requirements that encourage (but do not require) companies listed on its exchange to have at least two diverse directors by mid-2023. Within the last year, large asset managers such as Blackrock and Goldman Sachs have urged US companies to have diverse boards. The California agency responsible for SB826's enforcement has yet to levy fines on companies that maintain all-male boards. Nevertheless, as I will show in Section 4, companies subject to the quota swiftly added female directors. These results suggest that public pressures for firms to increase diverse representation can affect firm behavior.

3 Data Sources and Sample Description

3.1 Data Sources

I employ matched data between BoardEx, Compustat, and CRSP to study relationships between director characteristics, board characteristics, and firm outcomes.[18] BoardEx provides detailed

of State yields a $100,000 fine. As of December 2021, no fines have been assessed as SB826 faces legal challenges: https://www.reuters.com/world/us/trial-begins-challenge-california-women-boards-law-2021-12-01/.

[17] AB979, approved on September 30th, 2020, identifies director from underrepresented communities as individual who self-identify as Black, African American, Hispanic, Latino, Asian, Pacific Islander, Native American, Native Hawaiian, or Alaska Native, or who self-identify as gay, lesbian, bisexual, or transgender. AB979 imposes fines for non-compliance.

[18] I use the crosswalk provided by WRDS and deploy a conservative approach that requires matched companies to have have identical SEC identifiers (CIKs) and security level identifiers (CUSIPs) across BoardEx, Compustat, and CRSP.

information on the composition of corporate boards and the employment histories of directors. Using information from a company's annual reports, BoardEx provides yearly descriptors of the board's size and gender composition. BoardEx also characterizes the gender and employment histories of directors in its database by scraping online reports. Prior roles of directors contain a start and end date, allowing me to construct measures of a director's experience. These employment histories also enable BoardEx to determine whether any two directors in its database share a prior employment connection. I restrict attention to the sample period starting in 2010 and ending in 2021.[19]

I observe the annual board composition of approximately 4000 companies (Table 1), which represents the near-universe of domestic and listed companies between 2010 and 2021.[20] I use BoardEx data to assess compliance with the quota and examine the characteristics of directors added after SB826. Director characteristics are measured upon onboarding and include traditional measures of human capital – age, education, and experience – as well as indicators for whether the director joins a monitoring-intensive committee or has prior employment connections with company leadership.[21] A primary responsibility of monitoring-intensive committees is to oversee financial statements and reporting. Less capable boards may be more likely to make errors in reporting financial statements and consequently face litigation for securities fraud. To examine this hypothesis, I identify companies that faced class-action lawsuits between 2015 to 2021 from the Stanford Securities Class Action Clearinghouse, producing a sample of 1646 firms.[22]

I next use data from Compustat and CRSP to study how the quota affected firms' financial outcomes and policy. Each year, more than 90 percent of companies from BoardEx can be linked to

[19]Prior to 2010, BoardEx does not provide comprehensive annual board-level information for all listed firms.

[20]The annual characteristics of the board are measured as of the company's annual report date. If there are multiple annual reports in a single calendar year, I select the last annual report. BoardEx does not impute gender. Instead, gender is based on self identification or pronouns used in official reports. See Figure A1 for an example report where pronouns are used to classify gender. If two directors have a prior employment connection, the dates in which the two directors overlapped at the previous company are provided. The number of domestic and listed companies from BoardEx and CRSP are approximately equal.

[21]Monitoring-intensive committees are defined to be the audit, compensation, and nominating committees. I observe whether a director has a prior connection to company leadership, but also the type of connection. I.e. whether two directors previously served together on a board or c-suite of another company.

[22]As discussed in Ferris, Jagannathan, and Pritchard (2003), the firms sued in this dataset have not necessarily committed fraud. Furthermore, firms sued in a given year may have committed fraud in previous years.

Compustat and CRSP (Table B1, Col 3), covering the near universe of domestic and listed companies. Using annual data from Compustat, I construct various measures of Operating Performance that are measured at the end of a company's fiscal year. Following existing literature (e.g. Adams and Ferreira 2009; Ahern and Dittmar 2012), I focus on Tobin's Q and Return on Assets.[23] Tobin's Q is defined as the ratio of the firm's market value to its book value of assets, where market value is book assets plus book equity minus the market value of equity. Return on Assets (ROA) is net income before extraordinary items and discontinued operations divided by book assets. In rare instances, companies report non-positive total assets or book assets, in which case the observation is dropped.

Shareholder returns and company policy variables are derived from CRSP. Delisting occurs if none of the company's securities are listed the subsequent year. All other company policy variables indicate if the event occurred for some security during the calendar year. For example, a company is defined to issue a dividend if any of the company's listed securities offers a dividend during the calendar year. Buy-and-hold returns are calculated using returns provided in the daily stock file. Among companies with multiple securities, I choose the security with the highest average trading volume between Jan 2nd, 2015 and March 31st, 2022. In calculating buy-and-hold returns, I exclude companies that delist and have missing delisting returns, or do not delist and have missing returns over the holding period. Companies may respond to the quota by delisting or changing headquarter locations. I acquire annual information on each company's headquarter location from Compustat Snapshot to investigate this possibility.[24]

[23]There is not universal consensus that Tobin's Q accurately measures operating performance (e.g. Bartlett and Partnoy 2020)

[24]Geographic identifiers include both the state of the company's principal executive offices and the country of incorporation. These values are taken from Compustat Snapshot. If missing, geographic identifiers are taken from the WRDS SEC Analytics Suite. WRDS SEC data are linked to the matched BoardEx-Compustat data using the cik-gvkey linking table provided by WRDS. If the geographic identifier is still missing and the year is past 2019, the value is taken from Boardex's header-level information provided in the Company Profile files. Each year, more than eighty five percent of companies from BoardEx can be matched to CRSP, quarterly financial data, historical listing exchange identifiers, and historical geographic identifiers, as seen in the final column of Table B1.

3.2 Sample Description

Table 1 shows the sample size by year, once I restrict to US-based listed companies that report the firm's headquarter location and board gender composition. Between 2015 and 2021, 16 to 20 percent of all firms in the sample are headquartered in California. In the three years prior to the legislation, 31 to 39 percent of CA-based firms had all-male boards, with a combined market value of approximately 123 billion dollars as of the first quarter of 2017.

Despite the fact that SB826 regulates board gender composition for all listed firms based in California, many legally affected firms are unlikely to actually modify their boards to respond to the gender quota. CA-based listed companies with at least one female board member prior to the legislation's passage would not need to make any changes to be compliant with SB826. In theory, the gender quota may deter firms already compliant with SB826 from transitioning to an all-male board. However, historical data demonstrates that firms overwhelmingly add (rather than remove) women to the board as the firm ages.[25] As a result, I define firms affected by the quota ("treated firms") to be CA-listed companies with all-male boards in 2017, the year prior to the legislation's passage. Analogously, I define the control group to be firms with all-male boards and headquarters outside of CA as of 2017.

There are cross-sectional differences between firms in the treatment and control groups, as observed in Table 2. In 2017, treated firms have smaller boards, are younger, and have fewer employees than control firms. In addition, treated firms have a stronger presence in manufacturing, have higher Tobin's Q, and are less likely to issue dividends than control firms. Despite differences in financial outcomes, many boardroom level characteristics are similar between the treatment and control groups. Average ages of directors joining the two groups are nearly identical, though directors joining treated firms are slightly more likely to have prior board and c-suite experience. The share of the board on the auditing committee is lockstep between the treatment and control group. Similar conclusions hold for the compensation committee, though treated firms have a

[25] Figure A2 shows that in each year between 2010 - 2019, only 1 to 3 percent of domestic listed companies transition from having a gender-diverse board to an all-male board in the following year. Figure A3 corroborates this argument, showing that older firms are more likely to have gender-diverse boards in the 2017 cross-section.

larger share on the nominating committee. The level differences between treatment and control firms do not pose a problem for my identification strategy, which relies upon parallel trends in potential outcomes.

3.3 Endogeneity of Board Composition: Growing Firms Adopt Gender-Diverse Boards

A hurdle in establishing causal impacts of gender-diverse boards is the endogeneity of board composition. As stressed by Adams, Hermalin, and Weisbach (2010), the governance structure of a company is an equilibrium outcome designed to address the company's corporate governance problems. For example, shareholders may elect directors or choose the board's size so as to optimally monitor management. Similarly, I show that firms strategically choose the board's gender composition. Growing firms adopt and subsequently maintain gender-diverse boards, yielding an equilibrium where mature firms are substantially more likely to have gender-diverse boards than younger firms.

As suggestive evidence, Figure A3 plots the share of companies with all-male boards versus firm age using repeated cross sections from 2010 to 2021. The diagram depicts that close to one-half of newly-listed firms have all-male boards, while less than one-fourth of companies over age 50 have such boards.[26] I show that this bivariate relationship likely reflects a causal relationship. Table A1 presents results from a staggered difference-in-differences model using the Sun and Abraham (2021) estimator. The procedure compares changes in measures of firm size among companies that adopt gender-diverse boards between 2010 to 2017 to that among companies that had all-male boards over the same period.[27] Column 1 presents the coefficients when the outcome

[26]This relationship may not necessarily indicate that firms add female directors upon aging. For example, the bivariate relationship would also be consistent with the theory that gender-diverse boards remain listed for a longer duration.

[27]The documented effects for a given period relative to treatment are derived from a two step procedure. In step 1, the Sun and Abraham procedure generates treatment effects for a particular cohort (ie. the effects of gender-diverse boards for companies that adopt gender-diverse boards in 2012.) These effects compare changes in outcomes between the treated cohort and the never-treated group. In step 2, the relative period treatment effects are averaged across cohorts, where the weights are proportional to cohort size.

variable is the log of assets, a measure of firm size. The negative coefficients on the relative years prior to gender-diverse board adoption indicate that growing firms transition away from all-male boards. Similar conclusions hold when I proxy for firm size using the log of employees or market value.[28]

These results provide minimal support for the "Glass Cliff" hypothesis (i.e Ryan and Haslam 2005), which states that poorly performing companies implement female leadership. In fact, the opposite relationship holds true over my sample period – firms on faster growth trajectories adopt gender-diverse boards. My findings suggest that naive comparisons of financial outcomes before and after companies adopt gender-diverse boards may overstate the positive impacts of gender diversity. They also illustrate the importance of using natural experiments to identify the causal impacts of corporate boards. This sentiment is echoed in Post and Byron (2015)'s review of the literature, who call for studies to elucidate potential endogeneity in the board's determination.[29]

4 How Did Firms Comply with SB826?

Studies of board gender quotas in other countries suggest that companies may restructure to avoid adding female directors.[30] SB826's monetary penalties for non-compliance are mild relative to penalties in other contexts, so one would expect far less evasive behavior among California-based firms affected by the gender-quota.[31] Indeed, I find no evidence that firms took evasive actions.

[28] I also arrive at similar conclusions when I use more standard event study methods and restrict the sample to all domestic and listed firms observed in the years prior to gender-diverse board adoption (Table B4)

[29] There are some studies in the US context that attempt to address the endogeneity of board composition. Widely cited estimates of the effects of gender diversity on Firm Value come from Adams and Ferreira (2009), who use a firm fixed effects specification. Their econometric model attempts to identify the effects of gender diversity by studying how firm outcomes change when a firm gender diversifies its board. For their estimates to have a causal interpretation, firm-specific omitted variables such as corporate culture must not vary over the sample period. Bernile, Bhagwat, and Yonker (2018) address a similar question but use an instrumental research design. They use the diversity of potential directors that live within a non-stop flight of a firm's headquarter as an instrument for board diversity. Through two stage least squares estimates, the authors find that increased board diversity results in better financial performance.

[30] For example, Norway passed a gender quota in 2003 that required all public limited liability companies to have at least 40 percent representation of each gender. Any public limited liability company that failed to meet the requirements as of 2008 would be forced to dissolve. Bertrand et al. (2019) document sizable evasion: of the 563 public limited liability companies affected by the quota in 2003, only 179 maintained corporate form by 2008.

[31] In CA context, affected firms can evade, comply, or not comply. I refer to "evasion" as corporate restructure (ie. changing headquarter location or going private), "compliance" as the addition of female board members without

Between 2017 and 2020, only 7 percent of treated firms delisted or changed headquarter location. Firms in the control group were actually *more likely* to change headquarter location and equally likely to go private (Table B2).

Quota-affected firms in CA did not systematically evade the legislation through corporate restructure, but did they actually add women into their boards? After all, treated firms that want to maintain all-male boards have the option of paying fines described in Section 2. There is suggestive evidence that the quota caused firms to add female directors. First, there were 204 California companies with all-male boards in 2017, but only 12 in 2021 (Table 1). Second, the probability that a California-based company maintains an all-male board the subsequent year declines from 93 percent in 2010 to 30 percent in 2018.

However, these changes may not solely reflect the causal effect of the gender quota. Overall shifts in attitudes about women in leadership positions that occur during the sample period could be a confounding factor. To investigate the contribution of SB826 to the dramatic decline of California-based companies with all-male boards, I consider changes in board composition among non-CA-based firms with all-male boards in 2017 as a comparison group ("control firms"). Formally, using the firm-year panel from 2015 - 2021 and ordinary least squares, I estimate the parameters of the following regression:

$$Y_{fti} = \gamma_0 + \sum_{t \neq 2017} \beta^t \Big(1[Year = t] \times CA\ HQ_{2017} \Big) + \delta_f + \delta_{ti} + \varepsilon_{fti}, \tag{1}$$

where Y_{fti} is the board composition of firm f in year t and industry i, δ_f are firm fixed effects, δ_{ti} are industry by year fixed effects, and γ_0 is a constant. I use industry by year fixed effects to account for different industry compositions between treatment and control firms (see Table 2). Estimates of β^t represent differences in board composition between treatment and control firms in year t relative to 2017. For these estimates to identify the causal effect of SB826, it is necessary that the variables excluded from Equation 1 trend similarly between treatment and control firms

corporate restructure, and "non-compliance" as payment of SB826 monetary penalties while maintaining the status quo. Note all three actions place companies within the letter of the law.

within the same industry ("Parallel Trends Assumption").[32] All regressions use an unbalanced panel of firms and cluster standard errors at the firm level.

If the parallel trends assumption holds, then estimates of β^t for $t < 2019$ should be close to 0. Indeed, changes in outcomes between the 204 treated firms and 942 control firms are similar prior to the quota.[33] Almost all outcomes related to board composition and financial performance evolve similarly prior to SB826, providing prima-facie evidence that the parallel trends assumption is likely to hold (Table 3).[34]

Table 3 presents estimates of the event study coefficients in Equation 1. Taken at face value, SB826 raised the female board share by 5 percentage points and reduced the share of all-male boards by 26 percentage points within one year (Cols 1 and 2). In 2019, treated firms were substantially more likely to expand the board due to the quota: Column 4 shows that the quota raised the share of companies that added a board seat by 17 pp, from a mean of 0.23.

4.1 Robustness Check: Did Firms Added Female Directors For Reasons Besides the Quota?

These estimates may understate or overstate the true effects of the gender quota. If, for example, SB826 created social pressure for firms based outside of California to gender diversify their boards, then the event study coefficients from Table 3 would be underestimates. This would be consistent with the discussion in Von Meyerinck et al. (2019), who document that California often sets policy trends that are later adopted by other states. In contrast, SB826 adoption may be associated with attitude shifts about women in leadership that occur in California but not elsewhere.

[32] This assumption would be violated, for example, if attitudes about women in leadership trend differently in treated manufacturing firms relative to control manufacturing firms.

[33] Some of these firms may not appear in my constructed firm-year panel outside of 2017 due to firm entry into and exit from listed status (ie. some firms IPO, go private, or dissolve). Table B3 presents annual attrition rates between 2015 - 2020 for the treatment and control groups separately. Two-sided t-tests reject the presence of differential attrition in any year, although 22 percent of treated and control firms exit my sample by 2020. I remain consistent in using an unbalanced panel so as to avoid bias arising from sample selection. In unreported results, I observe that firms in the balanced panel tend to be older and larger than those in the unbalanced panel.

[34] An exception is when the dependent variable is ROA. I observe pre-trends, which may suggest that the post-event coefficients understate the positive effects of the quota.

Under the "Social Change" hypothesis (Donohue and Heckman 1991; McCrary 2007), increased female board representation among treated firms would have occurred even absent SB826. In this scenario, the numbers from Table 3 would overestimate the true effect of SB826. However, I find little evidence of these biases.

To test for these effects, I re-estimate Equation 1, but further restrict the control group to firms headquartered in Democratic states – those that voted for Hillary Clinton in the 2016 election. As conjectured by Von Meyerinck et al. (2019), Democratic states are more likely to adopt gender quotas like SB826 than Republican states. Furthermore, attitudes about progressive causes are more likely to be concordant within Democratic states. As a result, if spillover effects or broad shifts in attitudes particular to Democratic states are at play, then estimates from this regression should be muted relative to those in Table 3. In fact, the estimated effects of SB826 on board gender composition are *larger* when I restrict the control group to firms based in Democratic states.[35] These numbers provide evidence that the effects documented in Table 3 are not overestimated due to omitted variables particular to Democratic states.

Furthermore, I find that SB826 did not shift the board composition of CA-based firms with gender-diverse boards in 2017, suggesting that my results are not driven by unobserved CA-specific shocks. If the estimated effects of the quota on board gender diversity are upward biased due to social change, then one would expect increases in female board representation among all CA companies (even those already compliant with SB826). However, CA-based firms unaffected by the quota did not change board composition in response to SB826. Figure 3 tracks the share of companies with all-male boards among CA companies that already had female board representation in 2017. While the share of firms with all-male boards among the companies considered somewhat rises between 2017 and 2020 (by less than 5 pp), similar patterns are also observed among non-CA-based companies without all-male boards in 2017.[36] Further, the estimated effects of SB826

[35]Table A2 documents that SB826 reduced the share of all-male boards by 32 pp by 2020, while Table 3 documents a reduction of 28 pp. Similarly, the former table shows SB826 increased female board share by 8pp, while the latter table shows a 7pp increase.

[36]The low rates transition rates from gender-diverse to all-male boards is not a statistical anomaly. Figure A2 expands to the full sample of domestic and listed companies and shows that companies infrequently transition from gender-diverse to all-male boards.

on the board's gender composition substantially decline when I estimate Equation 1 on the sample of all domestic and listed firms (Col 7, Table A2). Given this evidence, it is not surprising that the triple differences point estimates presented in Table A2, Col 6 fall within the 95 percent confidence interval of Table 3's estimates.[37] These results corroborate that the magnitudes presented in Table 3 accurately capture the causal effects of SB826.

To summarize, firms affected by SB826 overwhelmingly responded by adding female board members. In contrast to firm responses in Norway, firms in California did not take systematic actions to evade the scope of SB826. Within two years, the quota raised the average share of female board members by 7 percentage points and reduced the share of all-male boards by 25 percentage points. To accommodate newly instated female board members, quota-affected firms were substantially more likely to increase the size of their board.

These gains in female board representation are substantial. For context, the female board share among all domestic and listed companies only increased by 7 percentage points between 2010 and 2017 (Figure 1). SB826 can thus be viewed as rapidly accelerating trends towards increased gender diversity on corporate boards.

5 How Do Gender-Diverse Boards Affect Financial Performance?

Existing research has documented negative share price reactions to the announcement of SB826 (i.e. Greene, Intintoli, and Kahle 2020), but did compliance with the quota actually worsen financial performance? In this section, I show that within 3 years, the quota did not deteriorate firm profitability, values, or returns and, if anything, improved them.

Figure A5 plots the average return on assets among companies in the treatment and control group from 2015 to 2021. California-based companies with all-male boards prior to the quota

[37]The triple differences specification uses the full sample of domestic and listed firms between 2015 and 2021. It presents OLS estimates of the following equation:

$$Y_{fti} = \gamma_0 + \theta_f + \delta_{CA,t} + \psi_{AMB,t} + \beta\left(1[Year \geq 2019] \times CA\ AMB_{2017}\right) + \varepsilon_{fti} \tag{2}$$

were on a downward trajectory from 2015 to 2017, having experienced an 8 percentage point reduction in average ROA over the period. The reduction among treated firms is more substantial than the two percentage point decline experienced by control firms over the same period. However, operating performance among treated firms catches up in the three years after the quota. The same figure shows that between 2018 and 2021, average ROA among treated firms rises by 13 percentage points, compared to a 7 percentage point increase among the control group.

Consistent with the visual evidence, the event-study estimates in Table 3, Column 7 indicate that the quota raised operating performance by 8 percentage points within 3 years, with statistical significance at the 1% level. Some (but not all) of the improvements in operating performance can be explained by favorable economic conditions experienced by all California-based firms over the post-treatment period.[38] The triple differences point estimates presented in the last column of Table A3 show that the quota increased ROA by 5.5 percentage points between 2018 and 2021 (s.e. 2.2).[39] This point estimate is lower than the 8 p.p estimate generated from the event-study model, but is still economically meaningful. For context, the baseline value for ROA among treated firms is -0.30 in 2017; a 5 p.p. gain in ROA for these firms corresponds to a 17% improvement in operating performance.

I also observe that the quota had no deleterious impacts on financial performance when I look at Tobin's Q, a measure of a firm's value.[40] Figure A6 shows that average Tobin's Q trends similarly between the treatment and control group over the entire sample period. Not surprisingly, the event study point estimates in Table 3, Column 6 fail to reject the standard null hypothesis that the quota had a zero impact on firm value. To increase statistical precision, I pool all the post-treatment periods in a difference-in-differences specification. Table 4, Column 1 shows that SB826 increased Tobin's Q by 7%, though once again the standard null hypothesis cannot be rejected at conventional

[38] As of 2017, California based companies with gender-diverse had lower average ROAs than non-California based companies with gender-diverse boards. Figure A5 shows that the ROA gap declines over the post-treatment period.

[39] One can alternatively estimate a triple difference model where the within-state control group only consists of firms that would be compliant with SB826's 2021 requirements prior to the quota. Table B5 presents such results, which shows that SB826 increased ROA by 6.6 p.p. by 2021. This result is not statistically significant at conventional levels.

[40] Tobin's Q, or Simple Q, has been used extensively in the literature as a measure of firm value (i.e. Gompers, Ishii, and Metrick 2003; Adams and Ferreira 2009)

levels.[41] It is interesting to note that an effect size of -1% falls outside the 95% confidence interval, once again reaffirming the conclusion that the quota did not have any substantial negative impacts on financial performance.

Similar results emerge upon considering the buy-and-hold returns from holding a portfolio of quota-affected companies. The solid black line in Figure 5 shows that one dollar invested in a market-value weighted portfolio of treated companies as of Jan 1st, 2018 would grow to $1.77 by March 31st 2022. In contrast, the same dollar sunk into a value-weighted portfolio of companies in the control group would grow to $1.43. Out-performance by the treatment group is not an artifact of weighting the portfolio by market capitalization. Figure A7 demonstrates that if an investor were to purchase equally-weighted portfolios, the superior performance by the treatment group would be further accentuated: a dollar invested in the treatment group grows to $2.10, versus $1.30 for the control group.

These results are not due to differing industry compositions across the treatment and control groups. Figure A8 presents results when I re-run Equation 1, but where the outcome variable is each firm's buy and hold return by quarter relative to the legislation's passage. Since shareholder returns are available at a higher frequency than annual financial data, I include interacted industry by quarter fixed effects. These fixed effects control for common financial shocks experienced by firms within the same industry in a given quarter. The point estimates attached to the final quarters are approximately 0.7, indicating that the conclusions from the graphical analysis are robust to industry controls. While statistical precision is weak, there are only three quarters in the post-treatment period where the 95% confidence interval falls below 0. This finding corroborates the conclusion that SB826 did not harm and plausibly increased medium-run shareholder returns.

To increase statistical precision, I consider an index of financial outcomes. As discussed by Kling, Liebman, and Katz (2007) and Hoynes, Schanzenbach, and Almond (2016), aggregating multiple outcome variables within a given domain can lower standard errors. More specifically, I construct the index by first calculating the z-scores of all the financial variables presented in Table

[41] For context, Gompers, Ishii, and Metrick (2003) find that a one point increase in their governance index is negatively associated with an 11.4 percentage-point difference in Tobin's Q.

4, and then taking an equally-weighted average.[42] The z-scores are calculated by subtracting the control group mean and dividing by the control group standard deviation, so each constituent of the index has mean 0 and standard deviation 1 for the control group.

Upon considering the index, Row 1 of Table 4 shows that SB826 modestly improved financial outcomes. The point estimate in Column 1 indicates the quota increased the index of financial outcomes by 1/20th of a standard deviation, with statistical significance at the 10% level. When I add a control for firm size in Column 2, point estimates and statistical precision improve (Coefficient = 0.07, SE = 0.03).

The estimates using the overall sample mask some heterogeneity in the effects of the quota. Companies with small boards (those with below-median board size) particularly benefited from SB826. The difference-in-differences estimates show the quota raised ROA by 9 p.p and the index of financial outcomes by 1/10th of a standard deviation among these companies. Given that board expansion was a popular means of compliance, these results question whether smaller boards are necessarily optimal, as is often claimed in the literature (i.e. Yermack 1996). Companies in male-dominated industries may be especially burdened by compliance, as these industries plausibly have a limited supply of qualified director candidates.[43] These concerns do not appear well-founded, as the point estimates on the index when I restrict to male-dominated industries are positive (though statistically insignificant). Relative to the baseline analysis, the effect of SB826 on profitability is smaller when I restrict to companies where the CEO is chairman of the board (Column 8, Table 4). This result is consistent with the theory that individual directors are less influential when the CEO has control over the board. Overall, this section demonstrates that the quota did not adversely affect financial performance in the three years after its passage. This conclusion holds upon examining different types of financial outcomes and conducting analysis on various splits of the sample.

[42] The variables in the index include Return on Assets, Return on Equity, Log(Q), Log(Market to Book), Cash Flows, Log(Employment), and Capital Intensity.

[43] I define male-dominated industries as the SICs that have below-median female board share as of 2017.

6 Effects of the Quota on Board Characteristics

Given that the quota did not hurt financial performance, a natural question arises: why were all-male boards the most popular form of board structure prior to the legislation? In this section, I demonstrate that firms typically recruit candidates with top-level experience and connections to corporate leadership. Women directors, including those appointed after the quota, are less likely to possess these characteristics, which helps to explain why corporate leadership has been predominantly male.

I start by comparing the characteristics of all incoming male and female directors who start between 2015 - 2020 along three dimensions: education, experience, and connections. Even though this period is associated with gradual increases in female board representation (Figure 1), Table 5 shows that new male appointments still outpaced new female appointments by more than three to one. Incoming female directors are equally qualified as their male counterparts in terms of education, as proxied by MBA, Law Degree, and Ivy League attainment. In fact, incoming female directors are 2pp more likely to have a Law Degree (9% male vs 11% female). However, there do appear to be substantial gender differences in experience. Compared to incoming female directors, incoming male directors are more likely to have prior Board (83% men vs 72% women), C-Suite (70% men vs 67% women), and Same Sector experience (56% men vs 43% women). Although this finding is not novel (e.g. Ahern and Dittmar 2012; Hwang, Shivdasani, and Simintzi 2018), it is reassuring to observe in my sample period.

I also see that incoming male directors are substantially more likely to have employment relationships with existing company leadership than incoming female directors, contributing to a small literature that investigates how workplace connection patterns affect male and female outcomes.[44] Men have a staggering 21pp advantage in having prior connections with the incumbent board and C-Suite. Further, 95 percent of incoming female directors are Non-Executive directors (compared to 82 percent of male directors), resonating with the theme that female directors are predominantly

[44]Essen and Smith (2022) find evidence of the "Old Boys Network" in the Danish board context, who show that gendered connection patterns increase the likelihood that male candidates achieve board positions. Similarly, Cullen and Perez-Truglia (2019) show that gendered connection patterns advantage males in the promotion process.

"outsiders." While not definitive, these numbers do hint that path dependence contributes to gender disparities in board membership: men are more likely to hold leadership positions, begetting connections to other company leaders, which in turn generate more leadership positions.

The quota thus reduced the share of the board with prior top-level experience and connections with leadership, consistent with underlying differences between the typical male and female director over the sample period. I use Equation 1 to evaluate how the quota shifted the composition of the boardroom. By 2020, SB826 reduced the share of the board with prior board and c-suite experience by 5 and 3 percentage points respectively (Table 6, Cols 4-5). After SB826, incidence of top-level experience among incoming female directors is comparable across firms in the treatment and control group, though gender-gaps still remain (Table 7). Therefore, reductions in the share of the board with top-level experience are driven by the fact that treated firms were substantially more likely to add female directors than control firms. Interestingly, there is no decline in the board's share with same-sector experience. This result implies that many of the women without top-level experience who did break the "Glass Ceiling" came from the same sector as treated firms.

Perhaps the most striking effect of SB826 was its influence in promoting first-time directors without prior employment connections onto corporate boards. Column 7 of Table 6 shows that by 2020, the quota lowered the proportion of directors with prior employment connections to the board by 3%. When I consider the incidences of a prior board-board or same-gender connection, this number rises to 4.6% and 5.4% respectively (Cols 8, 10). Moreover, 93% of female directors held non-executive directorships in the post-quota period, which further validates the claim that quota-appointed directors are outsiders.[45]

Although quota-appointed directors have different types of work experience, they do not appear less-qualified or influential on corporate boards. As demonstrated in the previous section, financial outcomes did not decline in response to SB826; this finding rejects the hypothesis that the quota would coerce firms to add unqualified directors who reduce measures of financial performance. For more granular evidence at the director-level, I observe that 210 female directors filled

[45]More than 80% of directors are non-executive in the regression sample, so the point estimates in Column 11 are small in magnitude and not statistically significant.

214 vacancies, indicating that treated firms pulled from a diverse array of board candidates (Table 7). On average, women entering treated firms received 1.87 committee appointments; 54% sat on the auditing committee while 51% sat on the compensation committee. Although these values are lower than that for men in the control group, the difference-in-differences estimates presented in Table A3 find minimal support for the theory that SB826 changed the overall committee composition of corporate boards. There is one exception – the quota lowered the share of the board on the audit committee, especially among firms in male-dominated industries. This result indicates that quota-appointed directors were not immediately assigned the most important responsibilities on corporate boards.

Overall, this section elucidates that the gender experience and connection gap contributes to the gender representation gap in corporate leadership. The quota resulted in less experienced and connected boards, but did not deteriorate and plausibly improved financial performance among affected companies.

7 Conclusion

In this paper, I show that SB826, which mandated at least one woman onto corporate boards by the end of 2019, successfully introduced gender diversity without reducing corporate performance. Within two years, the legislation increased women's share on corporate boards by 7 percentage points, which corresponds to the entire gain in female board representation between 2010 and 2017. Within three years, quota-affected companies plausibly experienced higher shareholder returns, firm values, and operating performance.

My results should not be taken to imply that quotas are a panacea for addressing the lack of diverse representation in leadership. Many firms might have added female representation even absent the quota. I document that firms add gender diversity onto the boardroom as they age, so the quota can be interpreted as accelerating a natural process. Firms may react differently to the second stage of SB826, which mandates California-based listed companies have at least 40%

female board representation by the end of 2021.

Nevertheless, proponents of active governmental invention to address inequalities may rejoice in this paper's findings. The quota created a pathway for qualified women to enter corporate leadership without harming performance. But this result poses somewhat of a puzzle: why didn't the shareholders of quota-affected companies adopt gender-diverse boards prior to the legislation? This paper provides support for the theory that some capable women do not reach the top because they are not connected to incumbent male leadership. Employment connections develop through work experience, so it may not be entirely surprising that the quota also lowered the share of the board with prior board and c-suite experiences. The quota increased firm outreach efforts while maintaining bottom-line outcomes, in much the same way that some universal school outreach programs have improved minority representation while maintaining student-level outcomes (Card and Giuliano 2016).

The results of this paper may not be very surprising to some readers. The quota imposed a relatively minor requirement that one woman be on the corporate board. Firms complied with this low bar, and there there do not appear to be any adverse consequences of eliminating all-male boards within 3 years. However, the quota may generate externalities that take years to materialize. A promising avenue for future research would be examine whether the quota created gains for women that were not mandated by the legislation. It would be worthwhile to follow-up in the upcoming years to study whether quota-affected firms continued to recruit women or if the first-time female directors appointed after SB826 earned additional corporate leadership positions. For the more immediate present, socially conscious investors and policy-makers can take home the message that moderate pressures to increase diversity can be good for business and minority representation.

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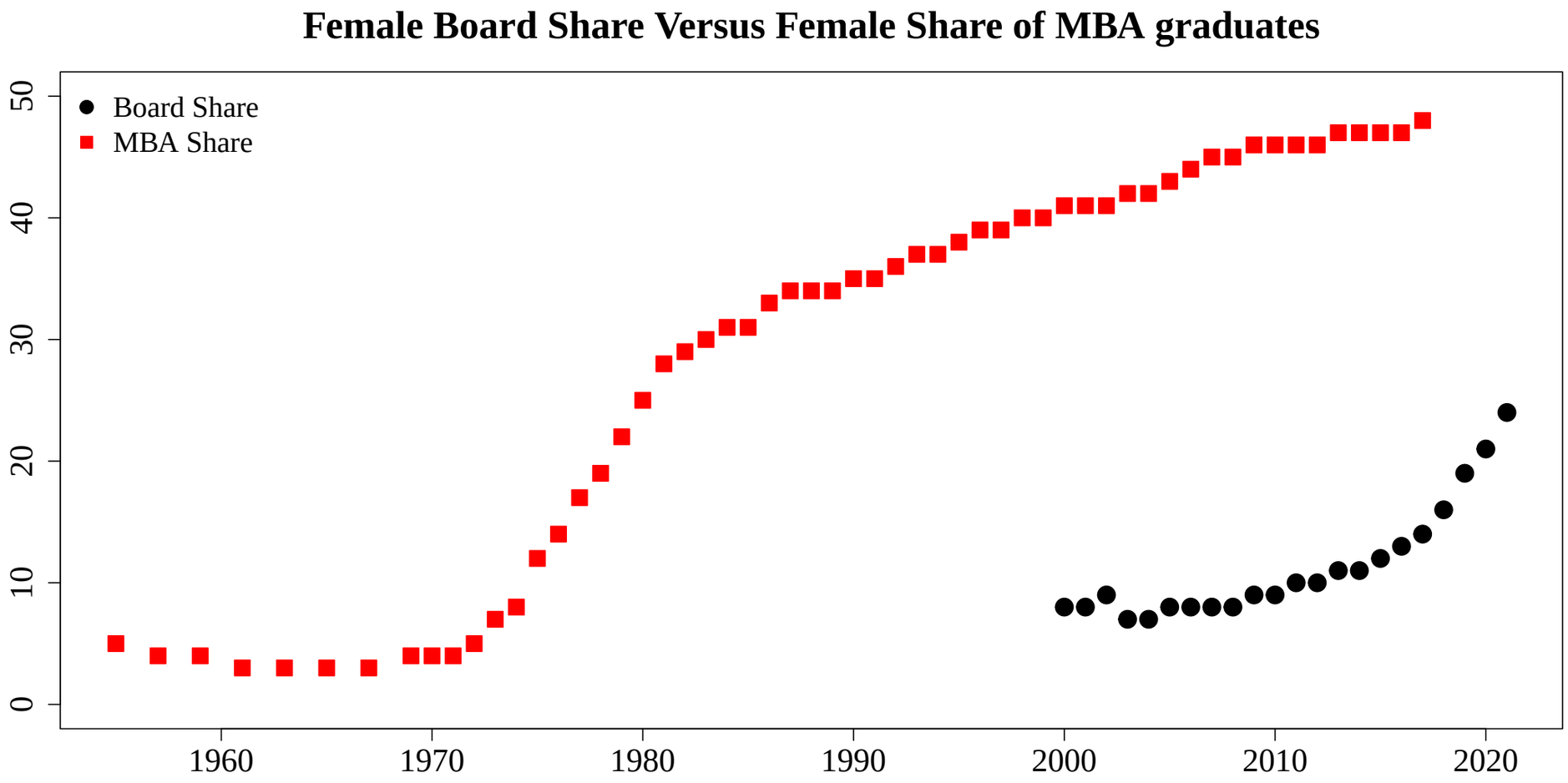
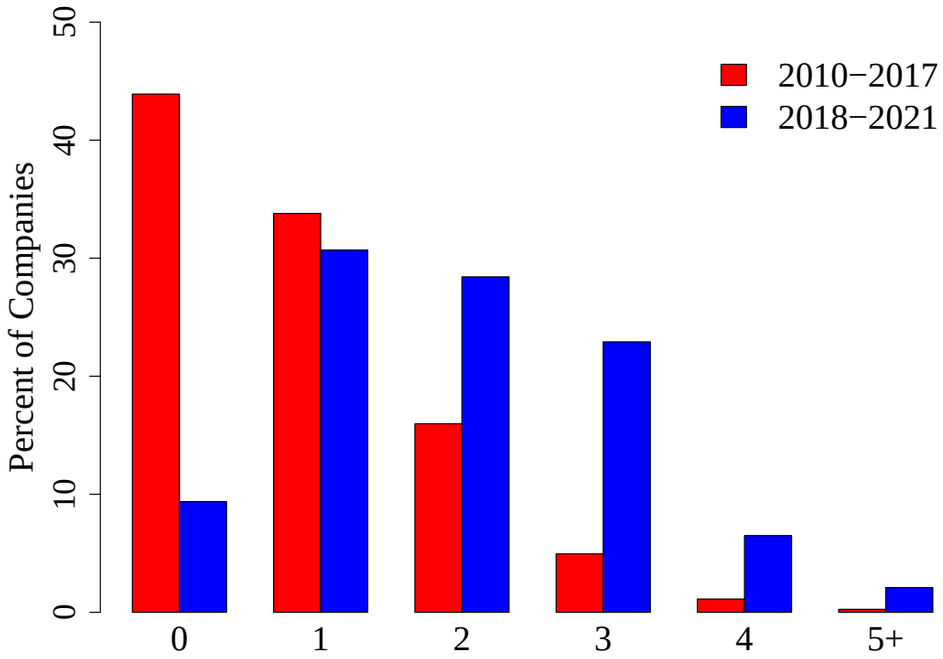
Figure 1



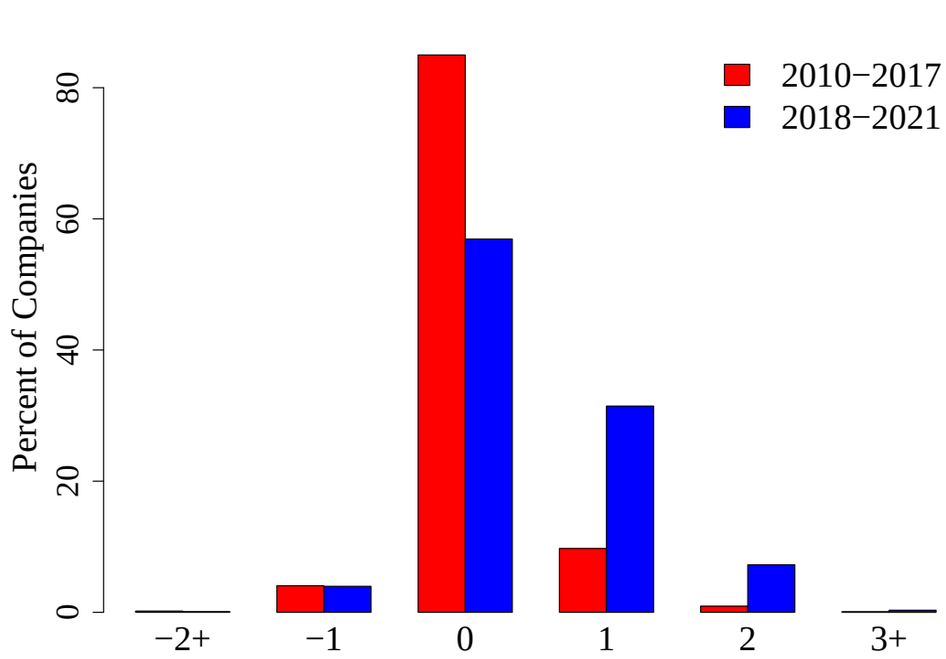
Note: The female share of MBA graduates is taken from NCES Table 325.25, which tracks postsecondary institutions participating in Title IV federal financial aid programs. The annual female board share of domestic and listed companies is derived from BoardEx's Organizational Summary files.

Figure 2

Panel A: Annual Distribution of the Number of Female Directors

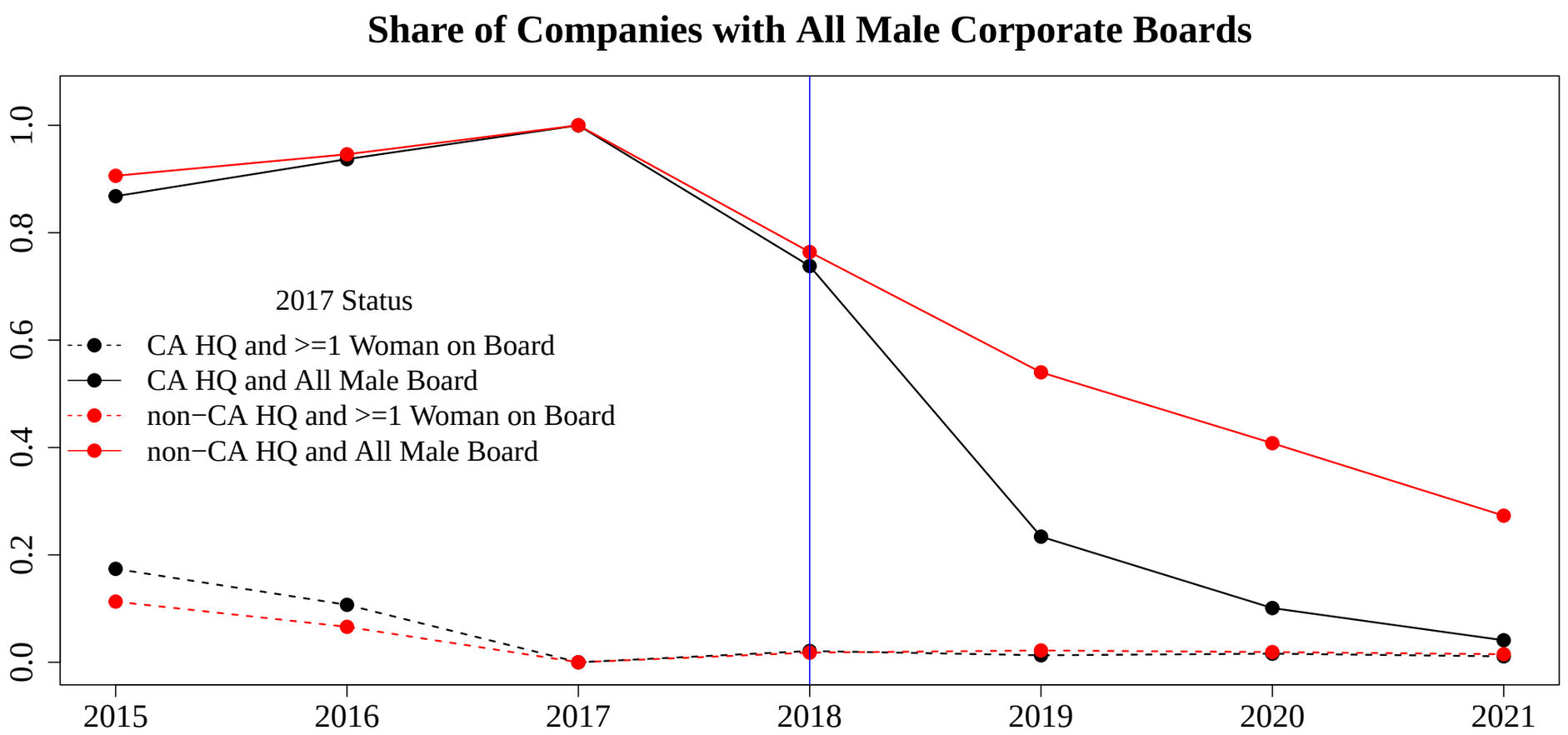


Panel B: Annual Changes in the Number of Female Directors



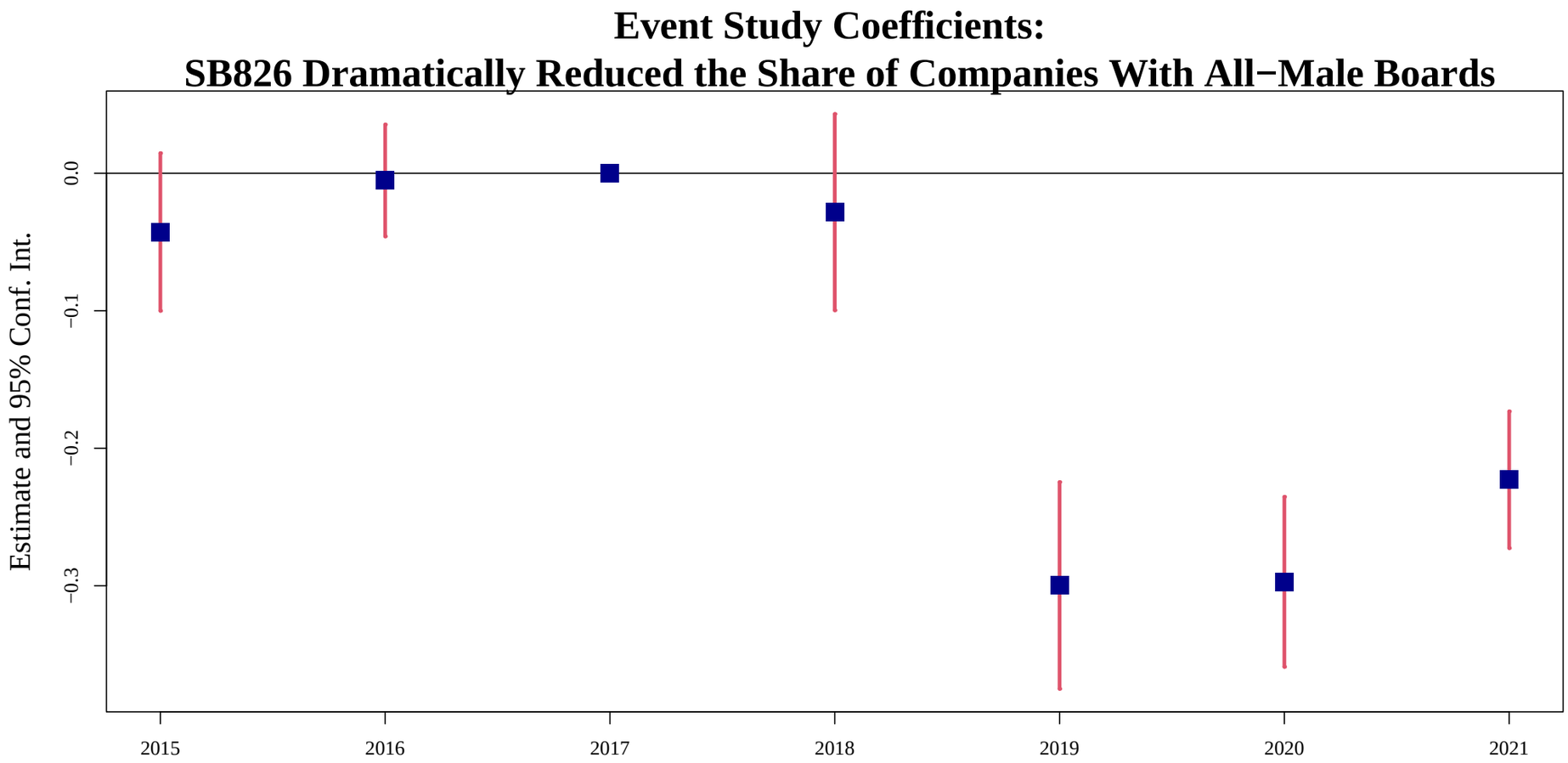
Note: Panel A displays the annual number of female directors and Panel B shows year over year changes in the number of female directors. The sample restricts to an unbalanced panel of California−based listed companies observed between 2010−2021. The gender composition of firms is provided by BoardEx, and historical headquarter location is triangulated from Compustat Snapshot, SEC reports, and BoardEx. CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of listed companies with HQ in CA by 12/31/2019.

Figure 3



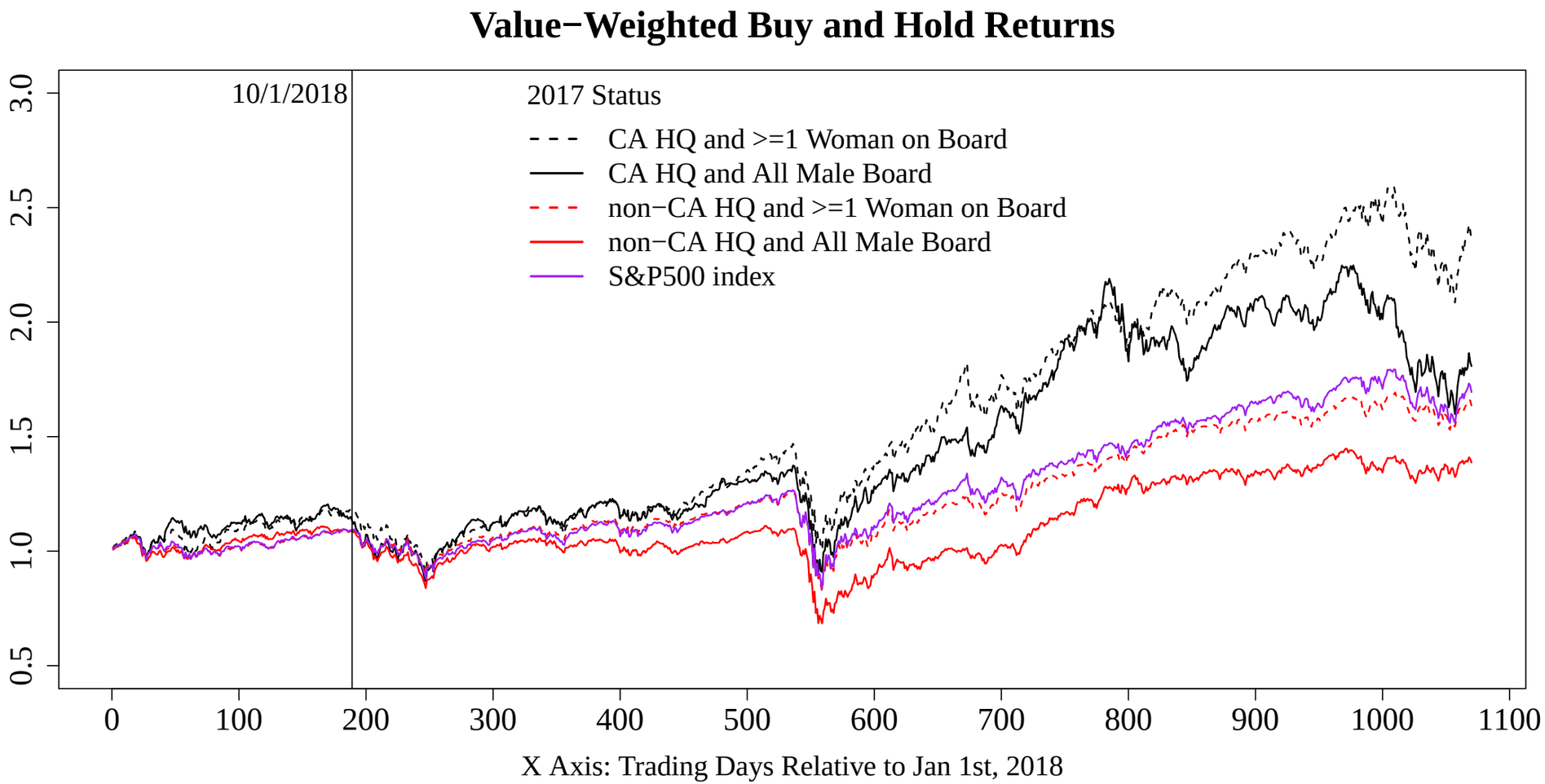
Notes: CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed company with HQ in CA by 12/31/2019. Listed companies have shares listed on the NASDAQ, NYSE, or NYSE American. The sample tracks an unbalanced panel of firms that were domestic and listed in 2017, the year before SB 826 was signed.

Figure 4



Note: The sample restricts to an unbalanced panel of firms that were domestic, listed, and had all−male boards in 2017. The time period covered is 2015 − 2021, with reported effects relative to the 2017 baseline. Standard errors are clustered at the firm level.

Figure 5



Note: The sample tracks an unbalanced panel of firms that were domestic and listed in 2017, the year before SB 826 was signed. Firms that delist and have missing delisting returns, or do not delist and have missing returns, are dropped. Company specific buy−and−hold−returns are weighted by market value as of SB826. SB826 was announced on Sunday September 30th, and Monday October was the first trading day after the legislation's announcement. Daily security returns are provided by CRSP. Among companies with multiple securities, I choose the security with the highest average trading volume between Jan 2nd, 2015 and March 31st, 2022.

Figure A1: Example Director Profile in SEC 10-K Reports

election of directors

Wanda M. Austin

Retired President and Chief Executive Officer, The Aerospace Corporation

Age: 66
Director Since: December 2016
Independent: Yes

Chevron Committees:
- Board Nominating and Governance
- Public Policy and Sustainability (Chair)

Current Public Company Directorships:
- Amgen Inc.
- Virgin Galactic Holdings, Inc.

Prior Public Company Directorships
(within last five years):
- None

Other Directorships and Memberships:
- Horatio Alger Association
- National Academy of Engineering
- University of Southern California (transitions to Life Trustee as of May 15, 2021)

Dr. Austin has held an adjunct Research Professor appointment at the University of Southern California's Viterbi School's Department of Industrial and Systems Engineering since 2007. She has been Co-founder and Chief Executive Officer of MakingSpace, Inc., a leadership and STEM (science, technology, engineering, and math) consulting firm, since December 2017. She is a World 50 executive advisor, fostering peer-to-peer discussions among senior executives from some of the world's largest companies. She served as Interim President of the University of Southern California from August 2018 until July 2019. She served as President and Chief Executive Officer of The Aerospace Corporation ("Aerospace"), a leading architect for the United States' national security space programs, from 2008 until her retirement in 2016. From 2004 to 2007, she was Senior Vice President, National Systems Group, at Aerospace. Dr. Austin joined Aerospace in 1979.

skills and qualifications

Business Leadership / Operations: Eight years as CEO of Aerospace. Thirty-seven-year career with Aerospace included numerous senior management and executive positions. CEO of MakingSpace, Inc., since December 2017.

Finance: More than a decade of financial responsibility and experience at Aerospace. Audit Committee member at Amgen Inc.

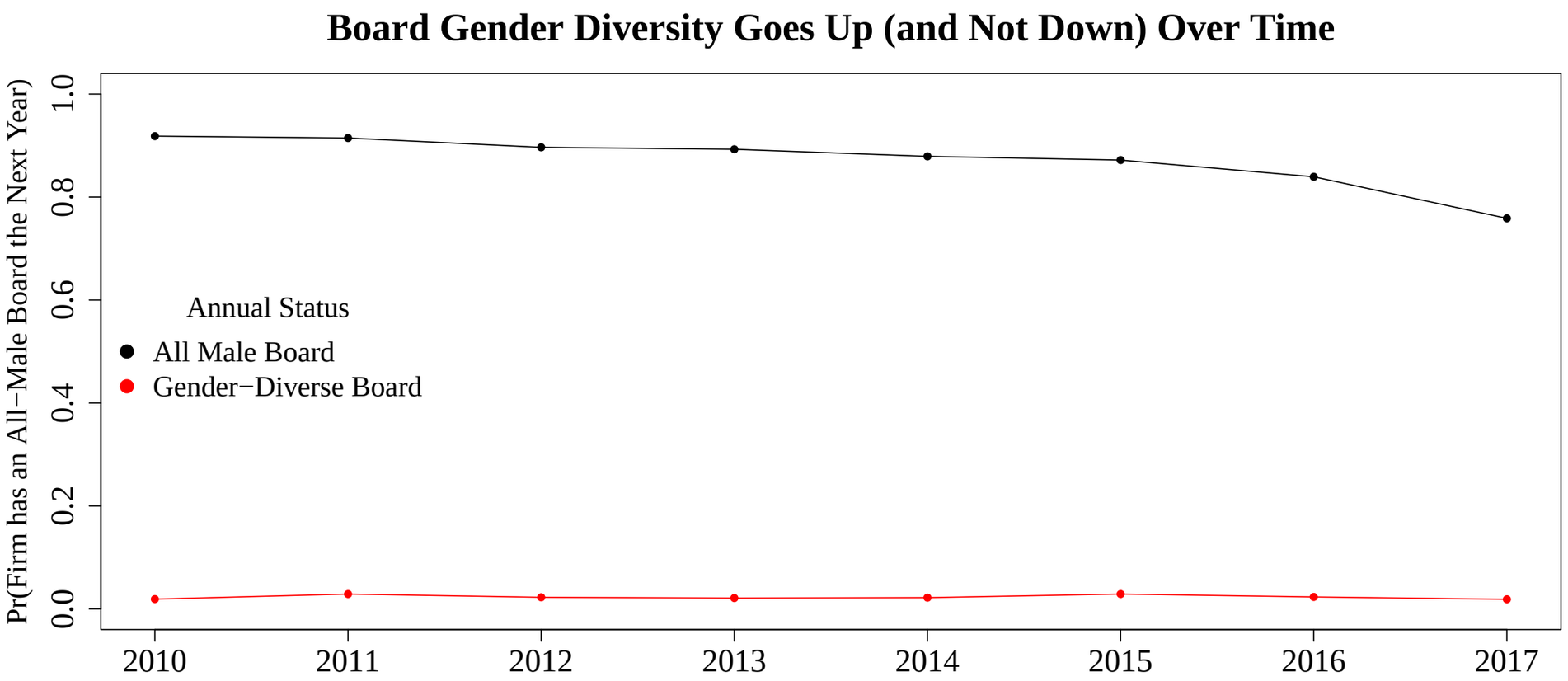
Global Business / International Affairs: Internationally recognized for her work in satellite and payload system acquisition, systems engineering, and system simulation. Former CEO of a company that provides space systems expertise to international organizations. Director of companies with international operations.

Government / Regulatory / Public Policy: Served on the President's Council of Advisors on Science and Technology and the President's Review of U.S. Human Space Flight Plans Committee. Appointed to the Defense Policy Board, the Defense Science Board, and the NASA Advisory Council.

Science / Technology / Engineering: Ph.D. in Industrial and Systems Engineering from the University of Southern California, Master of Science in both Systems Engineering and Mathematics from the University of Pittsburgh. Thirty-seven-year career in national security space programs. Director at Amgen Inc., a biotechnology company, and Virgin Galactic Holdings, Inc., the world's first commercial space line and vertically integrated aerospace company. Fellow of the American Institute of Aeronautics and Astronautics. Member of the National Academy of Engineering.

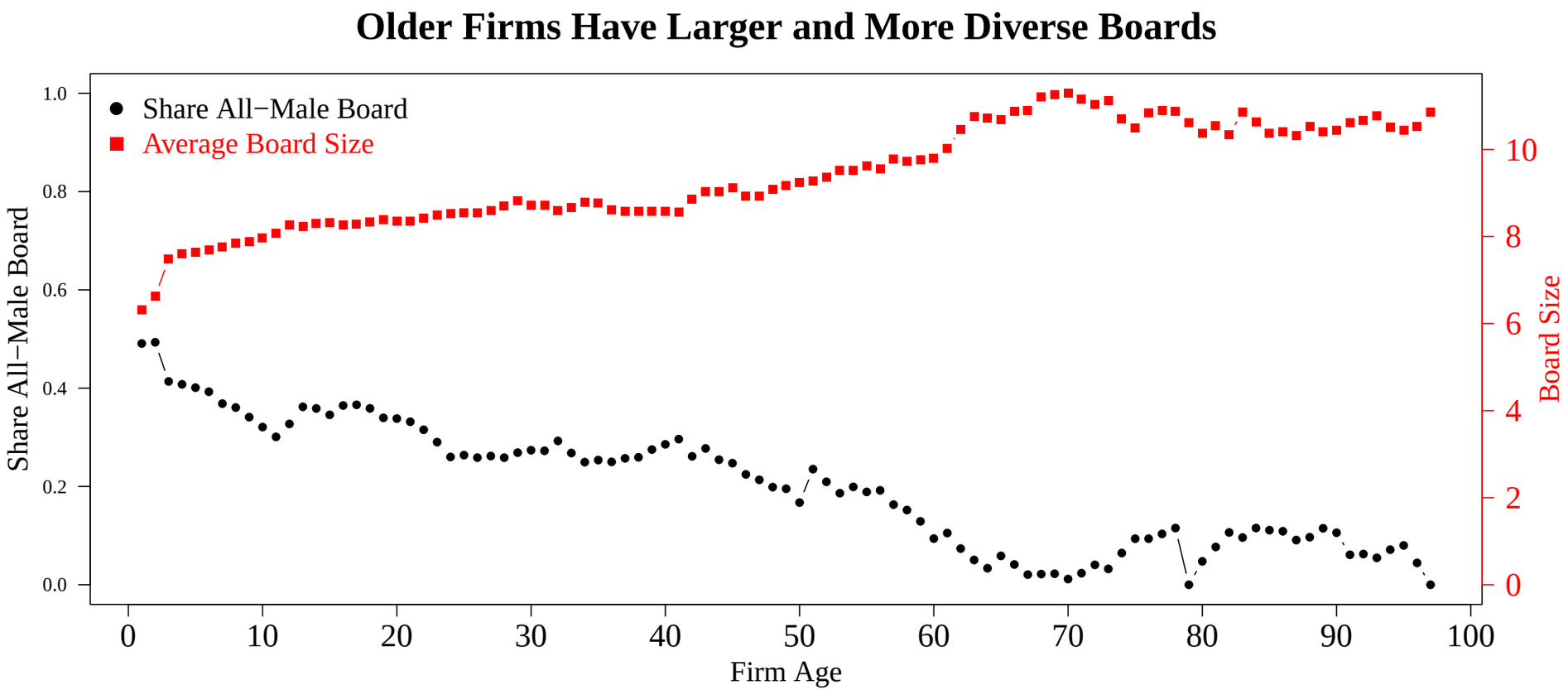
Research / Academia: Adjunct Research Professor at the University of Southern California's Viterbi School of Engineering. Former Interim President of the University of Southern California.

Figure A2



Note: The sample restricts to domestic and listed companies where annual board gender information is available. The annual board composition is provided by BoardEx. The universe of listed companies is provided by CRSP. Annual headquarter information is triangulated from Compustat, SEC reports, and BoardEx.

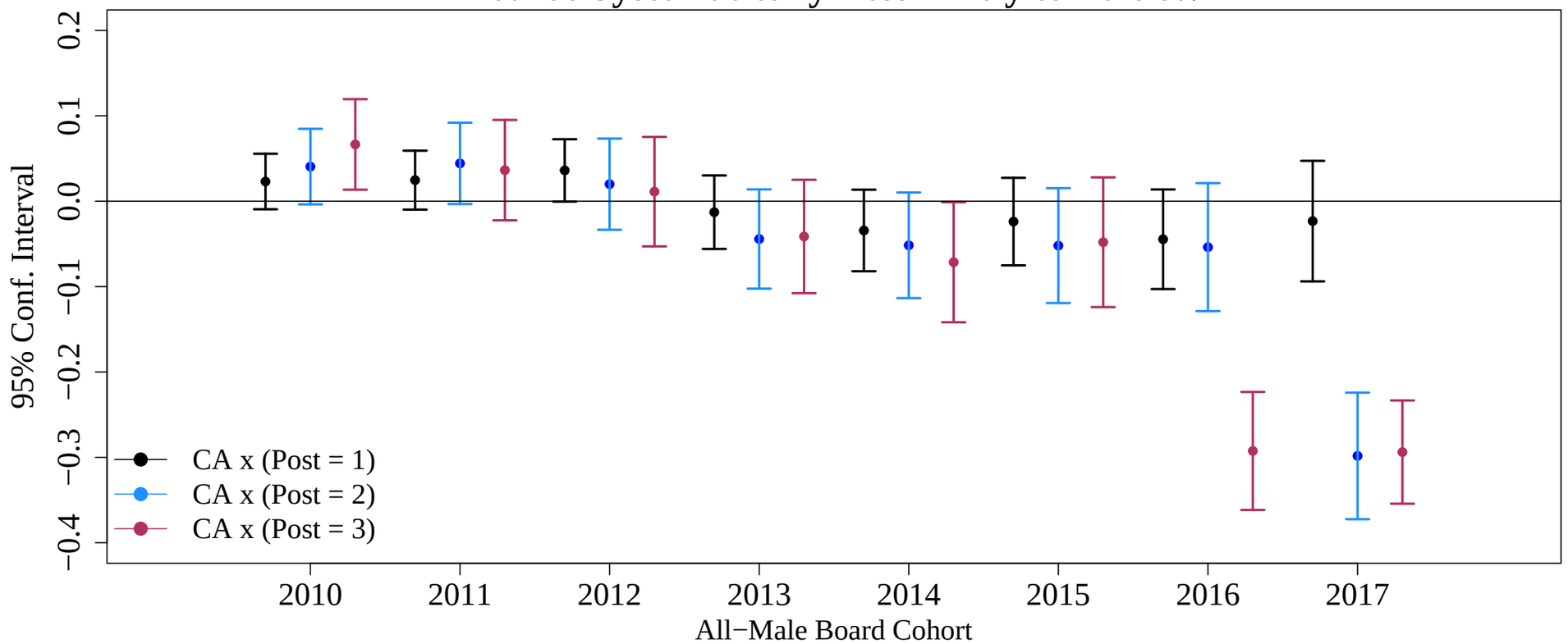
Figure A3



Note: The sample restricts to all domestic and listed companies observed between 2010 and 2021. The column variables are derived from Boardex's Organizational Summary files. I follow Loderer and Waelchli (2010) in constructing firm age. It is the earliest of the following: (a) the year in which the firm appears on CRSP; (b) the year in which the firm is included in COMPUSTAT; and (c) the year for which there is a link between CRSP and COMPUSTAT.

Figure A4

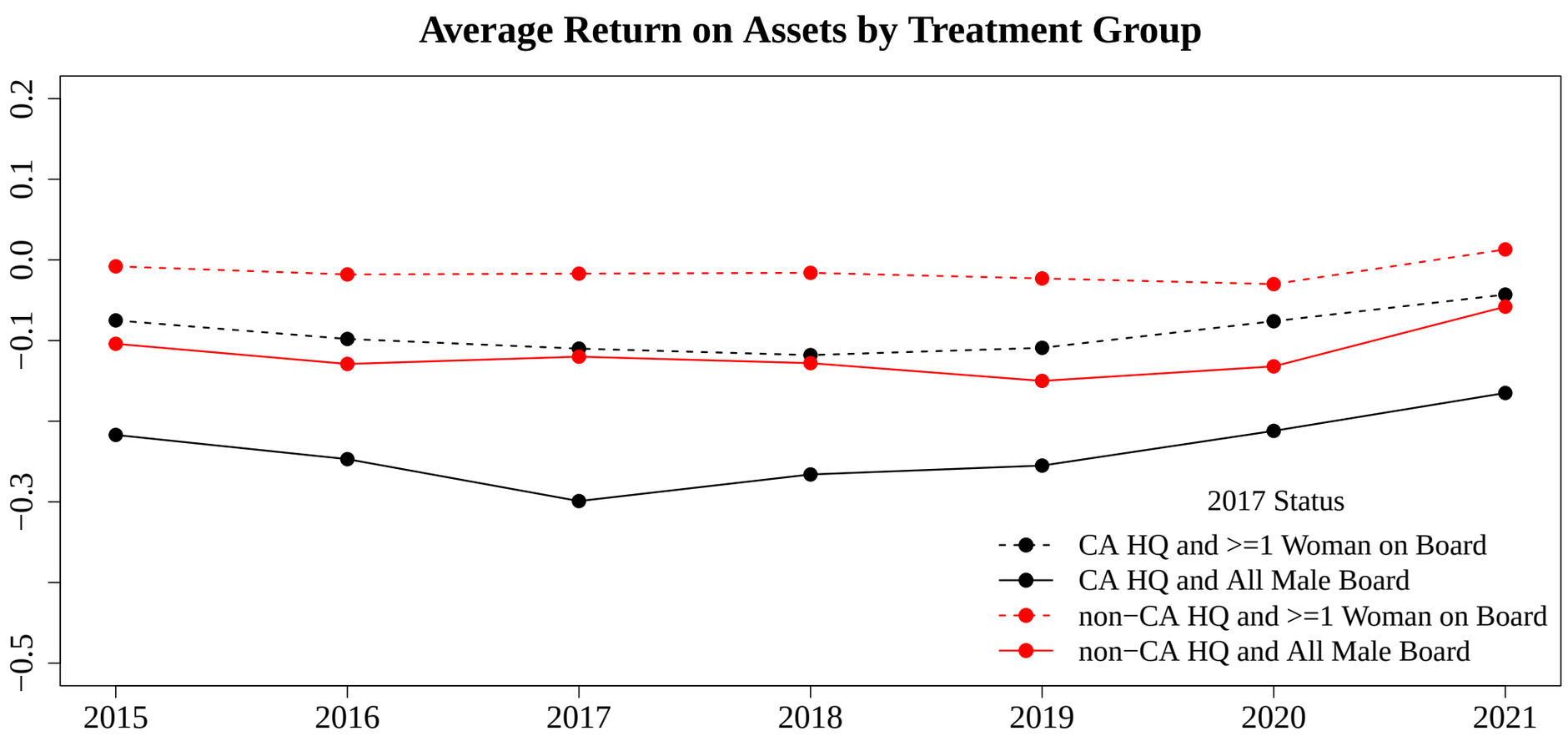
Differential Mean Reversion: Are California−Based Companies with All−Male Boards Systematically Less Likely to Persist?



Note: Point estimates for each cohort represent
β_{tk}: = Pr(AMB$_{t+k}$|AMB$_t$, CA HQ) − Pr(AMB$_{t+k}$|AMB$_t$, non−CA HQ)

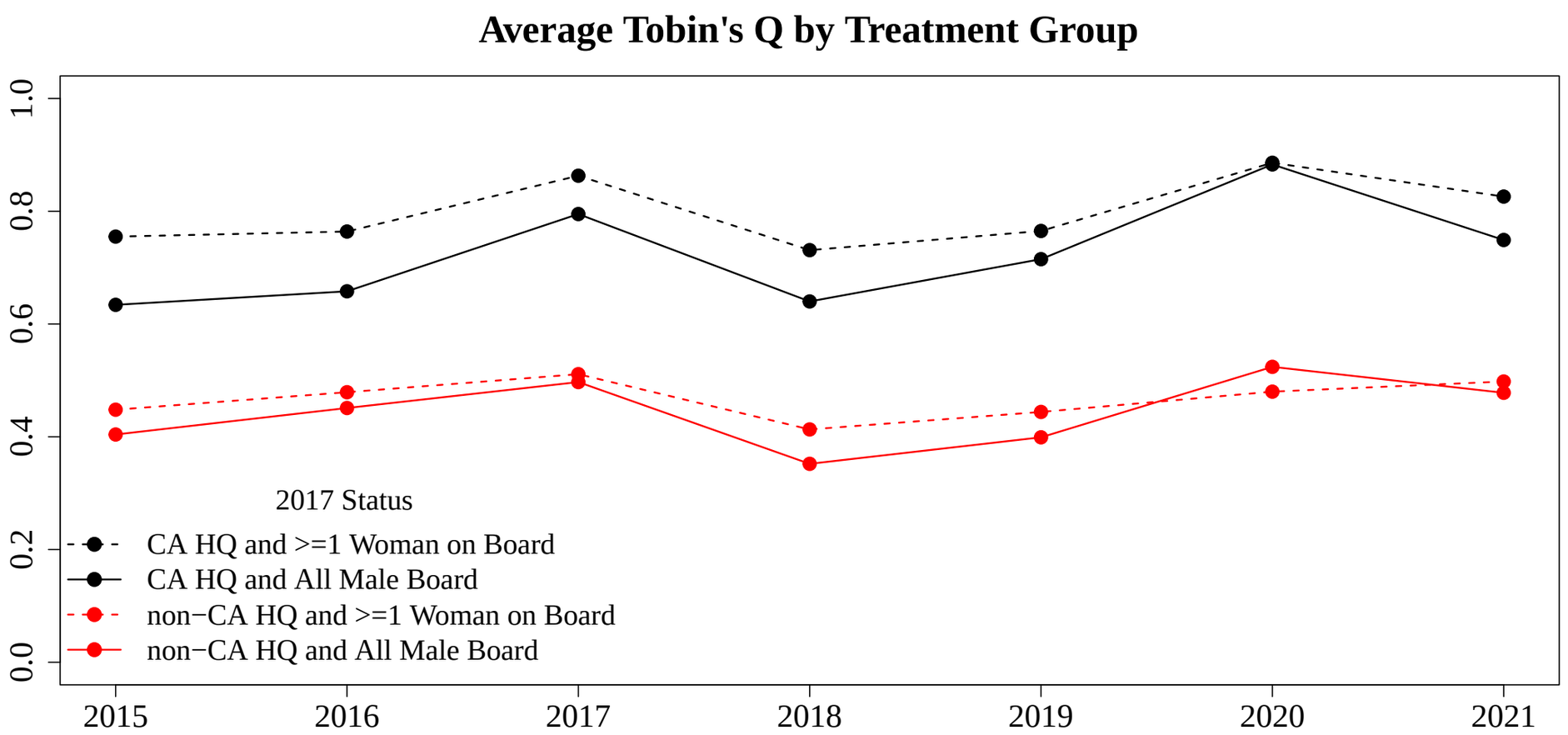
CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of listed firms with HQ in CA by 12/31/2019.

Figure A5



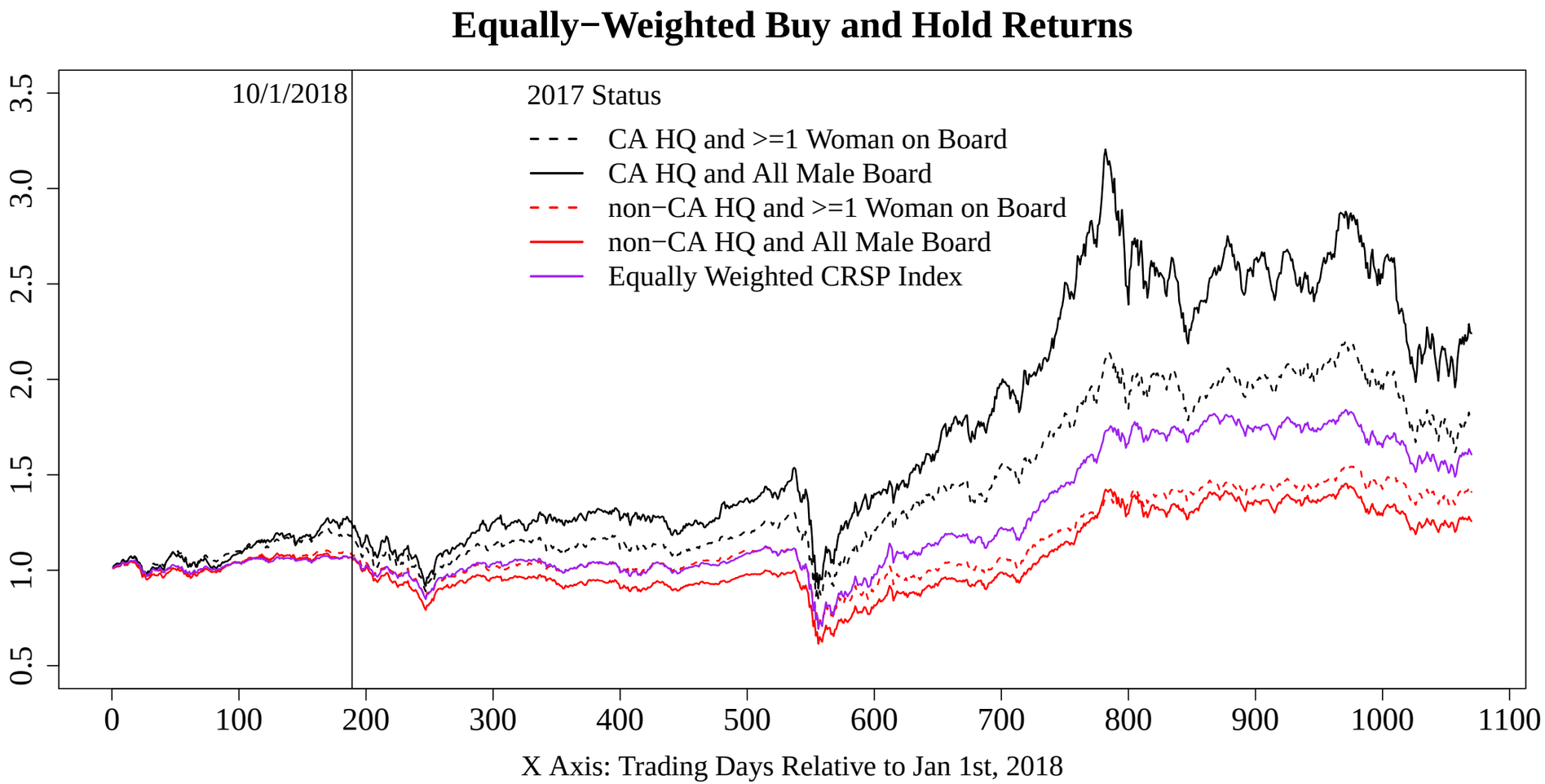
Notes: CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed company with HQ in CA by 12/31/2019. Listed companies have shares listed on the NASDAQ, NYSE, or NYSE American. The sample tracks an unbalanced panel of firms that were domestic and listed in 2017, the year before SB 826 was signed. Return on Assets is Net Income before Extraordinary Items and Discontinued Operations divided by Book Assets, and is winsorized at the 1st and 99th percentiles of the sample.

Figure A6



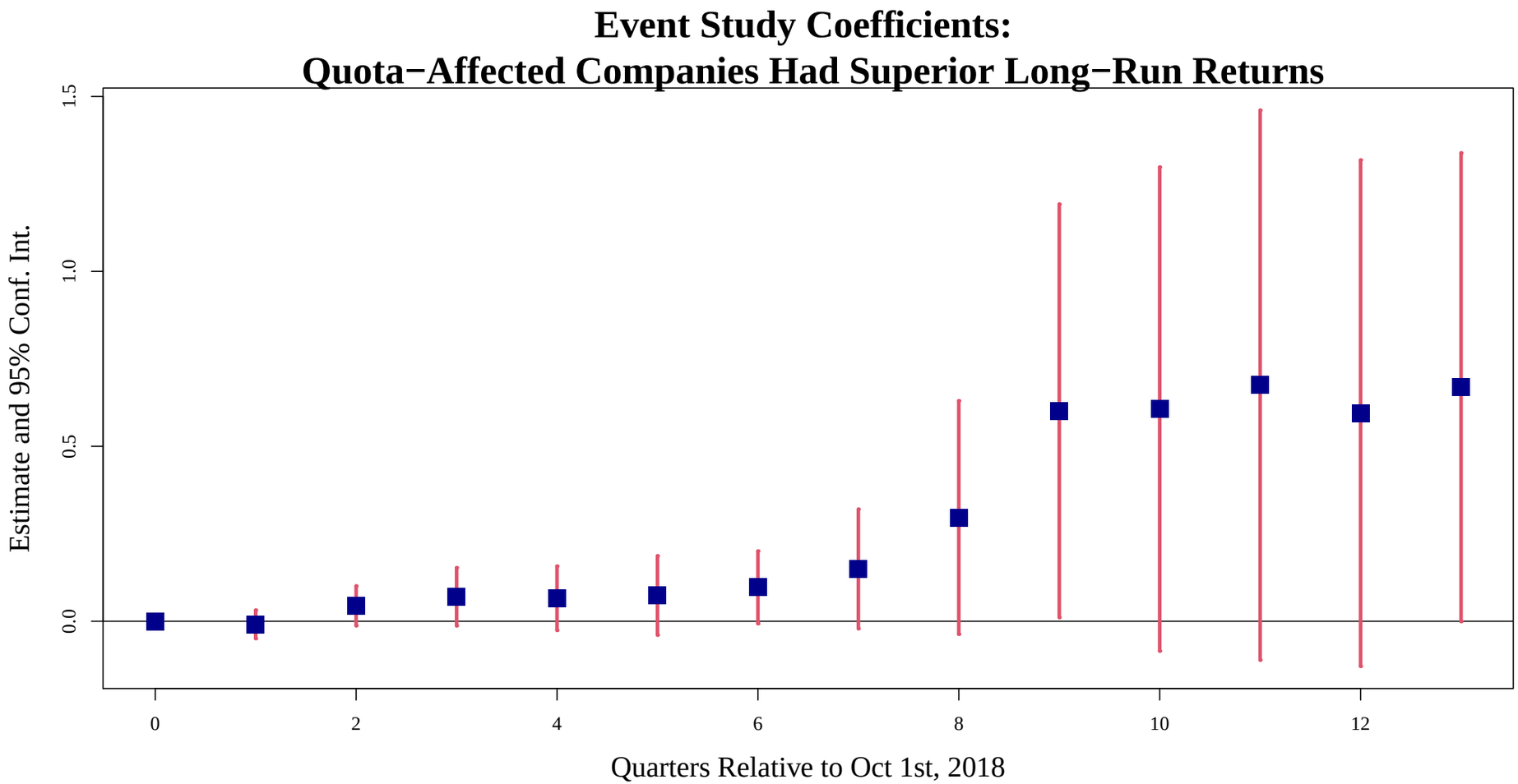
Notes: CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed company with HQ in CA by 12/31/2019. Listed companies have shares listed on the NASDAQ, NYSE, or NYSE American. The sample tracks an unbalanced panel of firms that were domestic and listed in 2017, the year before SB 826 was signed. Tobin's Q is the ratio of the firm's market value to its book value of assets, and is log transformed.

Figure A7



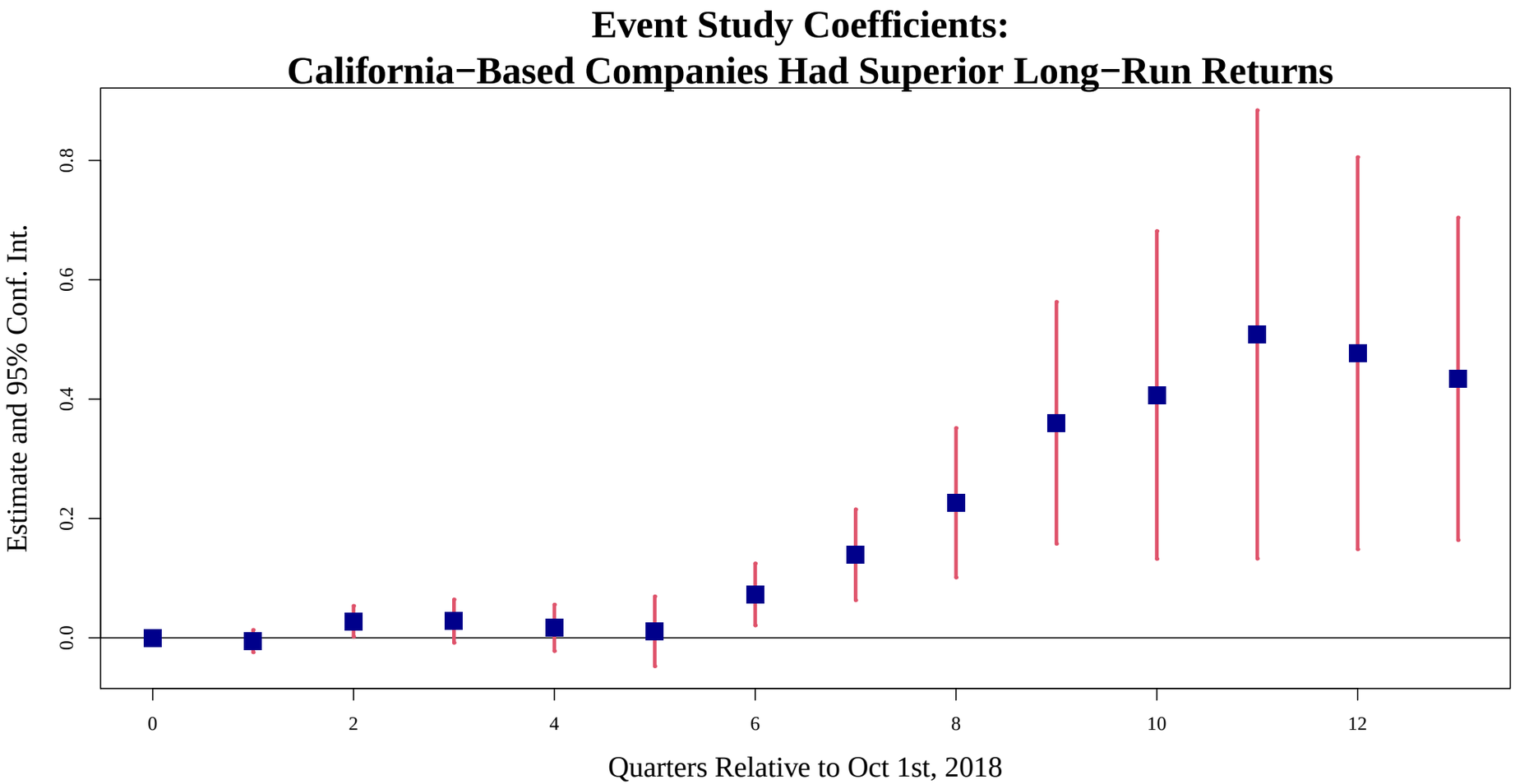
Note: The sample tracks an unbalanced panel of firms that were domestic and listed in 2017, the year before SB826 was signed. Firms that delist and have missing delisting returns, or do not delist and have missing returns, are dropped. Company specific buy−and−hold−returns are equally weighted. SB826 was announced on Sunday September 30th, and Monday October 1st was the first trad day after the legislation's announcement. Daily security returns are provided by CRSP. Among companies with multiple securities, I choose the security with the highest average trading volume between Jan 2nd, 2015 and March 31st, 2022.

Figure A8



Note: The sample begins on October 1st, 2018 and ends on December 31st, 2021.

Figure A9



Note: The sample begins on October 1st, 2018 and ends on December 31st, 2021.

Table 1: Sample Size

Year	N: All Firms	HQ in CA			HQ outside of CA		
		N	N: AMB	Pr(AMB)	N	N: AMB	Pr(AMB)
2015	4013	664	266	0.40	3349	1134	0.34
2016	3872	647	242	0.37	3225	1021	0.32
2017	3845	644	204	0.32	3201	942	0.29
2018	3817	658	166	0.25	3159	760	0.24
2019	3795	671	59	0.09	3124	582	0.19
2020	3861	702	24	0.03	3159	475	0.15
2021	3977	772	12	0.02	3205	314	0.10

Note:
The sample restricts to domestic and listed companies that report board gender and headquarter location. The annual gender composition of corporate boards is provided by BoardEx and reflects the board's composition as of the company's annual report date. Headquarter location is triangulated from Compustat Snapshot, BoardEx, and SEC filings. The universe of listed companies is derived from CRSP. "AMB" refers to companies with All-Male Boards. CA's SB826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed with HQ in CA by 12/31/2019.

Table 2: Firm Characteristics in 2017

	CA-HQ	Outside CA-HQ	Diff	P-Value	N: CA-HQ	N: Outside CA-HQ
Boardroom Characteristics						
Board Size	6.38	6.75	-0.37	0.00	204	943
Dual CEO/Chairman Role	0.38	0.37	0.00	0.93	204	943
Director Age	61.00	61.64	-0.64	0.15	204	942
MBA Degree	0.39	0.34	0.05	0.01	204	941
Prior Board Experience	0.81	0.77	0.04	0.03	204	942
Prior C-Suite Experience	0.69	0.61	0.08	0.00	204	942
Prior Same Sector Experience	0.51	0.44	0.07	0.01	204	942
Prior Conx w/Board	0.57	0.54	0.03	0.23	204	941
Prior Board Conx w/Board	0.41	0.38	0.03	0.27	204	941
Prior Conx w/ C-Suite	0.49	0.43	0.05	0.03	204	940
Prior Same Gender Conx w/Board	0.56	0.54	0.03	0.22	204	941
Non-Executive Director	0.78	0.80	-0.02	0.04	204	943
Firm Characteristics						
Age	16.07	19.21	-3.14	0.00	202	942
Employees (k)	0.79	1.99	-1.19	0.00	193	875
Return on Assets	-0.30	-0.12	-0.18	0.00	194	895
Log(Tobin's Q)	0.82	0.55	0.28	0.00	188	870
Log(Market Value)	5.37	5.54	-0.16	0.23	189	874
Company Policies						
1(Delist)	0.02	0.01	0.01	0.23	204	943
1(Merger or Reorg)	0.00	0.00	0.00	0.90	204	943
1(Dividend)	0.14	0.36	-0.22	0.00	204	943
1(Incr in Shares Outstanding $\geq$ 5 percent)	0.04	0.04	-0.01	0.73	204	943
1(Decr in Shares Outstanding $\geq$ 5 percent)	0.06	0.07	-0.01	0.74	204	943
Committee Composition						
Avg Committee Load	2.90	2.72	0.17	0.02	203	939
Audit Share	0.73	0.73	0.00	0.79	203	939
Compensation Share	0.69	0.66	0.03	0.06	203	939
Nominating Share	0.63	0.58	0.06	0.01	203	939
Other Share	0.03	0.05	-0.02	0.00	203	939

Table 2: Firm Characteristics in 2017 *(continued)*

	CA-HQ	Outside CA-HQ	Diff	P-Value	N: CA-HQ	N: Outside CA-HQ
Industry Composition						
Agriculture, Forestry and Fishing	0.00	0.00	0.00	0.59	204	943
Construction	0.00	0.01	-0.01	0.34	204	943
Finance, Insurance and Real Estate	0.08	0.18	-0.10	0.00	204	943
Manufacturing	0.34	0.26	0.08	0.02	204	943
Mining	0.01	0.09	-0.08	0.00	204	943
Non-Classified	0.34	0.23	0.12	0.00	204	943
Retail Trade	0.01	0.03	-0.02	0.06	204	943
Services	0.16	0.12	0.04	0.14	204	943
Transportation, Communications, Electric, Gas and Sanitary service	0.02	0.06	-0.04	0.01	204	943
Wholesale Trade	0.02	0.03	-0.01	0.53	204	943

Note:
The sample restricts to firm-year observations in 2017 and selects companies that were domestic, listed, and had an all-male board. Sample sizes differ across rows due to missing values. Raw means and p-values from a two sided t-test reported. Boardroom characteristics are derived from BoardEx and represent mean values in 2017. Financial variables are derived from Compustat's annual fundamental files, and are either log transformed or winsorized at the 1st and 99th percentiles. The percentiles are calculated relative to all domestic and listed companies observed in the 2017. Tobin's q is the ratio of the firm's market value to its book value of assets. Market value is book assets plus book equity minus market value of equity. ROA is net income before extraordinary items and discontinued operations divided by book assets. All company policy variables are derived from CRSP's events files. A company delists if none of the company's securities are listed the subsequent year. All other company policies indicate if the event occured for some security during the calendar year, and are derived from CRSP's Events files. Committee membership is derived from Boardex's Committee files. The first row represents the average (over all companies) of the mean committee load within a company. The remaining rows in the section represent the average (over all companies) share of directors that serve on a given committee. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files.

Table 3: Effects of the Gender Quota on Board Composition and Operating Performance

	Board Composition					Operating Performance	
Dependent Variables:	Male Share of Board	1(All-Male Board)	Board Size	1(Expand Board)	1(Male Dropped)	Log(Tobin's Q)	Return on Assets
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables							
$CA_{2017} \times$ Year = 2015	-0.007	-0.043	0.114	-0.034	0.047	-0.052	0.051
	(0.005)	(0.029)	(0.108)	(0.050)	(0.056)	(0.047)	(0.032)
$CA_{2017} \times$ Year = 2016	-0.0006	-0.005	0.050	-0.042	-0.009	-0.048	0.070**
	(0.003)	(0.021)	(0.084)	(0.045)	(0.053)	(0.042)	(0.031)
$CA_{2017} \times$ Year = 2018	-0.006	-0.028	0.060	0.037	0.025	0.007	0.046*
	(0.006)	(0.036)	(0.087)	(0.055)	(0.055)	(0.039)	(0.025)
$CA_{2017} \times$ Year = 2019	-0.056***	-0.300***	0.223**	0.135***	-0.004	0.040	0.081***
	(0.008)	(0.038)	(0.112)	(0.052)	(0.057)	(0.050)	(0.027)
$CA_{2017} \times$ Year = 2020	-0.078***	-0.297***	0.172	-0.024	0.055	0.094	0.098***
	(0.008)	(0.032)	(0.124)	(0.051)	(0.060)	(0.060)	(0.036)
$CA_{2017} \times$ Year = 2021	-0.105***	-0.223***	0.306**	0.070	-0.018	0.025	0.079**
	(0.010)	(0.025)	(0.137)	(0.053)	(0.062)	(0.067)	(0.033)
Fixed-effects							
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-SIC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics							
Observations	6,878	6,878	6,878	6,638	6,638	5,979	6,625
Dependent variable mean	0.945	0.692	6.91	0.229	0.415	0.493	-0.139
Number of Firms	1,146	1,146	1,146	1,139	1,139	1,103	1,133

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The sample restricts to an unbalanced panel of firms that were domestic, listed, and had all-male boards in 2017. The time period covered is 2015 - 2021, with reported effects relative to the 2017 baseline. Standard errors are clustered at the firm level. Treated firms have CA headquarters and all-male boards as of 2017. The 'Expand Board' indicator equals one if board size increases relative to the prior year. 'Male Dropped' equals 1 if some male director present in the previous year is not present in the current year. Tobin's Q is the ratio of the firm's market value to its book value of assets, and is log transformed. Market value is book assets plus book equity minus market value of equity. ROA is net income before extraordinary items and discontinued operations divided by book assets, and is winsorized at the 1st and 99th percentiles of the regression sample. Outcome variables related to board composition are derived from BoardEx's organizational summary files, which provides the director roster as of the company's annual report date. Financial variables are derived from Compustat's annual fundamental files. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files. Sample sizes vary due to missing values of the outcome variable. CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed with HQ in CA by 12/31/2019.

Table 4: Effects of the Gender Quota on Financial Outcomes: Heterogeneity

	Baseline	Size Control	Small Brd	Male-Dominated Industry
Index of Financial Outcomes	0.054 (0.030)	0.071 (0.027)	0.100 (0.039)	0.040 (0.035)
ROA	0.046 (0.022)	0.040 (0.021)	0.090 (0.034)	0.040 (0.028)
ROE	0.072 (0.074)	0.067 (0.073)	0.139 (0.112)	0.083 (0.097)
Log(Q)	0.071 (0.041)	0.070 (0.041)	0.086 (0.063)	0.074 (0.051)
Log(Market to Book)	0.099 (0.065)	0.097 (0.065)	0.147 (0.087)	0.118 (0.083)
Cash Flow	0.045 (0.022)	0.040 (0.021)	0.090 (0.035)	0.038 (0.028)
Log(Employment)	0.023 (0.015)	0.017 (0.014)	0.012 (0.017)	0.034 (0.017)
Capital Intensity	0.004 (0.002)	0.004 (0.002)	0.005 (0.003)	0.004 (0.003)

Note:
The sample restricts to an unbalanced panel of firms that were domestic, listed, and had all-male boards in 2017. The time period covered is 2015 - 2021. The table presents the coefficients and standard errors from the difference-in-differences model. Standard errors are clustered at the firm level. The index of financial outcomes averages the z-score across all financial outcomes, following Kling, Liebman, and Katz (2007). For each financial outcome, the z-score subtracts the mean of the control group, then divides by the standard deviation of the control group. Financial variables are derived from Compustat's annual fundamental files, are reported in millions, and are either log transformed or winsorized at the 1st and 99th percentiles. The percentiles are calculated relative to all domestic and listed companies observed in the annual distribution. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files. Column 2 adds a control for firm size, which is proxied by Log(Revenues). Column 3 subsets to companies that had fewer than 7 directors (the median board size) in 2017. Column 4 subsets to firms in industries with below-average female board representation. Industry classification and averages are calculated using the 2017 cross-section. CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed with HQ in CA by 12/31/2019. See data appendix for variable definitions.

Table 5: Characteristics of Incoming Directors by Gender

	Male	Female	Difference	P Value
Age & Education				
Age	57.03	56.07	0.96	0.00
MBA Degree	0.38	0.38	0.00	0.83
Ivy League Degree	0.27	0.27	0.00	0.91
Law Degree	0.10	0.12	-0.02	0.00
Experience				
Prior Board Experience	0.83	0.72	0.11	0.00
Prior C-Suite Experience	0.70	0.67	0.03	0.00
Prior Same Sector Experience	0.55	0.43	0.12	0.00
Connections				
Prior Connection to Incumbent Board	0.61	0.39	0.21	0.00
Prior Board Connection with Incumbent Board	0.41	0.19	0.22	0.00
Prior Connections to the C-Suite	0.50	0.28	0.22	0.00
Prior Same Gender Connection to Incumbent Board	0.59	0.14	0.45	0.00
Non-Executive Director	0.82	0.95	-0.13	0.00
Sample Size				
Number of Positions	20412	6492		
Number of Directors	16434	4896		
Number of Companies	4516	3581		

Note:
The sample restricts to all incoming directors within domestic and listed companies. The time period considered is 2015 - 2020. Raw means and p-values from a two sided t-test reported. Observable characteristics of incoming directors at the time the boardship begins are derived from BoardEx. Age and education derived from director profile files, experience via employment history files, and connections through the network files. Two directors have a prior connection if they overlapped at a previous company. Sectoral classification following the FTSE International standard is provided by BoardEx; see Table **??** for the full list of sectors. Experience and connections gained through work spells in non-listed companies are counted.

Table 6: Effects of the Gender Quota on Boardroom Characteristics

	Demographics			Experience			Connections				
Dependent Variables:	Age	Male	MBA	Brd Exp	C-Suite Exp	Sector Exp	Brd Conx	Brd-Brd Conx	C-Suite Conx	Same Gender Brd Conx	Non-Exec Dir.
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Variables											
$CA_{2017} \times$ Year = 2015	0.231	-0.007	-0.005	0.013	-0.002	0.007	0.004	0.013	-0.004	0.001	0.013*
	(0.285)	(0.005)	(0.012)	(0.010)	(0.011)	(0.012)	(0.013)	(0.013)	(0.013)	(0.013)	(0.007)
$CA_{2017} \times$ Year = 2016	-0.039	-0.0007	0.003	0.006	0.003	0.005	-0.006	-0.004	-0.007	-0.005	0.003
	(0.196)	(0.003)	(0.009)	(0.006)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.006)
$CA_{2017} \times$ Year = 2018	0.035	-0.007	-0.011	-0.004	-0.006	0.016*	-0.015	-0.002	-0.014	-0.022*	0.010*
	(0.179)	(0.006)	(0.009)	(0.008)	(0.009)	(0.009)	(0.012)	(0.010)	(0.010)	(0.011)	(0.006)
$CA_{2017} \times$ Year = 2019	-0.175	-0.056***	-0.015	-0.025**	-0.023*	0.003	-0.028*	-0.024*	-0.023	-0.049***	0.013*
	(0.249)	(0.008)	(0.012)	(0.012)	(0.012)	(0.012)	(0.014)	(0.013)	(0.014)	(0.013)	(0.007)
$CA_{2017} \times$ Year = 2020	-0.111	-0.078***	-0.022	-0.033**	-0.029**	0.010	-0.026	-0.033**	-0.014	-0.053***	0.006
	(0.309)	(0.008)	(0.013)	(0.014)	(0.014)	(0.015)	(0.016)	(0.016)	(0.017)	(0.015)	(0.008)
2SLS											
$1(\widehat{GenderDiverseBoard})$	-0.610	-0.224***	-0.056	-0.111***	-0.089**	-6.81×10^{-5}	-0.078*	-0.102**	-0.045	-0.156***	0.015
	(0.855)	(0.015)	(0.039)	(0.041)	(0.041)	(0.041)	(0.046)	(0.044)	(0.046)	(0.041)	(0.020)
Fixed-effects											
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-SIC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics											
F-test (1st stage)	238.8	241.1	207.8	237.2	237.2	237.2	231.1	231.1	216.0	231.1	241.1
Observations	40,969	41,567	37,161	41,029	41,029	41,029	39,978	39,978	38,801	39,978	41,567
Dependent variable mean	61.9	0.956	0.354	0.759	0.618	0.454	0.529	0.354	0.429	0.512	0.808
Number of Firms	1,146	1,146	1,145	1,146	1,146	1,146	1,145	1,145	1,145	1,145	1,146

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The sample restricts to all directors within firms that were domestic, listed, and had all-male boards as of 2017. The time period covered is 2015 - 2020, with reported effects relative to the 2017 baseline. Standard errors clustered at the firm level. Treated firms have CA headquarters and all-male boards as of 2017. Two directors have a prior connection if they overlapped at a previous company. Regression is weighted by the inverse of annual board size. Director-level characteristics measured upon year of onboarding. Sectoral classification used to code sectoral experience is provided by BoardEx; see Table **??** for the full list of sectors. Experience and connections gained through work spells in non-listed companies are counted. Industry variable used in the fixed effects are derived from 4 digit SIC codes provided by CRSP. Sample sizes vary due to missing values of director characteristics.

Table 7: Characteristics of Incoming, Exiting, and Retained Directors by Treatment Status

	California HQ				Non-California HQ			
	Entering F	Entering M	Exiting M	Retained M	Entering F	Entering M	Exiting M	Retained M
Age & Education								
Age	56.79	56.33	62.12	60.83	55.93	56.25	62.78	61.54
MBA Degree	0.33	0.33	0.39	0.39	0.33	0.35	0.34	0.35
Experience								
Prior Board Experience	0.56	0.69	0.82	0.80	0.57	0.68	0.77	0.78
Prior C-Suite Experience	0.62	0.64	0.67	0.70	0.62	0.64	0.58	0.62
Prior Same Sector Experience	0.48	0.58	0.54	0.52	0.42	0.52	0.47	0.44
Connections								
Prior Conx w/Board	0.31	0.37	0.56	0.58	0.29	0.48	0.57	0.55
Prior Board Conx w/Board	0.08	0.13	0.40	0.41	0.09	0.20	0.38	0.38
Prior Conx w/ C-Suite	0.19	0.29	0.47	0.50	0.17	0.33	0.44	0.44
Prior Same Gender Conx w/Board	0.03	0.35	0.55	0.57	0.03	0.46	0.56	0.54
Non-Executive Director	0.93	0.80	0.84	0.78	0.95	0.80	0.83	0.80
Committee Composition								
Number of Committees	1.87	2.44	2.81	2.82	1.90	2.19	2.61	2.68
Audit Committee	0.54	0.62	0.63	0.69	0.57	0.63	0.65	0.68
Compensation Committee	0.51	0.60	0.66	0.64	0.46	0.53	0.62	0.62
Nominating Committee	0.54	0.54	0.62	0.60	0.50	0.43	0.54	0.56
Other Committee	0.04	0.03	0.04	0.04	0.06	0.08	0.07	0.07
Sample Size								
Number of Positions	214	224	402	941	566	1076	1660	4856
Number of Directors	210	222	391	919	549	1058	1614	4592
Number of Companies	147	105	150	198	443	502	646	918

Note:
The sample considers firms that were domestic, listed, and had all-male boards as of 2017. Entering (Exiting) directors join (leave) sometime between 2018 - 2020. Retained directors remain with the company between 2017 - 2020. These variables are derived from BoardEx's organizational summary files, which provides the complete director roster as of the annual report date. Two directors have a prior connection if they overlapped at a previous company. Director-level characteristics measured upon year of onboarding. Sectoral classification used to code sectoral experience is provided by BoardEx; see Table **??** for the full list of sectors. Directors may hold multiple positions. Some directors have missing characteristics.

Table A1: Growing Firms Adopt Gender Diverse Boards:
Sun and Abraham (2021) Estimator

Dependent Variables:	Log(Assets)	Log(Revenues)	Log(COGS)	Log(Liabilities)	Log(Employees)	Log(Market Value)	1(Dividend)	Board Size
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
1(*Diverse*) × Relative Year = -4 to -7	-0.025	0.003	0.005	-0.035	0.0007	-0.078**	-0.003	0.384***
	(0.030)	(0.031)	(0.035)	(0.033)	(0.013)	(0.034)	(0.011)	(0.053)
1(*Diverse*) × Relative Year = -3	-0.051**	-0.036	-0.008	-0.040	-0.026***	-0.108***	-0.013	0.169***
	(0.025)	(0.025)	(0.029)	(0.028)	(0.009)	(0.030)	(0.012)	(0.048)
1(*Diverse*) × Relative Year = -2	-0.022	-0.014	-0.040**	-0.029	-0.016***	-0.025	-0.014*	0.131***
	(0.014)	(0.016)	(0.018)	(0.018)	(0.005)	(0.020)	(0.008)	(0.034)
1(*Diverse*) × Relative Year = 0	0.045***	0.049***	0.043**	0.040**	0.020***	0.045**	0.010	0.845***
	(0.013)	(0.018)	(0.019)	(0.017)	(0.006)	(0.018)	(0.007)	(0.037)
1(*Diverse*) × Relative Year = 1	0.066***	0.070**	0.036	0.044*	0.022***	0.066**	0.021**	0.759***
	(0.020)	(0.027)	(0.029)	(0.027)	(0.008)	(0.028)	(0.010)	(0.050)
1(*Diverse*) × Relative Year = 2	0.075***	0.084**	0.065*	0.059*	0.040***	0.086**	0.028**	0.729***
	(0.029)	(0.036)	(0.038)	(0.036)	(0.012)	(0.038)	(0.013)	(0.061)
1(*Diverse*) × Relative Year = 3 to 7	0.076**	0.085*	0.076	0.037	0.058***	0.143***	0.026	0.764***
	(0.038)	(0.046)	(0.051)	(0.047)	(0.017)	(0.053)	(0.017)	(0.084)
Fixed-effects								
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-SIC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics								
Observations	15,620	15,592	15,593	15,579	15,381	14,942	16,281	16,281
Dependent variable mean	6.05	5.16	4.60	5.25	0.777	5.81	0.362	7.37
F-test	598.9	552.2	426.3	519.5	939.8	305.4	141.0	119.0
Number of Firms	2,879	2,873	2,874	2,877	2,848	2,859	2,981	2,981

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The sample restricts to an unbalanced panel of all domestic and listed firms between 2010-2017. Effects are relative to one year prior to the adoption of gender diverse boards. Relative periods are binned at four years prior to adoption and three years after adoption. Diverse firms transition away from all-male boards sometime between 2010-2017. Firm-year observations among companies that always have gender diverse boards when observed are dropped. Further, observations with negative revenues and cost of goods sold are dropped. All firm-year observations are included for companies that do not adopt diverse boards during the sample period. Standard errors are clustered at the firm level. Columns 1-6 are derived from Compustat's annual fundamental files. Column 7 is derived from CRSP's Dividend file, while Column 8 and the diverse indicator are derived from BoardEx's organizational summary file. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files. Sample sizes vary due to missing values.

Table A2: Effects of the Gender Quota on Board Composition: Robustness Checks

Dependent Variables:	1(All-Male Board)							1(Expand Board)						
	Size Control	Dem. Subsample	AMB 2015-2017	Small Brd	Male Industry	Triple Diff	CA Treated	Size Control	Dem. Subsample	AMB 2015-2017	Small Brd	Male Industry	Triple Diff	CA Treated
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Variables														
Treated × Year = 2015	-0.022	-0.040	0.0009	-0.030	-0.045	-0.107***	0.017	0.007	-0.054	0.004	0.036	-0.063	-0.041	-0.005
	(0.029)	(0.031)	(0.002)	(0.042)	(0.036)	(0.035)	(0.018)	(0.053)	(0.054)	(0.055)	(0.061)	(0.066)	(0.061)	(0.030)
Treated × Year = 2016	-0.005	-0.004	0.002	0.022	-0.007	-0.055**	0.021	-0.017	-0.063	-0.080*	-0.102**	-0.082	-0.034	-0.026
	(0.021)	(0.022)	(0.002)	(0.029)	(0.026)	(0.025)	(0.014)	(0.047)	(0.049)	(0.047)	(0.047)	(0.058)	(0.058)	(0.029)
Treated × Year = 2018	-0.042	-0.049	-0.008	-0.055	-0.024	-0.032	-0.009	0.051	0.039	0.046	0.040	0.030	0.054	-0.007
	(0.039)	(0.039)	(0.041)	(0.049)	(0.044)	(0.037)	(0.013)	(0.056)	(0.058)	(0.063)	(0.069)	(0.069)	(0.065)	(0.030)
Treated × Year = 2019	-0.281***	-0.331***	-0.303***	-0.364***	-0.322***	-0.301***	-0.094***	0.160***	0.102*	0.151***	0.197***	0.142**	0.079	0.073**
	(0.041)	(0.043)	(0.045)	(0.056)	(0.047)	(0.038)	(0.020)	(0.055)	(0.056)	(0.058)	(0.063)	(0.066)	(0.062)	(0.029)
Treated × Year = 2020	-0.299***	-0.334***	-0.329***	-0.389***	-0.283***	-0.306***	-0.088***	0.040	-0.031	-0.037	-0.028	-0.066	0.006	-0.021
	(0.033)	(0.037)	(0.034)	(0.048)	(0.039)	(0.032)	(0.021)	(0.054)	(0.054)	(0.058)	(0.066)	(0.063)	(0.061)	(0.029)
Treated × Year = 2021	-0.236***	-0.223***	-0.210***	-0.308***	-0.240***	-0.239***	-0.068***	0.109**	0.032	0.068	-0.027	0.083	-0.026	0.077**
	(0.027)	(0.031)	(0.030)	(0.040)	(0.029)	(0.025)	(0.021)	(0.054)	(0.059)	(0.060)	(0.068)	(0.069)	(0.065)	(0.031)
Log(Revenues)	-0.031***							0.004						
	(0.010)							(0.010)						
Fixed-effects														
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-SIC	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes		Yes
1(CA HQ)-Year						Yes							Yes	
1(AMB)-Year						Yes							Yes	
Fit statistics														
Observations	6,233	4,013	5,426	3,237	4,094	24,038	24,016	6,056	3,865	5,366	3,116	3,899	23,464	23,448
Dependent variable mean	0.690	0.683	0.729	0.725	0.689	0.226	0.226	0.227	0.234	0.217	0.203	0.235	0.257	0.257
Number of Firms	1,096	685	866	536	692	3,845	3,845	1,090	675	866	532	686	3,830	3,830

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The sample considers an unbalanced panel of domestic and listed firms observed between 2015 - 2021, with reported effects relative to the 2017 baseline. Standard errors are clustered at the firm level. Treated firms are defined to have CA headquarters and all-male boards as of 2017. Column 1 subsets to companies that had all-male boards in 2017. Log(Revenues) is used as a proxy for firm size. Col 2 further subsets to firms headquartered in Democratic states – states that voted for Hillary Clinton in the 2016 presidential election. Col 3 only considers companies that had all-male boards from 2015-2017. Col 4 subsets to companies that had fewer than 7 directors (the median board size) in 2017. Col 5 subsets to firms in industries with below-average female board representation. Industry classification and averages calculated using the 2017 cross-section. Col 6 makes no additional restrictions. Col 7 makes no additional restrictions, and redefines treated firms to have CA headquarters as of 2017. The 'Expand Board' indicator equals one if board size increases relative to the prior year. Cols 8-14 make the analogous sample restrictions. All outcome variables are derived from BoardEx's organizational summary files, which provides the director roster as of the company's annual report date. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files. CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed with HQ in CA by 12/31/2019.

Table A3: Effects of the Gender Quota – Heterogeneity and Robustness

	Baseline	CA Treated	Size Control	Year FE	Dem. Subsample	AMB 2015-2017	Small Brd	Dual CEO-Chairman	Male Industry	Triple Diff
Compliance										
1(All-Male Board)	-0.262 (0.027)	-0.091 (0.018)	-0.269 (0.028)	-0.271 (0.027)	-0.279 (0.031)	-0.287 (0.029)	-0.345 (0.040)	-0.336 (0.047)	-0.272 (0.032)	-0.271 (0.027)
Male Share	-0.075 (0.007)	-0.040 (0.004)	-0.078 (0.007)	-0.079 (0.007)	-0.074 (0.008)	-0.079 (0.008)	-0.084 (0.010)	-0.088 (0.011)	-0.077 (0.008)	-0.079 (0.007)
Board Size	0.180 (0.095)	0.257 (0.051)	0.234 (0.090)	0.215 (0.094)	0.199 (0.100)	0.274 (0.107)	0.242 (0.125)	0.311 (0.134)	0.167 (0.105)	0.215 (0.094)
Expand Board	0.067 (0.029)	0.052 (0.015)	0.067 (0.030)	0.068 (0.029)	0.045 (0.031)	0.072 (0.031)	0.058 (0.039)	0.088 (0.046)	0.073 (0.035)	0.068 (0.029)
Drop Male	-0.004 (0.035)	0.018 (0.019)	-0.005 (0.035)	-0.002 (0.035)	-0.011 (0.037)	0.007 (0.039)	-0.005 (0.048)	-0.011 (0.055)	-0.031 (0.043)	-0.002 (0.035)
Incoming Male	-0.052 (0.030)	-0.017 (0.018)	-0.050 (0.031)	-0.053 (0.029)	-0.058 (0.033)	-0.067 (0.034)	-0.035 (0.040)	-0.090 (0.046)	-0.080 (0.036)	-0.053 (0.029)
Financial Outcomes										
ROA	0.046 (0.022)	0.035 (0.009)	0.040 (0.021)	0.055 (0.022)	0.038 (0.024)	0.054 (0.025)	0.091 (0.034)	0.036 (0.038)	0.040 (0.028)	0.055 (0.022)
ROE	0.072 (0.074)	0.091 (0.032)	0.067 (0.073)	0.083 (0.073)	0.051 (0.078)	0.061 (0.083)	0.139 (0.112)	0.047 (0.120)	0.082 (0.097)	0.083 (0.073)
Log(Q)	0.071 (0.041)	0.044 (0.019)	0.069 (0.041)	0.064 (0.041)	0.057 (0.042)	0.075 (0.046)	0.086 (0.063)	0.063 (0.061)	0.074 (0.051)	0.064 (0.041)
Log(Market to Book)	0.098 (0.065)	0.086 (0.032)	0.096 (0.065)	0.101 (0.066)	0.085 (0.068)	0.125 (0.071)	0.146 (0.087)	0.126 (0.102)	0.118 (0.083)	0.101 (0.066)
Cash Flow	0.045 (0.022)	0.034 (0.009)	0.040 (0.021)	0.054 (0.022)	0.038 (0.024)	0.048 (0.026)	0.091 (0.035)	0.041 (0.041)	0.038 (0.028)	0.054 (0.022)
Log(Employment)	0.023 (0.015)	0.056 (0.011)	0.017 (0.014)	0.029 (0.015)	0.021 (0.017)	0.022 (0.015)	0.012 (0.017)	0.024 (0.022)	0.034 (0.017)	0.029 (0.015)
Capital Intensity	0.004 (0.002)	0.002 (0.001)	0.004 (0.002)	0.006 (0.002)	0.002 (0.002)	0.002 (0.002)	0.005 (0.003)	-0.000 (0.004)	0.004 (0.003)	0.006 (0.002)
Boardroom Characteristics										
Board Experience	-0.031 (0.011)	-0.013 (0.005)	-0.035 (0.011)	-0.039 (0.011)	-0.029 (0.012)	-0.025 (0.012)	-0.044 (0.017)	-0.031 (0.017)	-0.020 (0.012)	-0.039 (0.011)
C-Suite Experience	-0.025 (0.011)	-0.012 (0.005)	-0.027 (0.011)	-0.024 (0.011)	-0.033 (0.012)	-0.029 (0.013)	-0.037 (0.017)	-0.032 (0.015)	-0.017 (0.013)	-0.024 (0.011)
Sector Experience	-0.001 (0.012)	-0.000 (0.005)	-0.002 (0.011)	-0.002 (0.011)	-0.001 (0.012)	0.002 (0.013)	0.025 (0.017)	-0.003 (0.018)	0.017 (0.015)	-0.002 (0.011)
Non-Exec Dir	0.004 (0.006)	0.003 (0.003)	0.004 (0.006)	0.006 (0.006)	0.004 (0.006)	0.002 (0.007)	0.010 (0.009)	0.009 (0.011)	0.002 (0.007)	0.006 (0.006)
Prior Brd-Conx	-0.021 (0.013)	-0.013 (0.006)	-0.020 (0.013)	-0.034 (0.013)	-0.019 (0.014)	-0.010 (0.015)	-0.029 (0.020)	-0.022 (0.020)	-0.022 (0.015)	-0.034 (0.013)
1(Lawsuit Filed)	0.003 (0.012)	0.002 (0.007)	0.006 (0.012)	0.003 (0.012)	0.003 (0.012)	-0.000 (0.013)	-0.006 (0.015)	0.006 (0.024)	-0.004 (0.016)	0.003 (0.012)
Log(Predicted Compensation)	-0.019 (0.015)	-0.011 (0.007)	-0.024 (0.015)	-0.025 (0.015)	-0.017 (0.016)	-0.013 (0.016)	-0.038 (0.024)	-0.013 (0.026)	-0.005 (0.018)	-0.025 (0.015)
Committee Composition										
Audit Share	-0.019 (0.012)	-0.011 (0.006)	-0.024 (0.012)	-0.024 (0.012)	-0.013 (0.013)	-0.029 (0.013)	-0.026 (0.018)	-0.031 (0.017)	-0.035 (0.015)	-0.024 (0.012)
Compensation Share	-0.001 (0.012)	-0.004 (0.006)	-0.002 (0.012)	-0.004 (0.012)	0.005 (0.013)	-0.004 (0.013)	0.002 (0.018)	-0.032 (0.018)	-0.013 (0.014)	-0.004 (0.012)
Nominating Share	-0.007 (0.014)	-0.009 (0.006)	-0.009 (0.014)	-0.007 (0.014)	0.000 (0.015)	-0.012 (0.015)	-0.033 (0.021)	-0.003 (0.026)	-0.010 (0.017)	-0.007 (0.014)
Other Share	-0.008 (0.006)	0.003 (0.003)	-0.008 (0.006)	-0.006 (0.005)	-0.011 (0.006)	-0.006 (0.006)	-0.002 (0.006)	-0.012 (0.008)	0.000 (0.006)	-0.006 (0.005)
Avg. Committee Load	-0.062 (0.054)	-0.050 (0.026)	-0.085 (0.052)	-0.071 (0.055)	-0.051 (0.057)	-0.079 (0.059)	-0.068 (0.083)	-0.067 (0.084)	-0.028 (0.070)	-0.071 (0.055)

Table A3: Effects of the Gender Quota – Heterogeneity and Robustness *(continued)*

	Baseline	CA Treated	Size Control	Year FE	Dem. Subsample	AMB 2015-2017	Small Brd	Dual CEO-Chairman	Male Industry	Triple Diff
Company Policy										
1(Delist)	0.001 (0.002)	-0.002 (0.001)	-0.001 (0.001)	0.001 (0.014)	-0.001 (0.002)	-0.001 (0.001)	-0.003 (0.002)	-0.003 (0.002)	-0.002 (0.001)	0.001 (0.014)
1(Merger or Reorg)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.000)	0.003 (0.010)	-0.001 (0.001)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.00)	-0.001 (0.001)	0.003 (0.010)
1(Dividend Issued)	0.011 (0.016)	-0.002 (0.008)	0.005 (0.016)	0.017 (0.015)	0.026 (0.017)	0.013 (0.018)	0.011 (0.021)	0.040 (0.033)	0.011 (0.017)	0.017 (0.015)
1(Shares Outstanding Dcr by $\geq 5\%$)	0.029 (0.016)	0.009 (0.007)	0.029 (0.017)	0.020 (0.014)	0.018 (0.018)	0.026 (0.018)	0.022 (0.023)	0.025 (0.030)	0.025 (0.021)	0.020 (0.014)
1(Shares Outstanding Inr by $\geq 5\%$)	0.007 (0.018)	0.005 (0.009)	0.003 (0.018)	-0.004 (0.016)	-0.000 (0.019)	-0.001 (0.020)	0.003 (0.026)	0.010 (0.032)	0.000 (0.023)	-0.004 (0.016)

Note:

The sample restricts to an unbalanced panel of firms that were domestic, listed, and had all-male boards in 2017. The time period covered is 2015 - 2021. The table presents the coefficients and standard errors from the difference-in-differences model, unless otherwise specified. Standard errors are clustered at the firm level. Treated firms have CA headquarters and all-male boards as of 2017. An exception is Column 2, where treated firms are defined to have California headquarters in 2017 (and not necessarily have all-male boards). Financial variables are derived from Compustat's annual fundamental files, are reported in millions, and are either log transformed or winsorized at the 1st and 99th percentiles. The percentiles are calculated relative to all domestic and listed companies observed in the annual distribution. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files. Company policy variables are derived from the CRSP Events files. Column 3 adds a control for firm size, which is proxied by Log(Revenues). Column 5 subsets to firms headquartered in Democratic states in 2017 – states that voted for Hillary Clinton in the 2016 presidential election. Column 6 only considers companies that had all-male boards from 2015-2017. Column 7 subsets to companies that had fewer than 7 directors (the median board size) in 2017. Column 8 subsets to companies with dual CEO-Chairman roles in 2017. Column 9 subsets to firms in industries with below-average female board representation. Industry classification and averages are calculated using the 2017 cross-section. Column 10 makes no additional restrictions. CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed with HQ in CA by 12/31/2019. See data appendix for variable definitions.

Table A4: 2SLS Effects of Gender-Diverse Boards on Boardroom Characteristics: Pooled Estimates

	Experience			Connections		
Dependent Variables:	Brd Exp	C-Suite Exp	Sector Exp	Brd Conx	Brd-Brd Conx	C-Suite Conx
Model:	(1)	(2)	(3)	(4)	(5)	(6)
Reduced Form						
$CA_{2017} \times Year \geq 2019$	-0.032***	-0.025**	-0.0007	-0.022*	-0.030**	-0.012
	(0.011)	(0.011)	(0.012)	(0.013)	(0.012)	(0.013)
2SLS						
$1(\widehat{GenderDiverseBoard})$	-0.114***	-0.089**	-0.002	-0.080*	-0.107**	-0.044
	(0.042)	(0.041)	(0.041)	(0.046)	(0.044)	(0.047)
First Stage						
$CA_{2017} \times Year \geq 2019$	0.281***	0.281***	0.281***	0.280***	0.280***	0.274***
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)

The sample restricts to all directors within firms that were domestic, listed, and had all-male boards as of 2017. The time period covered is 2015 - 2020, with reported effects relative to the 2017 baseline. Standard errors clustered at the firm level. Treated firms have CA headquarters and all-male boards as of 2017. Two directors have a prior connection if they overlapped at a previous company. Regression is weighted by the inverse of annual board size. Director-level characteristics measured upon year of onboarding. Sectoral classification used to code sectoral experience is provided by BoardEx; see Table **??** for the full list of sectors. Experience and connections gained through work spells in non-listed companies are counted. Industry variable used in the fixed effects are derived from 4 digit SIC codes provided by CRSP. Sample sizes vary due to missing values of director characteristics.

Table B1: Share of BoardEx Companies Matched with the Following:

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Year	BoardEx N	CRSP/ Compustat	Annual Financials	Listing Exchange	Geographic Identifiers	All of (2-6)
2015	4188	0.967	0.950	0.962	0.960	0.941
2016	4030	0.969	0.953	0.965	0.963	0.944
2017	4000	0.970	0.956	0.966	0.963	0.947
2018	3980	0.967	0.955	0.963	0.960	0.948
2019	3971	0.960	0.952	0.956	0.958	0.948
2020	4149	0.933	0.926	0.929	0.933	0.921
2021	4546	0.874	0.866	0.874	0.874	0.866

Note:
Note: Column (2) restricts to BoardEx's 'Quoted' and US based companies that report annual board gender ratios. BoardEx-CRSP-Compustat crosswalk provided by WRDS. Annual Financials derived from the Compustat Annual Fundamental files. Listing exchange pulled from CRSP Names file. Geographic identifiers include both the state of the company's principal executive offices and the country of incorporation. These values are taken from Compustat Snapshot. If missing, geographic identifiers taken from the WRDS SEC Analytics Suite (item regstatehdq). If still missing and the year is past 2019, the value is taken from Boardex's header level information provided in the Company Profile files.

Table B2: Non-Compliance, Evasion, and Attrition

Firm Status	Year	N: AMB	N: Diverse	N	Change in N	N: Delist	N: Change HQ
Treated	2015	151	23	174	NA	0	2
Treated	2016	179	12	191	17	0	5
Treated	2017	204	0	204	13	4	2
Treated	2018	135	48	183	-21	8	3
Treated	2019	40	131	171	-12	14	4
Treated	2020	16	143	159	-12	12	3
Treated	2021	6	140	146	-13	10	4
Control	2015	722	75	797	NA	0	19
Control	2016	804	46	850	53	0	16
Control	2017	942	0	942	92	7	30
Control	2018	654	202	856	-86	42	23
Control	2019	431	367	798	-58	77	18
Control	2020	300	436	736	-62	46	25
Control	2021	186	495	681	-55	39	11

Note:
Treated firms have CA headquarters and are listed as of 2017, while control firms are listed and headquartered in another US state as of 2017. Cols 3-6 are derived from BoardEx's organizational summary files, which indicates a company's annual gender ratio. Companies may fail to appear in BoardEx if the company goes private, ceases to exist, or if BoardEx doesn't collect the company's gender composition as of the annual report date. Col 7 is derived from CRSP's Delisting file; a company is defined to delist if none of the company's securities are listed the subsequent year. The last column uses headquarter location data triangulated from Compustat Snapshot, BoardEx, and SEC filings.

Table B3: Differential Attrition?
Annual Board Gender Reporting Rates

Year	California HQ	Outside CA HQ	Diff	P-Val	N: California HQ	N: Outside CA HQ
2015	0.85	0.85	0.01	0.80	174	797
2016	0.94	0.90	0.03	0.09	191	850
2017	1.00	1.00	0.00	1.00	204	942
2018	0.90	0.91	-0.01	0.62	183	856
2019	0.84	0.85	-0.01	0.75	171	798
2020	0.78	0.78	0.00	0.95	159	736
2021	0.72	0.72	-0.01	0.84	146	681

Note:
The sample restricts to companies that i) had all-male boards in 2017 and ii) were listed and domestic in 2017. Raw means and p-values from a two sided t-test reported. Annual board gender composition is provided by Boardex's Organizational Summary files. Attrition may occur if the company goes private, ceases to exist, or if BoardEx doesn't collect the company's gender composition as of the annual report date.

Table B4: Endogeneity of Board Composition:
Growing Firms Adopt Gender Diverse Boards

Dependent Variables:	Log(Assets)	Log(Revenues)	Log(COGS)	Log(Liabilities)	Log(Employees)	Log(Market Value)	1(Dividend)	Board Size
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables								
1(*Diverse*) × Relative Year = -5 to -7	-0.078**	-0.083**	-0.054	-0.080*	-0.033**	-0.117**	0.004	0.097
	(0.034)	(0.038)	(0.046)	(0.044)	(0.016)	(0.046)	(0.016)	(0.069)
1(*Diverse*) × Relative Year = -4	-0.029	-0.036	-0.008	-0.047*	-0.023**	-0.064**	0.015	0.090*
	(0.023)	(0.027)	(0.032)	(0.028)	(0.010)	(0.033)	(0.012)	(0.050)
1(*Diverse*) × Relative Year = -3	-0.030**	-0.038**	0.004	-0.026	-0.012**	-0.059***	0.002	0.066*
	(0.015)	(0.015)	(0.020)	(0.017)	(0.005)	(0.021)	(0.010)	(0.036)
1(*Diverse*) × Relative Year = -1	0.029**	0.030**	0.070***	0.045***	0.017***	0.003	0.015*	-0.150***
	(0.013)	(0.013)	(0.015)	(0.016)	(0.005)	(0.018)	(0.008)	(0.033)
Fixed-effects								
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-SIC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics								
Observations	25,727	25,694	25,681	25,688	25,442	24,535	27,107	27,107
Dependent variable mean	6.78	5.85	5.23	6.07	1.18	6.45	0.481	8.39
F-test	2,947.8	2,539.6	1,934.0	2,416.9	5,120.8	1,367.8	443.1	538.4
Number of Firms	5,234	5,227	5,227	5,229	5,191	5,189	5,479	5,479

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The sample restricts to an unbalanced panel of all domestic and listed firms between 2010-2017. Effects are relative to two years prior to the adoption of gender diverse boards. Relative periods more than 5 years prior to adoption are binned at 5 years. Diverse firms transition away from all-male boards sometime between 2010-2017. Firm-year observations including and after diverse firms adopt gender diverse boards are excluded. Further, observations with negative revenues and cost of goods sold are dropped. All firm-year observations are included for companies that do not adopt diverse boards during the sample period. Standard errors are clustered at the firm level. Columns 1-6 are derived from Compustat's annual fundamental files. Column 7 is derived from CRSP's Dividend file, while Column 8 and the diverse indicator are derived from BoardEx's organizational summary file. Industries are categorized into 11 divisions using the 4 digit SIC code, following OSHA's crosswalk. SIC codes are derived from CRSP's Names files. Sample sizes vary due to missing values.

Table B5: Triple Differences: Effects of the Gender Quota on Board Composition. Within-State Control Group is Compliant with 2021 Requirements in 2017

Dependent Variables:	Male Share of Board	1(All-Male Board)	Board Size	1(Expand Board)	1(Male Dropped)	Return on Assets	Log(Q)
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables							
Treated × Year = 2015	-0.032**	-0.070**	0.346	-0.023	0.012	0.102***	0.029
	(0.014)	(0.035)	(0.211)	(0.105)	(0.108)	(0.037)	(0.054)
Treated × Year = 2016	-0.014	-0.004	0.223	0.005	0.098	0.072**	0.032
	(0.011)	(0.020)	(0.162)	(0.088)	(0.104)	(0.035)	(0.053)
Treated × Year = 2018	-0.017*	-0.039	0.080	0.127	0.083	0.017	-0.044
	(0.010)	(0.038)	(0.160)	(0.102)	(0.102)	(0.038)	(0.049)
Treated × Year = 2019	-0.072***	-0.316***	0.076	0.087	0.137	0.078**	-0.040
	(0.012)	(0.040)	(0.204)	(0.092)	(0.097)	(0.039)	(0.069)
Treated × Year = 2020	-0.087***	-0.332***	0.003	0.0002	0.023	0.135***	-0.056
	(0.014)	(0.037)	(0.223)	(0.099)	(0.099)	(0.046)	(0.079)
Treated × Year = 2021	-0.113***	-0.281***	0.136	0.055	0.043	0.066	-0.159
	(0.016)	(0.032)	(0.242)	(0.095)	(0.103)	(0.046)	(0.102)
Fixed-effects							
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1(CA HQ)-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1(AMB)-Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics							
Observations	10,821	10,821	10,821	10,543	10,543	10,211	9,225
Dependent variable mean	0.850	0.445	8.22	0.249	0.446	-0.087	0.499
Number of Firms	1,746	1,746	1,746	1,739	1,739	1,680	1,645

Clustered (Firm) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

The sample restricts to an unbalanced panel of firms that were domestic and listed in 2017. Among these firms, I restrict to those that either had all-male boards in 2017 or were compliant with the 2021 requirements in 2017. There are 76 CA based companies complaint with 2021 requirements in 2017. The time period covered is 2015 - 2021, with reported effects relative to the 2017 baseline. Standard errors are clustered at the firm level. The 'Expand Board' indicator equals one if board size increases relative to the prior year. 'Male Dropped' equals 1 if some male director present in the previous year is not present in the current year. All outcome variables are derived from BoardEx's organizational summary files, which provides the director roster as of the company's annual report date. CA SB 826, approved on 9/30/2018, mandated at least 1 woman be on the corporate board of any listed with HQ in CA by 12/31/2019.