Gender Quotas and Support for Women in Board Elections

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Abstract

We study shareholder support for corporate board nominees before and after the 2018 California gender quota. We show that pre-quota, female nominees received greater support than male nominees, consistent with women being held to a higher quality bar. Post-quota, incumbent female directors received greater support than incumbent men. Additionally, support for new (mandated) female nominees decreased to the same level of support new male nominees enjoyed, indicating a convergence of the bar for men and women. We further show that stock prices reacted negatively to entrenched boards that failed to turn over the least-supported directors when complying with the quota.

Keywords: Board of directors, Gender quota, Regulation, Corporate Governance

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1 Introduction

In September 2018, California passed a quota for corporate boards (CA Senate Bill 826). The quota required all publicly held firms headquartered in the state to have at least one appointed female director by the end of 2019. It further mandated that boards with five (six or more) members have two (three) female board members by the end of 2021. Following the lead of several European countries, California became the first US state to impose a binding gender quota on boards. The stock market reacted negatively to the quota (as documented by Hwang, Shivdasani, and Simintzi, 2018; Greene, Intintoli, and Kahle, 2020). This reaction has been interpreted as evidence that shareholders opposed the mandated addition of new female directors (e.g., due to scarcity of qualified female candidates leading to higher search costs, or to suboptimal trustees being appointed, see also Ahern and Dittmar, 2012 for evidence from Norway) and preferred the pre-quota board composition. However, evidence indicates that there are sufficient numbers of qualified female directors to satisfy the quota (Giannetti and Wang, 2020). Thus, supply-side constraints do not seem able to explain the negative stock price reaction to the quota (Von Meyerinck et al., 2019).

In our study, we provide new evidence helping to reconcile these two seemingly conflicting pieces of evidence: i) the negative announcement returns in response to the quota; and ii) the existence of a pool of sufficiently qualified potential female directors. We test two potential explanations, both of which assume that a quota is a shock to board composition and that boards themselves play an important role in making director appointments. First, although the evidence indicates that there are sufficient numbers of qualified women who could act as directors, boards may not be able to recruit them. Second, when adding a qualified female director, boards may fail to turn over the least-qualified male directors.

We use hand-collected data on shareholder voting results from annual shareholder meetings for approximately 600 firms, before and after the introduction of the CA quota. Using these data, we conduct a detailed investigation of shareholder support at the level of individual director nominees. Shareholder votes in uncontested director elections have been shown to be consequential for directors. As a result, they are an important tool for shareholders to shape corporate governance (Bach and Metzger, 2015; Iliev et al., 2015; Fos, Li, and Tsoutsoura, 2018; Aggarwal, Dahiya,

and Prabhala, 2019; Bolton et al., 2020).

We first show that, prior to the quota, female nominees (both new and incumbent) received greater support than male nominees. This is consistent with women facing a higher quality bar than men to be nominated for board positions. Second, we document that, post-quota, the number of female appointees greatly increased. Additionally, support for incumbent female nominees remains stronger than for male incumbents (for whom support decreased post-quota). Support for new female nominees decreased after the quota, however, and converged to the same level as the support for new male nominees. We include election fixed effects in all our specifications; as a result, these patterns cannot be explained by across-firm or time variation.

We substantiate existing evidence showing there is a sufficient supply of suitable women to fill board seats (Von Meyerinck et al., 2019; Giannetti and Wang, 2020). We further provide the first direct evidence that the new, quota-mandated female candidates appointed to boards in response to the quota are not perceived as less qualified than male appointees by shareholders.

Given that shareholders view quota-mandated women as good candidates, we need to explain why the stock market reacted negatively to the quota. We thus ask whether boards fail to turn over the least-qualified male director when adding a female director to comply with the quota. Our results reconcile the negative stock price reaction with the evidence that there are enough qualified female candidates: we show that stock prices of companies reacted negatively only if the companies subsequently failed to replace their least-supported directors when adjusting the board to comply with the new law. This also explains why we observe a decline in shareholder support for incumbent male nominees post-quota.

Alternative explanations for our findings must take into account three pieces of evidence: i) the existence of a sufficient supply of qualified female directors; ii) a high level of shareholder support for new (quota-mandated) female nominees; and iii) a negative stock price reaction in response to the quota that is driven by firms who fail to turn over the least-supported male director when adding a woman to comply with the regulation. For instance, recent evidence suggests an attitude shift towards women directors that started before the quota, likely brought about by more general public demand for gender diversity, as well as initiatives of institutional investors advocating female board representation (Giannetti and Wang, 2020; Gormley et al., 2020). Nevertheless, while such developments might help to explain increasing support for female

nominees, they cannot fully explain the negative share price reaction to the quota. Nor can they explain the relationship between the negative share price reaction and turnover decisions regarding incumbent male directors.

We argue that the negative share price reaction is driven by correctly anticipated dysfunctional board dynamics in the form of suboptimal turnover of directors. While shareholders are likely aware of board entrenchment within the firm and price it in, the quota is a surprise for shareholders, and it prompts the board to make value-destroying decisions.

Our results provide an important reminder that when a share price reacts to a new regulation, the reaction reflects a combination of shareholder considerations. Namely, shareholders are reacting to both the regulation, and to the firm's behavior as a result of the regulation. This subtlety is often overlooked in existing debates about new policies and regulations. Regarding the quota at issue in this paper, we provide evidence that shareholders approve of the new female board candidates, but disapprove of the way in which boards choose to restructure.

Our work contributes to the vibrant literature seeking to understand the consequences of board quotas. An extant literature has documented a positive association between greater female participation in the boardroom and firm performance (Adams and Ferreira, 2009; Gul, Srinidhi, and Ng, 2011; Adams and Funk, 2012; Kim and Starks, 2016). Board quotas have been suggested as one mechanism to increase female participation.

In 2003, Norway became the first country in the world to introduce a gender quota for corporate boards. The Norwegian quota mandated a 40% share of women on the boards of publicly traded companies. In one of the earliest studies on the effects of the Norwegian quota, Ahern and Dittmar, 2012 argued that its passage was followed by a negative stock market reaction and a subsequent decline in firm value and accounting performance. Matsa and Miller, 2013 reached similar results regarding firm profits using a matched sample of Swedish firms as a control group, as did Yang et al., 2019 who use a related empirical design.

Ahern and Dittmar, 2012 documented that the new women who joined the board post-quota were less experienced than incumbent male directors. In contrast, however, Nygaard, 2011 found that the stock market reaction to the quota was positive for firms with low information asymmetries between the board and management. For firms with high information asymmetries, there was no positive (but also no negative) effect. They argued that female directors, who more

often represented outsiders, would have worse access to information in the latter type of firms and thus would not be able to fulfill their monitoring role as well as directors who represented insiders (and who were more likely to be male). This, they argued, was the reason the quota had positive effects only for the former type of firms.

The opposing results of Nygaard, 2011 and Ahern and Dittmar, 2012 point to a challenge when investigating the Norwegian quota: it is unclear what should constitute the event date. While Ahern and Dittmar, 2012 used 2002 as their event year, Nygaard, 2011 used 2005.[1] Second, Bøhren and Staubo, 2014 found that 50% of firms who would potentially be affected by the Norwegian quota changed their organizational form to avoid being impacted. This, in turn, led to different samples for the studies by Nygaard, 2011 and Ahern and Dittmar, 2012. Finally a more recent study, Eckbo, Nygaard, and Thorburn, 2020, considered various event dates and failed to find any significant (positive or negative) effects on firm value and operating performance in response to the quota.[2] This finding is in line with the evidence provided by Bertrand et al., 2019 who showed that the women added to boards in Norway as a result of the mandate were as qualified as their male director counterparts and the incumbent female board members who were appointed before the quota.

The 2018 CA quota has a precise event date, and firms were left with a shorter time to comply with the law after its passing. The enactment of the gender board quota in CA also represents a first opportunity to study shareholder attitudes to mandated quotas in a US context. Studies that provide first evidence on the impact of California's quota on stock prices include Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019 and Greene, Intintoli, and Kahle, 2020. Given that the event was recent, the analyses in these papers are limited to the investigation of announcement returns and to cross-sectional analyses in which Californian firms are matched with a set of control firms in other states. All three studies provide evidence of significant negative announcement returns to the quota, ranging from -1.2% to -2.2%. However, the exact impact seems to depend on the extent of compliance, i.e., firms who were already in compliance with the quota at enactment experienced no adverse effect on returns. Of these three papers, Greene,

[1] The enactment of the quota followed long debates, which started in 1999, and firms had time to prepare between 2002 and 2005 for the implementation of the quota (Ferreira, 2015).

[2] In addition, they argued that the positive abnormal returns found in Nygaard, 2011 were unrelated to the passage of the quota, as foreign firms not subject to the quota, but listed on the same exchange, experienced similar stock price increases around that period.

Intintoli, and Kahle, 2020 employed the largest sample and included all publicly traded firms headquartered in California, whereas Hwang, Shivdasani, and Simintzi, 2018 focused on Russell 3000 firms, and Von Meyerinck et al., 2019 used firms included in the BoardEx database.

Hwang, Shivdasani, and Simintzi, 2018 showed that firms with an insufficient supply of female directors experienced increasing costs as a result of the 2018 CA quota. These included: weak corporate governance, low profitability, limited access to the local director pool, negative announcement returns, lowered earnings forecasts, and wider credit default spreads. In a similar vein, Von Meyerinck et al., 2019 showed how the expected cost of compliance with the quota impacted the degree to which firms experienced negative abnormal returns. However, their evidence does not suggest that a limited supply of qualified female directors is key. Rather, their results point to the negative announcement returns stemming from shareholders' reactions to the government's attempt to regulate non-economic values, as well as the anticipation of more such policies in the future.

The findings of these papers (which all use announcement returns) support the view that shareholders opposed the introduction of the CA quota. However, analyzing director pools shows that there are sufficiently qualified women who could fill board seats (Von Meyerinck et al., 2019; Giannetti and Wang, 2020). The latter finding challenges the view that an insufficient supply of qualified female board members fueled the negative stock price reactions. It also calls for a more direct investigation of shareholders' attitudes towards female board nominees. Here, we provide that investigation using shareholder voting data and stock market returns, while simultaneously studying a new domain that informs open questions about effectiveness and viability of affirmative action policies in general (see Leslie, 2019; Dover, Kaiser, and Major, 2020).

The paper is organized as follows. Section 2 provides background information on the California gender quota and the director election process. Section 3 describes the data. Section 4 presents our empirical strategy. Section 5 discusses the results. Section 6 concludes.

2 Institutional Setting

2.1 The Quota: California Senate Bill No. 826

We analyze the enactment of the CA gender quota for corporate boards as a natural experiment. The quota was announced and went into effect on September 30, 2018. The regulation applies to all publicly held domestic and foreign firms headquartered in the state (with a principal executive office as identified in the firm's 10-K filing), corresponding to 12% of all US firms. The quota requires firms to have at least one appointed female director by the end of 2019. Boards with five (six or more) members must have two (three) appointed female board members by the end of 2021. In our sample, an average board consists of eight members, and is thus subject to a 12.5% quota by the end of 2019, and a 37.5% quota by the end of 2021 (for comparison, the Norwegian quota is 40% for all firms). The CA quota marks the first binding board quota in the US, and noncompliance comes at a cost of a $100,000 for the first violation and $300,000 for subsequent violations. Firms comply with the law by filing a report through the website of the California Secretary of State.[3]

The CA quota offers an advantageous setting for an event study. In particular, the CA quota was unexpected. Bill 826 was proposed to the California Senate on January 3, 2018 and passed the House with a 22-11 vote on May 31, 2018. On August 29, 2018, it was presented to the Assembly, where it passed with a 41-26 voting outcome. At this point, it was unclear whether the bill would become law, as Governor Jerry Brown did not make any public statements on his position regarding the law before signing it into law on Sunday, September 30, 2018 (Jorge L. Ortiz, 2018). After the passing of the law, firms had 15 months to prepare for compliance. This setup ensures both a more specific event time and a shorter preparation time than, e.g., the Norwegian quota.

[3]The size of these fines puts a bound on how much a firm would incur in search costs or other costs associated with finding or appointing a female director. For instance, a firm with a 10% discount rate would be indifferent between paying a perpetual fine with present value of $3 million and incurring $3 million in search costs for a female director. Since we focus on the firms who respond to the quota in our analysis, we know that their cost of finding and appointing a woman is less than the expected value of penalties.

2.2 Director Elections

We analyze shareholder attitudes towards mandated female board nominees by studying voting behavior of shareholders at annual elections of the board of directors. The board represents the shareholders, and as their trustees, the directors are responsible for the oversight of the firm. The nominees for the board of directors for the next year are selected by the current board. It is mandated that shareholders subsequently vote on these nominees in the yearly shareholder meeting. Every shareholder is entitled to vote. To inform the shareholders about the upcoming election, the firm sends information about the date and place of the annual meeting, instructions on how to vote, and a list of the items that will be put to a vote ('proxy material'). For the vote on the board of directors, information on every nominee (name, age, tenure, bio) is provided. The shareholders also receive a proxy card, which they can use to vote until the day of the meeting, when the votes are counted. Votes can be submitted electronically, via mail, or in person at the shareholder meeting.

Within the context of our study, it is essential to clarify why shareholder votes are meaningful and what motivates shareholders to vote. In the vast majority of cases, director elections are uncontested and nominees are elected unopposed (Bebchuk, 2007). This is due to the nature of the voting rules, which favor management nominees and make it highly unlikely for shareholders to vote them out of the board during an election.[4] Furthermore, shareholder votes are not binding and firm management can choose to reject the shareholders' recommendation. As a result, a nominee who stands for election will most likely be elected (c.f. also Cai, Garner, and Walkling, 2009 and Fischer et al., 2009). The reason this is important is that it alleviates a potential concern of using shareholder votes as a measure of support for nominees after a quota: that shareholders may be more prone to vote for women simply due to the fact that they want the firm to comply with the quota. However, as the nominees are basically guaranteed to be elected, shareholders do not have to concern themselves with quota compliance, provided enough women are nominated.

While shareholders cannot, in practice, influence whether or not an individual nominee is elected, their votes matter in other ways. This, in turn, ensures that shareholders take the voting

[4]The voting rules can be broadly divided into plurality and majority voting rules (but companies can formulate corporate bylaws which introduce modifications). Under the plurality voting rule, the nominees with the most votes win the election, but since the number of board seats generally equals the number of nominees, one vote is enough for the nominee to be elected. Under the majority rule, a nominee needs 50% of the votes. In practice, it is extremely rare that this threshold is not met.

process seriously, and that their voting decisions are meaningful as a measure of director support. Bolton et al., 2020 show that disapproving votes in director elections are one of the main ways institutional shareholders express their disagreement with corporate governance. Shareholder disapproval can have negative consequences for the directors and the firm, and are unlikely to be ignored. Iliev et al., 2015 show that for a director, receiving less support in an election is associated with a lower probability of being nominated again in the following year. Similarly, Aggarwal, Dahiya, and Prabhala, 2019 show that shareholder dissent can lead directors to be moved to a less favorable board position. Also, Grundfest, 2003 argues that poor election results can induce negative press for the firm (see also Bach and Metzger, 2015 and Fos, Li, and Tsoutsoura, 2018).

To conclude, the voting setting provides shareholders an incentive to reveal their opinion about board nominees. While a shareholder can voice their dissent without having to worry about an immediate disruption through their vote, their votes are not inconsequential. In our context, this means that a shareholder who considers a female mandated board candidate unsuitable can express this through voting behavior, without putting the company at immediate risk of violating the quota.

3 Data

Our dataset is constructed from the original filings submitted by companies to the US Securities and Exchange Commission (SEC). These filings are available through the SEC's Electronic Data Gathering, Analysis, and Retrieval system (EDGAR), and all companies with publicly traded securities that are subject to Section 12 or Section 15(d), are required to file with the SEC. This sample is referred to in the CA Senate Bill 826 text as "publicly held domestic or foreign corporation whose principal executive offices, according to the corporation's SEC 10-K form, are located in California" (Secretary of State California, 2018).[5]

For board election outcomes, we hand-collect information from Form 8-K. If there was a vote on the board of directors, the results are reported in the 8-K under Item 5.07, which states the

[5]The bill further refers to a public corporation as a corporation with outstanding shares listed on major US stock exchanges without specifying the exchanges. In our sample, we include all firms with public equity outstanding. If any firm that is not mandated to comply is included, this should bias our results towards zero. In addition, we observe that firms who are not part of large stock indices also adjust their board compositions to comply with the quota.

name of each director elected at the meeting, the number of votes cast for, against and withheld, and the number of abstentions and broker non-votes. This form must be filed by firms within four business days of the election. On EDGAR, we search for firms headquartered in California both before and after the passage of the quota, and which have direction election results (item 5.07) both pre- and post-quota. We let the data start in 2016 to ensure we have sufficient coverage of elections before the passage of the quota. As in Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019 and Greene, Intintoli, and Kahle, 2020, we define September 30, 2018 (a Sunday), when Governor Brown signed the quota law and when its adoption was publicly announced, as the date of enactment.

We exclude firms that are subsidiaries of other companies or that were acquired or delisted during the sample period. Likewise, we exclude nine elections that were proxy contests, as these elections are likely to have different dynamics. An important implication of our sampling approach is that it requires firms to remain in business for at least one year in order to have director election results available in both the pre- and post-quota period. This means that it diverges from the sample used in Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019 and Greene, Intintoli, and Kahle, 2020.[6]

Our final sample consists of 585 firms. It is larger than the samples used in Hwang, Shivdasani, and Simintzi, 2018 and Von Meyerinck et al., 2019, and comparable to the sample size in Greene, Intintoli, and Kahle, 2020. Our sample is larger due to the fact that we hand-collected data and included firms with publicly traded equity that are not part of the Russell 3000 or the S&P 1500.

For every election, we search for the matching Form DEF14A (Definitive Proxy Statement), which contains information on the voting procedure and the backgrounds of the directors who are nominated to serve on the board for the next fiscal year. This form must be filed in advance of the shareholder meeting if shareholder votes are solicited. For every nominee in every election, we collect information on gender, age, tenure, and independence, as reported in the form.[7] Nominee gender is identified from the nominee biographies in the DEF14A filings, which use gendered

[6] While our sample may contain healthier firms, on average, the results of Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019 and Greene, Intintoli, and Kahle, 2020 may be partially driven by firms with financial difficulties around the time of the introduction of the quota that went out of business or were acquired after its passage.

[7] We encountered typos in reported director age. For consistency and because this is the information shareholders receive, we abstain from correcting these errors in the data. However, correcting the errors does not affect any of our results.

pronouns.

Our data set comprise the set of directors suggested by the firm for the upcoming fiscal year, which represents exactly the board composition shareholders vote over at the shareholder meeting. We exclude directors who are listed as nominees in the DEF14A, but drop out before the election takes place. There is a distinction between classified (i.e., staggered) and non-classified boards. For our analysis, this is important due to the fact that in some firms, not all directors who will be on the board in the upcoming year stand for election. Form DEF14 provides director information for both nominees and continuing directors. In our analysis on overall board composition, we take the full slate of directors into account; however, our main analysis focuses on nominees who are subject to a vote in a given election. Finally, we obtain announcements of director appointments and departures from 8-K filings (Item 5.02). This allows us to track changes in board composition between the last pre-quota election and the first post-quota election. Thus, we can infer the exact board composition at the time of the quota announcement and the subsequent changes to it.

3.1 Shareholder Support for Nominees

We define our main variable of interest, *Support*, as the fraction of shareholder support received by a nominee who stands for election for the board of directors at a firm's annual meeting. We differentiate between the supporting voting category "for" (which is the same across all firms) and the non-supporting categories (where nomenclature varies across firms and includes "against," "withhold," "abstain," "withhold/against," "abstain/against"). *Support* is measured as the ratio of supporting votes to the sum of all votes. This is in line with the definition used in the literature on director elections (Cai, Garner, and Walkling, 2009; Fischer et al., 2009; Iliev et al., 2015; Aggarwal, Dahiya, and Prabhala, 2019) and with the approach adopted by ISS.[8] We also follow the standard of this literature and exclude broker non-votes.[9] Typically, these votes are not

[8] Cai, Garner, and Walkling, 2009 measure support as the number of "for" votes divided by the sum of "for" and "withhold" votes. They ignore other voting categories because the ISS Voting Analytics database only reports these two categories. They also construct a measure called "excess votes" which is the difference between "for" votes for the focal nominee and the average votes for all nominees up for election at the same shareholder meeting. We use election fixed-effects throughout our analysis which capture the control measures in Cai, Garner, and Walkling, 2009.

[9] These are votes held by beneficiaries through brokers or other third parties and for which the beneficiaries did not provide any instructions on how to vote.

considered "votes cast" under the state law.[10]

Not every shareholder who is entitled to a vote participates in the election (non-votes): the voting participation rate in US corporate elections is, on average, 73%.[11] Importantly, we use election fixed-effects throughout our analysis. This allows us to control for omitted variables at the election level, such as differences in voting policies, voting participation, or firm performance at the time of the election.[12]

3.2 Descriptive Statistics

Our sample consists of 585 distinct firms which held 2,616 elections over the 55 month-year periods from January 2016 until July 2020. Table 1 shows descriptive statistics and provides an overview of the overall board characteristics associated with an election, which is our level of analysis. The total number of observations is greater (20,262) than our nominee sample (14,527), as it also covers continuing directors at classified boards (which stagger director elections; 43.5 percent of the boards in our sample are classified) who are not standing for election but who will serve on the board in the upcoming fiscal year.[13] In our nominee sample, each observation represents a nominee who will be voted on at a given election. The average (median) support is 94.1% (97.8%).[14]

Table 2 splits our nominee sample by gender. Here, we see that 17.3% of nominees are female, and that they receive, on average, 1.9% more support from shareholders than male nominees. Also, female nominees receive higher median support than male nominees and their voting results have a lower standard deviation. Female candidates are, on average, 2.9 years younger and have served 3.5 years less on the board than their male counterparts. This observation is in line with the fact that the fraction of new nominees is more than twice as high for women as for men.

[10] Furthermore, Cai, Garner, and Walkling, 2009 show that broker non-votes have no impact on director election outcomes.

[11] Cvijanovic, Groen-Xu, and Zachariadis, 2019 report that institutional shareholders with an obligation to vote comprise 20% of all shareholders.

[12] Cai, Garner, and Walkling, 2009 identify voting recommendations issued by ISS for institutional shareholder as an important factor driving voting outcomes. We do not include these in our main analysis as they are only provided by the ISS for the S&P 1500 firms. But because the ISS takes gender diversity into account in making their recommendations, in Table A1 in the Appendix, we verify that our main results hold when controlling for ISS recommendations.

[13] Our results are robust to excluding the sub-sample of classified boards from our analysis as reported in Table A2 in the Appendix.

[14] Overall, in our sample there are 61 cases where a nominee received less than 50% support. Only 6 of those cases involved female nominees.

There exists consistent evidence of a negative stock market reaction to the announcement of the CA quota (Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019; Greene, Intintoli, and Kahle, 2020). In Table 3, we verify that this holds for our sample. For most firms, we obtain raw and excess returns from CRSP. However, given that our sample also contains small firms whose equity trades on Over-the-Counter (OTC) exchanges, we collect stock returns for 31 firms from Yahoo Finance.[15] Each firm must have at least 30 days of returns for the estimation. There are 31 firms in our sample that do not satisfy this requirement. We use October 1, 2018 as our event date (as September 30, 2018 is a Sunday). Our estimation window spans over 255 trading days prior to the event and ends six days after it. We exclude 30 firms that experienced other material events at the time of the quota announcement, as those events could have affected shareholder reaction to the quota announcement.[16] As a result, the average return is based on a sample of 524 firms.[17] We estimate daily abnormal returns by subtracting the predicted returns from the raw returns. We employ the market model to estimate the predicted returns using a value-weighted market index consisting of all sample firms. Our average abnormal return is -1.06% on the event date, and -1.12% if we exclude the 30 firms that are traded on OTC exchanges.[18] Our results are thus similar to those in previous studies finding average abnormal returns ranging from -1.17% to -2.2% (Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019 and Greene, Intintoli, and Kahle, 2020).

4 Empirical Strategy

4.1 Conceptual Framework

A quota imposes a constraint on board composition in terms of the number of female directors. Assuming that nominees are selected according to their quality, such a constraint implies that firms must dip further down in the quality distribution of female nominees. Thus, as firms are mandated to increase the number of women on boards, we would expect a decline in the average

[15] The returns for these firms are on average higher. We verify that these firms are not driving our results.
[16] Based on 8-K filings, we consider material events as earnings announcements, announcements of de-listings from exchanges and mergers. We exclude these events if they take place within (+/-) three days of October 1, 2018.
[17] These firms cover 89.5% of our observations in the nominee sample. We verify that our main results are robust to the exclusion of the firms for which no stock price information is available, see Table A3 in the Appendix.
[18] One firm traded on an OTC exchange was excluded due to a material event at the time of the quota announcement.

quality of female relative to male nominees. Assuming that shareholders value quality, our first prediction is that shareholder support for new (mandated) female nominees should decrease after the introduction of the quota.

How the quota affects the overall quality composition of the board of directors (and, relatedly, the interpretation of the stock market reaction) depends on the relative average quality of female and male directors on the board pre-quota. The standard narrative used to explain the negative stock price reaction to gender quotas is that, due to the quota, male directors will be replaced by women who are of worse quality. However, this is only the case if female and male directors on boards are of the same quality before the quota. In this situation, the quality of the marginal (mandated) female nominee will be below the marginal quality of a male nominee after the quota. The quota would be value-destroying, which should be reflected in a negative stock price reaction.

If, however, director selection was biased against women before the implementation of the quota (in that a higher bar had been imposed on female nominees relative to males), we would expect female directors to be of higher quality than males pre-quota. In this situation, a quota that mandates firms to move down the quality distribution of female directors to put more women on boards would not necessarily lead to new female nominees being of lower quality than males. Under such circumstances, the quota would not reduce firm value and other reasons must be sought for the negative stock price reaction.

There are two possible cases to consider. First, if we observe that female nominees received similar (or lower) shareholder support than male nominees pre-quota, this indicates that the average quality of the marginal female nominees was the same (or less than) that of a male nominee before the quota. In that case, we would expect that a post-quota move down the quality distribution for female nominees would lead to new (mandated) female nominees being of even lower quality than new male nominees after the quota. Thus, new female nominees should receive less shareholder support than new male nominees after the quota. In such a situation, the negative stock price reactions to the quota could reflect concerns about an insufficient supply of female directors and a scenario where male nominees are substituted by new female nominees of lower quality.

Second, if we observe female nominees receiving more shareholder support than male nominees

before the quota, this would imply that the average quality of the marginal female nominee was higher than the average quality of the marginal male nominee pre-quota, i.e., that there was a higher bar for women to become nominees pre-quota. If the quota is set too high, i.e., too many female nominees are mandated, and the post-quota support for new female nominees falls below that of new male nominees, the negative stock price reaction could reflect a concern about more qualified male nominees being replaced by less qualified women.

4.2 Estimation

We analyze the effect of the 2018 CA quota on female board member (nominee) support using a difference-in-difference analysis in event time. The aim is to estimate the effect of the quota on shareholder support for female nominees relative to male nominees before and after the quota. We specifically differentiate between new and incumbent nominees. We use the following main specification:

$$\begin{aligned} Support_{ict} = \alpha_c + \beta_1 Post_{ict} + \beta_2 New_{ict} + \beta_3 Female_{ict} + \beta_4 Post_{ict} \times New_{ict} \\ + \beta_5 Post_{ict} \times Female_{ict} + \beta_6 New_{ict} \times Female_{ict} \\ + \beta_7 Post_{ict} \times New_{ict} \times Female_{ict} + \epsilon_{ict} \end{aligned} \tag{1}$$

where i indicates a specific nominee in election c in year t. The nominee can be either a new or incumbent candidate (New_{ict}) and they can either be female or male ($Female_{ict}$). We define a nominee as new if they stand for election for the first time and were appointed to the board within one year of the meeting where the election took place.[19] α_c are election fixed effects and $Post_{ict}$ is an indicator of the observation being pre- versus post-the 2018 quota ($Post_{ict}$ takes a value of one if the shareholder meeting where the election takes place is after September 30, 2018 and zero otherwise). We use election fixed-effects throughout our analysis to control for any characteristics on the election level, such as differences is voting rules, firm performance, or degree of shareholder participation. In particular, we are interested in the interaction effects between $Post_{ict}$ and $Female_{ict}$ (β_5) as well as $Post_{ict}$ and $Female_{ict}$ and New_{ict} (β_7). These indicate whether the support for female nominees changes post-quota relative to the support for

[19] Directors can be appointed by firms throughout the year.

male nominees and whether this change differs between new and incumbent nominees.

All shareholders could support (vote 'for') both male and female incumbent and new board nominees before and after the 2018 quota. An underlying assumption in our analysis is that any differences in shareholder behavior after the quota can be attributed to changes in the new set of regulations. We verify in Figures 1 and 2a that the support for new and incumbent male and female nominees does not diverge before the event (we will provide an additional discussion of those figures in Section 5).

5 Results

5.1 Support for Female Nominees in Elections for the Board of Directors

5.1.1 Average Support for Female Nominees Pre- and Post-Quota

Figure 3 shows the average share of female board directors in CA for firms impacted by the quota. It shows the share of women on boards increasing over the course of our sample period. It further shows a clear structural break after the quota was introduced in 2018. While the average share of women on boards was 12.9% in 2016, it was 15.8% in 2018, and 19.1% (23.2%) in 2019 (2020). In Figure 4, we also see a strong increase in newly-appointed female directors. In 2019, more female than male nominees were standing for election to the corporate boards. Together, these figures indicate that the quota had the intended effect and resulted in more female nominees and more female appointed directors.

Table 4 shows our first key results: female nominees generally enjoyed more support than male nominees before the quota. The marginal effects from this regression are illustrated in Figure 1.[20] The fact that female nominees enjoyed more support than male nominees before the quota is consistent with the view that female nominees are, on average, more qualified than male nominees (i.e. they had to clear a higher bar to become a board nominee pre-quota). Table 4 also demonstrates that female nominee support is stronger post-quota relative to pre-quota. The interaction between the post and female dummy in Column (1) shows that female nominees now

[20] In order to identify the point estimates for the marginal effects, we use company and year-month fixed-effects in place of election fixed-effects in Figure 1.

receive more support than male nominees after the passage of the quota, as compared to before. As demonstrated in Column (2), these results are robust to account for potential anticipation of the regulation and exclude one year before its passage (October 2017 until October 2018). Columns (3) and (4) show regression results for the pre- and post-quota period separately.

It is apparent that female nominees, on average, enjoy greater support post-quota. Indeed, it appears that the gap in support between female and male nominees has widened after the quota in favor of female nominees, as illustrated in Figure 1.

Another way to compare shareholder approval for male and female nominees is to look at the support for the same nominee within the same firm before and after the quota. We only consider nominees for which voting results are available for both periods (this is the case for 70.37% of male and 55.07% of female nominees), i.e., incumbent nominees. Furthermore, to account for election-level effects, we subtract the average support for all the nominees in an election from the individual nominee's support in that election (i.e., we consider *excess support*). Table 5 shows that the incumbent female nominees did not receive more support than incumbent male nominees before the quota and that their support remains stable after the quota. Incumbent men, on the other hand, have lost a substantial amount of support in the post-quota period. This results in a statistically significant difference between the support for incumbent female and male nominees in favor of women after the passage of the quota. It also suggests that the increasing gap in support between male and female nominees post-quota is driven by lower support for the incumbent male nominees.

5.1.2 Support for Incumbent versus New Female Nominees Post-Quota

Next, we separately analyze support for new and incumbent nominees before and after the quota. We expect that post-quota support for new female nominees will be below the pre-quota support of new male nominees, if the negative stock announcement returns reflect shareholder concern that new (mandated) female nominees of worse quality will replace better-qualified male nominees. Figure 2a shows the raw data averages for the support of new and incumbent female nominees and new and incumbent male nominees. In the raw data averages, we see that shareholder support for new female nominees decreased after the quota and now approaches the level of support of new male nominees. There is a slight upward trend for new male nominees,

suggesting a higher bar for this group.

Figure 2b shows the number of the new versus incumbent female and male nominees who stand for election every year. The graph uncovers important changes in the composition of the nominees. The proportion of new female nominees increased from 3.0% in 2018 to 4.9% (6.6%) in 2019 (2020). In turn, the number of new male nominees shrunk, from 9.9% in 2018 to 7.0% (5.6%) in 2019 (2020). The proportion of incumbent male nominees remains sticky at first, but decreases from 73.7% in 2019 to 70.4% in 2020. From our data, we also observe that the median board size remained constant (at eight) until 2019, and increased by one in 2020. We do not observe increases in the number of directorships (busyness) among directors.[21]

Table 6 analyzes post-quota support for new versus incumbent nominees in a multivariate setting and constitutes the second set of our key results. Figure 5 illustrates the marginal effects for the regression.[22] We note that new nominees generally enjoy stronger support (Column (1) of Table 6).[23] However, in Column (2), we also see that the coefficient on the triple interaction of being a new female nominee post-quota is negative, and we conclude that shareholder support for new female nominees fell more than for their male counterparts, or for incumbent female nominees, after the introduction of the quota. This evidence is consistent with shareholders attributing lower quality to new female nominees mandated by the quota. In combination with the higher pre-quota support for female nominees, this is consistent with a decreasing quality threshold for women to become a board nominee. In that sense, the quota provides a correction of a previous bias in the director candidate selection process.

5.1.3 Support for New Female Versus Male Nominees Post-Quota

Importantly, however, even though new female nominee support fell after the quota, it did not fall below the average support for male nominees. Columns (3) and (4) of Table 6 show results for incumbent and new nominees separately. First, the coefficient estimates in Column (3) illustrate that female incumbent nominees receive more support than male incumbent nominees after the

[21] Both male and female directors slightly decrease the number of seats on different boards after the quota. There is a larger decrease in busyness for female directors. The median number of board seats is one per director.

[22] In order to identify the point estimates for the marginal effects, we use company and year-month fixed-effects in place of election fixed-effects in Figure 5.

[23] This is consistent with the idea that new directors are more likely to be independent and, thus, better monitors. For instance, Ertimur, Ferri, and Oesch, 2018 show that ISS is less likely to issue "withhold" recommendations for new directors.

quota than before (but this is driven by the overall decrease in support for incumbent male nominees in the post period, as illustrated in Figure 5). Second, Column (4) considers the sub-sample of new nominees, the group with the overall highest support. The results show that after the passage of the quota, female nominees are almost indistinguishable from male nominees in terms of support. Thus, despite a fall in support for new female nominees after the quota relative to before, their support still remains at a high level and they are not less supported than (new or incumbent) male nominees. This suggests that the quota had the effect of bringing the quality of the marginal new female nominee and the quality of the marginal new male nominee closer together. All of our results are robust to controlling for the ISS voting recommendations, and for analyzing the sub-sample of elections in non-classified boards only (see Appendix, Tables A1 and A2 respectively).

Overall, our results show that female nominees enjoy greater support than male nominees both before and after the passage of the quota. In fact, the gap in support became larger after the quota, as incumbent male nominees have lost shareholder support in the post-quota period. At the same time, we observe that female new nominees receive less shareholder support after the quota relative to before. Despite this drop in approval, the group of new female nominees remains at least as supported by shareholders as male new nominees and remains more supported than male incumbent nominees. This finding provides evidence that the female nominees who were put on boards after the introduction of the quota are not perceived by shareholders as being of worse quality than new male nominees. In other words, it appears that firms were successful in drawing qualified women from the director pool.

5.2 Stock Price Reactions and Board Turnover Decisions

In the preceding analysis, we showed that new female and male nominees receive the same level of support from shareholders in board elections after the introduction of the quota. This suggests that the post-quota quality of the marginal new male nominee is equal to the quality of the marginal new female nominee. We simultaneously observe a negative stock market reaction to the announcement of the quota, as has been documented in previous research.

Current explanations for this negative stock market reaction point to the limited depth of

the labor pool for potential female directors (Matsa and Miller, 2013; Hwang, Shivdasani, and Simintzi, 2018; Greene, Intintoli, and Kahle, 2020). Our results, however, are inconsistent with this narrative, as the shareholder level of support for new female directors at the time they actually stand as nominees for election is the same as for men. This finding is, on the other hand, in line with the research documenting that a pool of qualified female candidates exists (Bertrand et al., 2019; Von Meyerinck et al., 2019; Eckbo, Nygaard, and Thorburn, 2020 and Giannetti and Wang, 2020).

5.2.1 Turnover of Least-Supported Male Directors

We next examine the possibility that boards fail to turn over the least qualified male director when adding a female director to the board to comply with the quota – a potential explanation for the apparent disparity between the negative share price reaction and the relatively high support for new female nominees. It is important to keep in mind that the board itself is in charge of selecting nominees and has significant power over board composition. The shareholders' reaction might reflect anticipation as to how the board or firm management will respond to the quota and what actions they will take to comply with it. Figure 5 shows that support for male incumbent directors fell after the quota announcement. It thus suggests that boards failed to replace their least supported male directors. Thus, we propose that the negative share price reaction reflects the concern that the board will sub-optimally replace high quality male directors with new female directors.

Different Types of Violators To test this conjecture, we examine returns based on how the board actually replaced board members. First, we want to understand which boards drove the abnormal negative stock price reactions. Therefore, we regress the firm's abnormal announcement returns on a dummy (*Violation19*) that is equal to one if a firm, at the time of the quota announcement, was in violation of the first quota requirement (which requires at least one female director by the end of 2019).[24] We also consider a violation dummy (*Violation21*) that is equal to one for firms who, at the time of the quota announcement, were not in compliance with the quota requirements that are due to come into effect by the end of 2021 (two female directors for

[24] The sample for this analysis is based on the sample in Table 3. These are firms for which a sufficiently time series of stock prices was available to calculate abnormal quota announcement returns.

board sizes of five; and three female directors for larger boards). Lastly, we consider a discrete variable (*Shortfall21*) that can take integer values from zero to three, and represents the number of female directors a board is missing in order to be compliant with the 2021 requirement.

We follow previous literature and control for board characteristics associated with corporate governance quality, including board size, the average tenure of directors, the share of independent directors, and whether it is a classified (i.e., staggered) board. These characteristics are based on the board composition at the time of the quota announcement. All regressions include industry fixed-effects based on two-digit SIC codes.[25] Table 7 shows summary statistics for our sample by violator group.

We would expect shareholders to be most concerned if firms were not compliant with the approaching 2019 quota requirement at the time of the announcement. Therefore, we should see the largest announcement effects for firms in the group *Violation19* and the group *Shortfall21* who were missing three female directors to be compliant with the 2021 requirement. The latter group is a sub-group of *Violation19* representing large all-male boards. Firms in the *Shortfall21* group who were missing one or two female directors to be compliant with the 2021 requirement may or may not have complied with the 2019 quota requirement at the time of the announcement. If they were already compliant with the 2019 quota requirement, they needed a maximum of two women to meet the 2021 quota requirement. However, the fairly long horizon of over three years to reach compliance should have provided some comfort to shareholders.

Table 8 presents the regression results and shows evidence of negative returns for each group of violators. The weakest reaction is associated with the *Violation19* group (Column (1)) where there was a small difference in returns between boards who complied and those who did not comply with the 2019 requirement.[26] This might reflect the anticipation of shareholders regarding how firms would adjust their boards to meet the 2019 quota requirement. The group that shows the strongest negative reaction in terms of announcement returns are boards that were missing three directors to comply with the 2021 requirement at the time of the quota announcement (Column (3)). This makes intuitive sense, since these firms face the largest restructurings in

[25] The five most frequently represented industries in our sample are: Chemicals and Allied Products (21%), Business Services (17%), Electronic & Other Electrical Equipment (11%), Holding and Other Investment Offices (10%), Measuring, Photographic, Medical, Optical Goods, & Clocks (9%).

[26] In this group, the results are driven by firms traded on OTC exchanges. The negative stock price reaction is not statistically significant if we remove this group of firms from the regression.

order to be compliant. Overall, these results are broadly consistent with the findings in Hwang, Shivdasani, and Simintzi, 2018; Von Meyerinck et al., 2019 and Greene, Intintoli, and Kahle, 2020, who examine slightly different samples.

Which Boards Drive Negative Announcement Returns? Next, we analyze whether shareholders react differently depending on how firms change their boards to comply with the quota requirement. In particular, we test whether shareholders react differently when male directors depart from the board as female directors are added, as opposed to when no such turnover takes place.[27] We do not consider instances where a female director departs. The reason is that the concern in the literature relates to the replacement of male directors with less qualified female directors. We also do not consider CEO or lead director (chair) turnovers or turnovers due to changes of control, restrictions on age limits, and the passing of a director. These types of turnovers are unlikely to be the result of adjustment efforts to meet the quota requirement.

We use the same regression specifications as in Table 8 but run the regressions for each group separately, conditional on a firm being a violator in their respective group.[28] We create a variable that identifies firms that turned over at least one male director in the time period after the quota announcement up until the first post-quota election (*Turnover male director*). Furthermore, the variable *Add female director* indicates whether a firm added a female director during the same period of time (and thus became compliant with 2019 quota requirement).

The results of the regressions are presented in Table 9. We see a negative and statistically significant coefficient on the interaction term between *Turnover male director* and *Add female director* for firms who require at least one female director to satisfy the immediate 2019 requirement and need to add 3 female directors by 2021 (Columns (1) and (4)). The effect is weaker for

[27] One could consider analyzing how shareholders react depending on whether a board is expanded versus contracted upon the addition of a female director. However, boards make adjustments to composition on a continuous basis and do not clearly indicate substitutions. Therefore, a point in time when board composition is fixed is difficult to unambiguously determine. Most importantly, director substitutions cannot be accurately identified. We also consider the possibility that according to the bylaws the board is not permitted to increase board size. Such a company would be forced to substitute a male director with a female director to comply with the quota. In such cases, a shareholder vote would be required. The additional expected cost could have led to a negative share price reaction to the quota announcement. We investigate the bylaws of all firms who were not compliant with either the 2019 or the 2021 quota requirement and where a male director left and female director was added to the board after the quota. We only found three instances where a company faced the upper range of the permitted board size when the quota was announced. The exclusion of these firms does not impact our results.

[28] We exclude industry fixed effects in these regressions due to the small sample sizes.

the groups of firms who were missing one or two female directors to comply with the 2021 quota requirement (Columns (2) and (3)). As mentioned above, this is plausible, as some of these firms may still have more than three years to reach compliance. Thus, current substitutions might be unrelated to the quota requirement.

Overall, these results suggest that the stock market reacts more negatively when the addition of a new female director is accompanied by the departure of a male director for a non-compliant firm. This lends support to the conjecture that shareholders react negatively to anticipated sub-optimal replacements of (high-quality) male directors with new female directors.[29]

Do Boards Turn Over the Least-Supported Directors? Next, we connect the stock price reaction to shareholders' support for individual nominees in elections for the board of directors. Note that in order to obtain a value-neutral substitution of a male director with a female director, the next best available female director needs to be of the same quality as the marginal male director. If this criterion is met, a value-neutral substitution is possible. However, if the board recruits such a female candidate but turns over a higher-quality (instead of the marginal) male director, this results in a value decreasing substitution. To determine whether firms restructure boards in a way that would maximize shareholder value, we determine the least-supported director, as based on shareholder votes in the firm's election before the quota announcement.

As discussed above, we re-ran the regression specification in Table 8 for the sub-sample of firms who turn over at least one male director and who have at least one female director by the time of the first post-quota election (implying compliance with the 2019 requirement). This requires the addition of a female director by firms who are not compliant with the requirement at the time of the quota announcement. We consider turnovers and additions of female directors made by firms before the time of the end of the first post-quota election. This makes sure that turnovers are related to the quota requirement, and more closely connect turned over directors with their pre-

[29] Also, note an interesting ambiguity for firms that miss one or two female directors to be compliant with the 2021 requirement. Imagine a firm with an all-male board of five members that adds one female director. It will now have a size of six members which requires them to have three female directors. Despite adding an additional female director their shortfall to reach compliance with the 2021 requirement remains two female directors. Similarly, a six-member board consisting of two women and four men (and thus has a shortfall of one female director) could reduce its board size to five (by eliminating one male director) to reach compliance with the 2021 requirement. These considerations might have implications for how shareholders react to the quota announcement depending on the current board composition.

quota shareholder support. Interestingly, we observe that 95% of firms with zero female directors pre-quota added their first female director by April 2019 and thus became compliant with the 2019 quota requirement. This coincides with the voting season for the majority of firms.[30] As a robustness check, we repeat the analysis using May 2019 as a cut-off point until which we consider turnover of male directors and additions of female directors. This way, we use the same time period as a benchmark for all firms. The results remain qualitatively unchanged and are reported in Tables A5 and A6 (for the sub-sample of non-classified boards) in the Appendix. As in the analysis above (Table 9), we exclude turnover of female directors, lead directors, or CEOs, as well as turnovers due to changes of control, restrictions on age limits, or the passing of a director. We also exclude cases where there is no variation in support, either due to the fact that only one director stood for election or due to the fact that all directors had the same level of support in the final pre-quota election.[31]

To determine whether announcement returns are related to firms' turnover decisions, we introduce an interaction term between our violation variables (*Violation19* and *Shortfall21*) and a dummy variable (*Least supported replaced*) that is equal to one if the turned-over director is the director with the least shareholder support in the last election before the quota announcement. We also create a dummy that is equal to one if the turned-over director received the least or second-least shareholder support in the last election before the quota announcement (*Least or second-least supported replaced*).[32,33] The expectation here is that not turning over either of the two least-supported directors is associated with a worse stock market reaction than not turning over the least-supported directors when adding a female director. Summary statistics for turned-over directors are reported in Table 10.

The results of the regressions are presented in Table 11, and the coefficients are reported in

[30] As mentioned above, most firms conduct their shareholder meetings in May. The proxy material that must contain information on the candidates who will be standing for election is typically sent out one months ahead of the meeting (April).

[31] Overall, this results in a sample of 126 firms who turn over a male director and have a female director on their boards after the quota is in place. Out of the 27 (108) firms who violate the 2019 (2021) quota requirement based on their board composition in the last election before the quota announcement, 48.1% (50.9%) firms turn over the lowest or second-lowest-support director.

[32] When there were only two directors up for election, we categorized it as *Least or second-least supported replaced* only if the least-supported director was turned over.

[33] When a director was not standing for election in the immediate pre-quota election (this can occur in classified boards), their ranking is calculated using the last election where they were a nominee during the pre-quota sample period. We verify that our results are the same for the sub-sample of firms with non-classified boards (see Table A4 in the Appendix).

Column (*Base*). The results show that if the board turnover decision by a firm is not accounted for, there is a negative return for firms with any level of shortfall. However, the turnover decision reconciles the negative stock price reaction. Firms that replaced the least-supported (or second-least-supported) director with a female director show returns that do not differ from those firms that already had a female director in place. Firms that replaced a highly supported director with a female director show returns significantly lower than firms that already had a female director in place. This is the case for both firms that violated the immediate 2019 quota requirement and firms that had the largest gap (three female directors) to fill to comply with the upcoming 2021 requirement.[34] Ertimur, Ferri, and Oesch, 2018 provide evidence that shareholders vote against committee chairs to address specific issues, but do not want to see these committee chairs leave the board. In Appendix B, we provide an analysis showing that our results are not sensitive to the departure of committee chairs.

Overall, the results of this analysis show that the negative stock price reaction to the quota is related to turnover decisions firms made after the announcement of the quota. We find that the negative announcement returns are driven by firms who failed to turn over the least-supported male director when they added a female director to the board to comply with the quota. Our results in the previous section show that, based on shareholder support, new female nominees are not less supported than male nominees after the quota. Combining these two pieces of evidence implies that the negative share price reaction does not reflect shareholder opposition towards mandated female directors, but rather the anticipation of sub-optimal replacement behavior by entrenched boards. While shareholders may be well aware of such dysfunctional board dynamics, the news that arrives with the quota announcement is that these boards are now prompted to make a value-destroying decision.

[34] One alternative explanation for the negative share price reaction within the group of firms who did not turn over the least supported director is that these firms have difficulties attracting high-quality female candidates. To examine this explanation, we calculate the support of the new female nominee relative to the least supported male nominee in the first election after the quota. There are no cases where the female nominee receives less support than the least supported male nominee, regardless of whether the least-supported director turns over. The average difference in support between the new female and the least supported male nominee is also similar regardless of whether the least-supported director turns over (about 12.5%).

5.3 Alternative Explanations for Changes in Support for Female Nominees

Our analysis provides evidence that shareholders do not oppose quota-mandated female nominees. Alternative explanations to our findings must jointly explain three pieces of evidence: i) a sufficient supply of qualified female directors; ii) a high level of shareholder support for new (quota-mandated) female nominees; and iii) a negative stock price reaction in response to the quota that is driven by firms who do not turn over the least supported male director when adding a woman to the board in order to comply with the quota. For our story to hold, it is crucial that new female nominees are not less supported by shareholders than new male nominees after the quota. The high support for new female nominees post-quota is in line with there being a sufficient supply of qualified female directors to fill board seats mandated by the quota, and firms actually being able to recruit these women. If shareholder support for female nominees was positively impacted by recent shifts in general attitudes towards women or initiatives of institutional investors, we would not have expected a negative share price reaction to the announcement of the quota. Moreover, these alternative mechanisms do not explain why the negative share price reaction is related to the turnover decisions with respect to male directors made by firms after the quota. Nevertheless, in the subsequent section, we more closely investigate underlying drivers of shareholder votes and support for female nominees.

5.3.1 Director Characteristics

We are interested in the extent to which our results with respect to shareholder support for female nominees could be explained by differences in characteristics across nominees. For instance, Matsa and Miller, 2013 suggest that the lack of experience of mandated female directors is responsible for the negative quota stock price announcement returns. The question is to what extent single director characteristics capture shareholder preferences. Erel et al., 2018 use shareholder support as the measure of a director's performance (or quality) to derive the relevant characteristics that predict high director performance (i.e., high support). Generally, the current literature on board composition fails to provide unambiguous evidence of universal director qualifications that increase firm value (see Adams, Hermalin, and Weisbach, 2010 for a review). Board composition is

determined endogenously with substantial heterogeneity across firms with different characteristics (Hermalin and Weisbach, 1988). As a result, it is likely that director characteristics are noisy proxies of attributes that shareholders value.

While there is little evidence of director characteristics that have an unambiguous effect on firm value, our analysis focuses director characteristics for which evidence of a positive association with firm performance exists.[35] For instance, Yermack, 2004 and Knyazeva, Knyazeva, and Masulis, 2013 find that directors with experience as independent outsiders are valued by firms for being better monitors. In addition, Fich and White, 2005 and Fahlenbrach, Low, and Stulz, 2010 show that directors who are CEOs at other firms positively impact firm performance. Furthermore, there is evidence that a director's industry experience contributes positively to firm value (Faleye, Hoitash, and Hoitash, 2018; Drobetz et al., 2018). At the same time, Custódio, Ferreira, and Matos, 2013 find that, for CEOs, experience in a variety of industries is valued by firms. Lastly, there is evidence that directors with financial expertise are valuable, as they provide access to credit markets (Burak Güner, Malmendier, and Tate, 2008). We use the database BoardEx to compile biographical information for our nominee sample. We consider a nominee's experience as an independent outside director in a listed firm, whether they have previous experience as a CEO in a listed firm, whether a nominee has work experience in the same industry as the sample firm, and whether they worked in a financial institution. Furthermore, following Custódio, Ferreira, and Matos, 2013 we calculate the Generalist Ability Index (GAI), which is an aggregate skill measure based on the number of different firms, positions, and industries a nominee was employed at. Lastly, as a proxy for the level of education, we determine whether a nominee graduated from an Ivy League school. We calculate these characteristics for each nominee at the time when they are appointed to the board of the sample firm.[36]

Table A7 in the Appendix shows how these characteristics are distributed among female and male nominees appointed before and after the quota announcement. Before the quota, women on boards had less CEO and specific industry experience than men. However, women appointed

[35] For instance, while additional outside director appointments proxy the competence of a director, it could also mean that these directors are busy and worse monitors. Directors who are simultaneously CEOs of different companies are likely to have a high level of expertise. However, it can also lead to interlocked boards. See Adams, Hermalin, and Weisbach, 2010 for a comprehensive review.

[36] Because we focus on experience in listed firms, we exclude companies traded on OTC exchanges from the analysis.

pre-quota were more likely to have held an independent outside director position in the past; they were also more likely to have financial experience and a better general ability score than men. Compared to women who stood as nominees before the quota announcement, women standing for election post-quota have more industry experience, and a higher general ability score than men. Compared to women who stand as nominees before the quota announcement, women standing for election post-quota have more industry experience, and a higher general ability score. However, they are less likely to hold degrees from Ivy League schools.

Next, we want to understand to what extent either of these characteristics align with shareholder support. Therefore, we regress the various nominee characteristics separately on support. We use the subsample of male nominees in the pre-quota period only to ensure that potential changes in preferences as a result of the quota or differences in preferences for characteristics of female nominees do not confound the relationships. Table A8 in the Appendix shows that none of the director characteristics has a clear relationship with shareholder support, with the exception of independent outside director experience, which is negatively related to support. This is plausible, as directors with directorship in other companies may also be considered busy, making them worse monitors (Hauser, 2018).[37]

We are particularly interested in the extent to which the increased shareholder support for new female nominees standing for election after the quota reflects a change in the characteristic of the nominees. If the selected director characteristics are good approximations of shareholder preferences, we should observe the same pattern as in our main results reported in Table 6 in Column (2) when we substitute shareholder support with nominee characteristics as the dependent variable. This means that we should see new female nominees standing for election after the quota announcement performing worse on the selected characteristics. Table A9 in the Appendix reports the results and does not show any evidence of this pattern. Finally, we are interested in whether our results are affected when we include the nominee characteristics as control variables. Table A10 in the Appendix shows that our results remain unchanged in terms of magnitude and statistical significance.

Overall, this analysis shows that we would not obtain the same insights about mandated

[37] A negative effect of board busyness on firm performance was also documented by Core, Holthausen, and Larcker, 1999, Shivdasani and Yermack, 1999, Fich and Shivdasani, 2012.

female nominees by using conventional director qualification measures. Director quality depends on the individual fit between a given firm and a director's characteristics.[38] This fit is likely to be more reliably captured in the aggregate level of shareholder support than by discrete director qualifications.

5.3.2 Shareholder Support in Other States and Shareholder Activism

Analysis of Other U.S. states We also investigate whether the trend in shareholder voting we observe for female nominees is unique to the state of California. A recent increase in initiatives of institutional investors advocating female board representation and heightened attention to gender equality before the enactment of the quota led to a general increase in female directors on corporate boards (Giannetti and Wang, 2020; Gormley et al., 2020). Such events might have also led to a shift in attitudes towards women as directors, which would be reflected in greater support for female nominees in other states as well. To see whether similar patterns as in California can be found elsewhere, we analyze voting results for U.S. companies headquartered outside of California over the same time period (January 2016 until July 2020).

We obtain data from the ISS Voting Analytics database, which covers voting outcomes for Russell 3000 firms. As in our main analysis, we only include firms for which voting results are available for the pre- and the post period leading to a sample of 3,812 firm and 39,161 nominees. We match directors with ISS' director database and BoardEx in order to identify gender and the starting date of a director on a company board. A manual search is conducted for directors that cannot be matched to either database in order to obtain information on their gender. The starting date for those directors is inferred from the earliest recorded election result for the director in the particular company in the ISS Voting Analytics database which tracks voting results since 2003.

In Figure A1, we can see that the relative number of female nominees increased over the last years in other U.S. states as well. However, there is no similarly sharp change in the ratio of female to male nominees as it is the case for California in 2019 and 2020 (see Figure 4). Next, we repeat our analysis in Table 6 for all U.S. states excluding California. The regression results

[38] There is also a growing literature that analyses the complementary of skills of directors. See for example Kim and Starks, 2015; 2016; Adams, Akyol, and Verwijmeren, 2018.

in Table A11 show that female nominees receive more support than male nominees in other U.S. states. Furthermore, we observe a similar pattern in the change in support for new female nominees post-quota (Table A11, Column (2)) albeit of lower magnitude than in California (Table 6, Column (2)). In Figure A2, we also see that there is no decrease in support for new female nominees that corresponds to the timing of the quota announcement.

Our narrative is that shareholders do not oppose female directors even when they are mandated by the quota. The observation that female nominees are supported all over the U.S. substantiates our argument that the negative stock price announcement returns to the quota are not a reaction to the female nominees. One may argue that the negative stock price reaction reflects shareholders' surprise about the fact they cannot continue to selectively draw women from the higher end of the quality distribution and that the quota forces them to dip down the quality distribution because of a larger increase in the quantity of required female nominees. However, it appears that the relative post-quota support for new female nominees compared to new male nominees is the same in non-Californian firms (Table A11, Column (4)) as it is in Californian firms (Table 6, Column (4)). Thus, it does not seem to be the case that Californian firms receive worse female directors than firms in other states despite the strong increase in new female nominees in California after the quota.

Mutual fund voting behavior Previous literature identified heterogeneity in the preferences of mutual fund investors that is reflected in their voting behavior (Matvos and Ostrovsky, 2010; Bubb and Catan, 2018; Bolton et al., 2020). For instance, Bolton et al., 2020 shows that shareholders can be divided into different ideologies based on their voting patterns. Thus, we are interested in the extent to which shareholder support for female nominees is driven by specific shareholder groups. In particular, we want to understand whether the pattern in the support we observe for female candidates is driven by mutual funds that have a high emphasis on diversity in their investment strategy.

We obtain individual mutual fund voting results for the time period from January 2016 until September 2019 from the ISS Voting Analytics database.[39] These underlie N-PX filings that must be filed by mutual funds and are available through EDGAR. ISS Voting Analytics does

[39] At the time of the analysis, voting results were only available until September 2019 from ISS Voting Analytics.

not include conventional identifiers for mutual funds. Instead, it provides a link to the original N-PX forms that we use to match with the CRSP and Thomson Reuters Financial databases following the approach described in Moskalev, 2019 and Schwartz-Ziv and Wermers, 2020. Using this matching procedure, we can allocate individual funds to their fund families and determine the composition of their investment portfolios.[40] Next, to understand the mutual funds' investment orientation with respect to diversity, we identify the workforce diversity score of every portfolio company in 2017 using the MSCI ESG KLD database. We calculate a value-weighted average diversity score for every fund family based on their portfolio holdings in 2017. We choose the year 2017 as the latest period before the quota announcement, to avoid any potential influence of the quota on the investment decisions of the mutual funds. Subsequently, we rank the mutual funds based on how strongly their portfolios are tilted towards companies with a diversity focus.

We repeat our main analysis in Table 6 for mutual fund votes only, conditional on the intensity of the mutual funds' diversity focus. In total, there is an overlap for 1,812 elections with the ISS Voting Analytics database and the fund families that we identified in the matching procedure. We calculate support in the same way as in the main analyses after aggregating votes from each mutual fund for each nominee in every election.[41] The results of the analysis are presented in Table A12. We separately show sub-sample results for mutual funds that are in the top 100 based on the strength of their diversity orientation (Columns (1), (3), (5), (7)) and mutual funds that are below the top 100 in this ranking (Columns (2), (4), (6), (8)). Despite a lack of power, this split demonstrates that the voting pattern we observe for female nominees in our main analysis is not driven by the subset of mutual funds with a diversity focus in their portfolio. To the contrary, the point estimates in our analysis are more in line with the results for the group of mutual funds who have a less intense focus on workforce diversity (not in the top 100). The low sensitivity of diversity-oriented funds to female nominees makes intuitive sense as it is likely that these firms were actively recruiting women already before the quota and set a similar bar for female and male candidates.

The "Big Three" diversity campaigns Gormley et al., 2020 document that the three largest mutual funds, State Street, Vanguard and Blackrock, advocated an increase in female represen-

[40] In total, we are able to identify 903 different fund families.
[41] Note, that we do not consider how many shares each fund holds and can vote on.

tation on corporate boards in 2017. These "Big Three" put pressure on firms who had no female directors to increase female board representation.[42] Note that our analysis focuses on violators, firms who have no women on their boards at the time of the quota announcement. These firms were clearly not responding to other initiatives intended to increase gender diversity.[43] Nonetheless, we want to test whether our results are affected by the campaigns of the "Big Three". We argue that a firm will only have an incentive to respond to a mutual fund's demand if the mutual fund has enough voting power to affect corporate decisions. Similarly, the mutual fund will only be incentivized to monitor a firm if its stake and voting power are sufficiently large.

We split our sample based on the percentage of votes in the last quarter proceeding the election controlled by each mutual fund. We compare shareholder support for female nominees in firms where the percentage of votes controlled by a mutual fund is equal or above the mutual fund's overall average percentage of votes controlled.[44] We focus on the sub-group of new nominees, as this is the group that is affected by the campaigns (corresponding to our analysis in Table 6, Column (4)). We are interested in whether our main effect is present in the sub-sample of firms where the "Big Three" have a large ownership stake but not in the remaining firms. Table A13 in the Appendix reports the results, showing that our results are similar in both subsamples. This suggests that the "Big Three" gender diversity initiatives do not affect our results.

6 Conclusion

We use hand-collected longitudinal data to analyze how the 2018 California quota affected shareholder support for new and incumbent male and female board nominees. To our knowledge, this is the first study to analyze shareholder attitudes towards quota-mandated female board nominees using direct evidence from voting behavior.

We test two explanations that could reconcile a negative stock price reaction to the quota announcement and the evidence of a sufficient supply of qualified female directors. The first

[42] The "Big Three" threatened firms who fail to increase female board representation to vote against their nominating committee chair. However, firms were also given the chance to explain themselves and describe the efforts they took to increase female board representation. Moreover, the "Big Three" also voted only selectively against the chairs of nominating committee when no action was taken.

[43] The average negative stock price announcement return in response to the quota is also evidence of the event's relevance to shareholders.

[44] This results in very low (and thus conservative) thresholds for the required percentage of votes controlled of 1.3% for State Street, 0.1% for Vanguard and 6.6% for BlackRock.

explanation is that despite the presence of a sufficiently large pool of qualified women, boards are unable to recruit them. The second explanation is that when firms adjust their board structure to comply with the regulation by adding women to the board, they fail to remove the least-supported male director.

First, we analyze whether, based on shareholder perception, boards are able to recruit qualified female board members. Our results show that shareholder support for female nominees is greater than it was for male nominees before the quota. This continues to be the case, on average, after the quota. When we distinguish between incumbent and new nominees, we document revealing dynamics. While support for female incumbent nominees remains flat after the quota, support for new female nominees has fallen. Nevertheless, even though the support for new female nominees has fallen after the quota, new female nominees still receive as much support as new male nominees. Taken together, these observations are consistent with the presence of a higher bar for female board candidates prior the quota. They also provide evidence that the quota corrects this problem, as the bars for men and women have converged. Likewise, firms are able to find sufficiently qualified new female nominees.

Second, we analyze whether the stock price reactions of firms are related to the turnover choices they make when adding a female director to the board after the quota. We reconcile the negative stock price announcement returns associated with the quota with our findings and the existing evidence that firms can access a large enough pool of qualified female nominees for boards. We show that the firms who experienced a negative stock price reaction are those who did not make value-maximizing decisions when restructuring the board: when complying, they did not replace the least-supported directors with a female director. This result provides first evidence that the opposition towards female board directors is driven by entrenched board dynamics rather than shareholders disliking the new female nominees per se.

An important implication of our result is that, in the case of the California board quota, it was possible to implement the quota in a value-neutral way for shareholders if the replacement of board members was done correctly. Note that this result is different from Ahern and Dittmar, 2012, who imply that it was not possible to make a value neutral substitution of a male with a female director in the context of the Norwegian quota. Our results show evidence that shareholders do not perceive new female nominees as being of lower quality. This implies that a value-neutral

replacement of a male for a female director is possible in the Californian case.

Our findings challenge the existing narrative, which interprets the negative announcement returns associated with the quota as shareholder opposition towards women on boards, and as a preference for the existing board structure due, for example, to an insufficient supply of qualified potential female directors. As a result, we provide important input for future research on the effects of affirmative action initiatives. Our findings suggest that adverse effects of such policies might be driven (at least partly) by internal organizational opposition and entrenched dynamics rather than by a lack of supply of qualified minority candidates.

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Figures and Tables

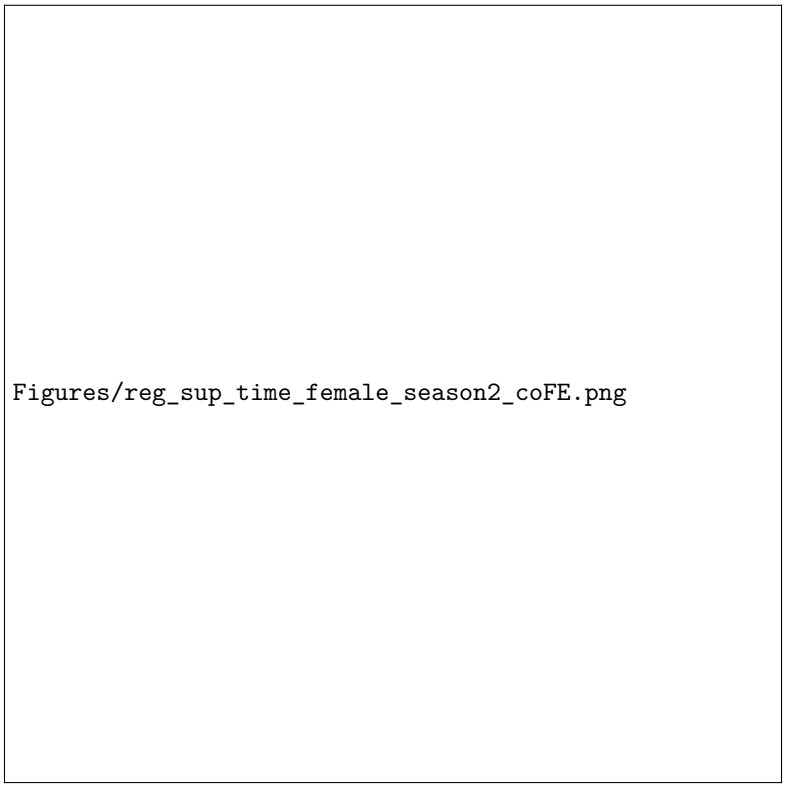
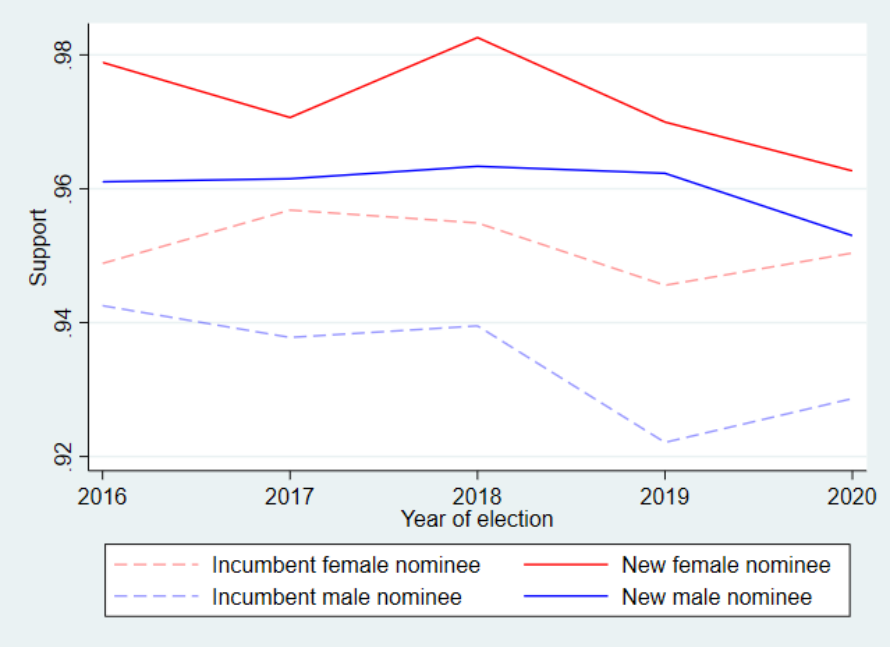
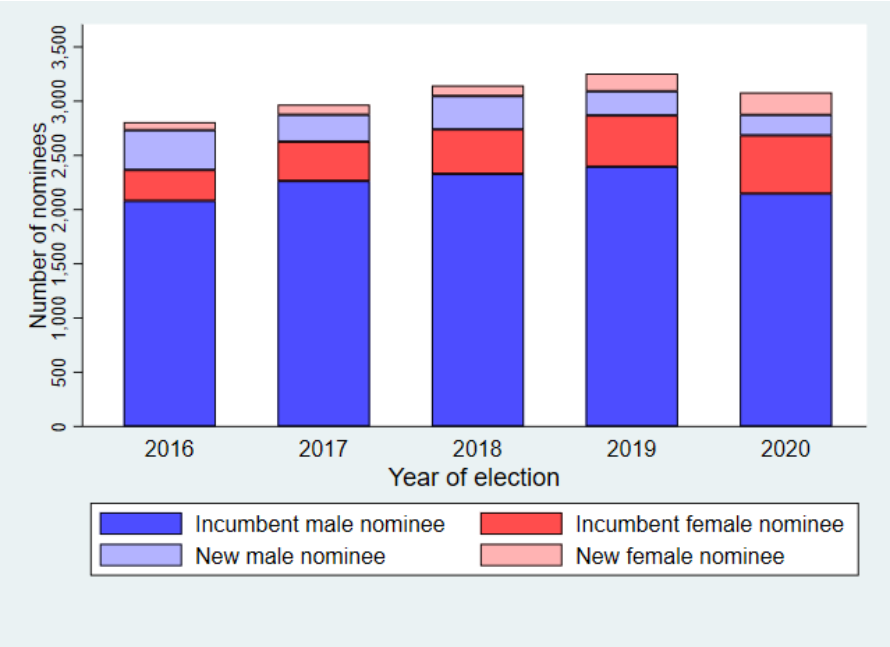


Figure 1: Support for female and male nominees over time. *Support* is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. Marginal effects with 95% confidence intervals from an OLS regression of *Support* on *Female nominee* with an interaction between *Post* and *Female nominee* and time dummies (for the main voting seasons May and June of every year). Includes company fixed effects.



(a) Support for new and incumbent female and male nominees



(b) Number of new and incumbent female and male nominees over time

Figure 2: (a) Average yearly support for incumbent and new, male and female nominees standing for election. Support is defined as the ratio of "for" votes to the sum of "for," "abstain," "against," and "withhold" votes. New nominees are nominees who stand for election for the first time and were appointed to board within one year of the meeting where the election took place. (b) Number of incumbent and new, male and female nominees standing for election. In 2020, votes are only available until July.

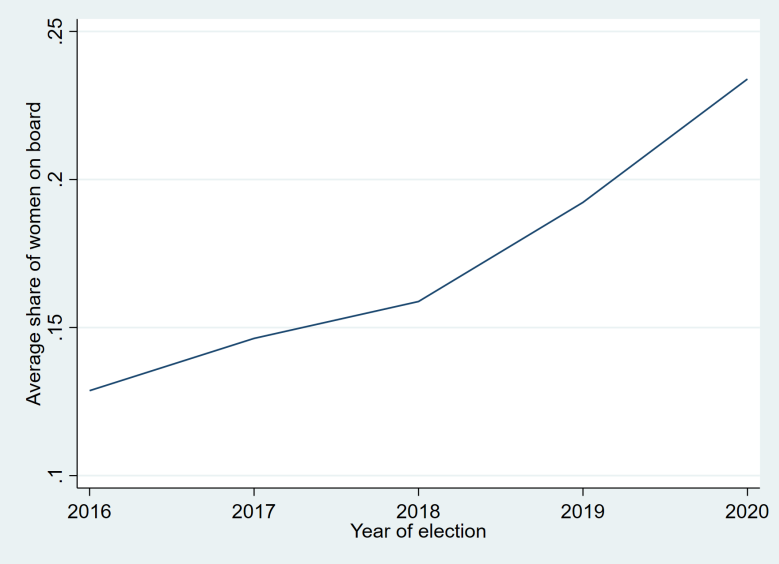


Figure 3: The share of female board nominees/members over time. Based on the full board sample (N=20,262) that includes directors who never stand for election.

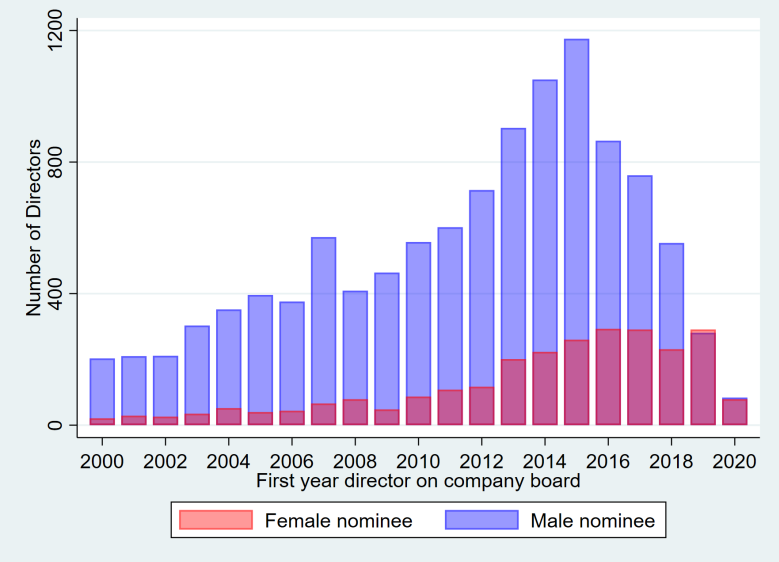


Figure 4: Additions of female and male board nominees/members over time. Based on the nominee sample (N=14,527) that only includes nominees at elections.

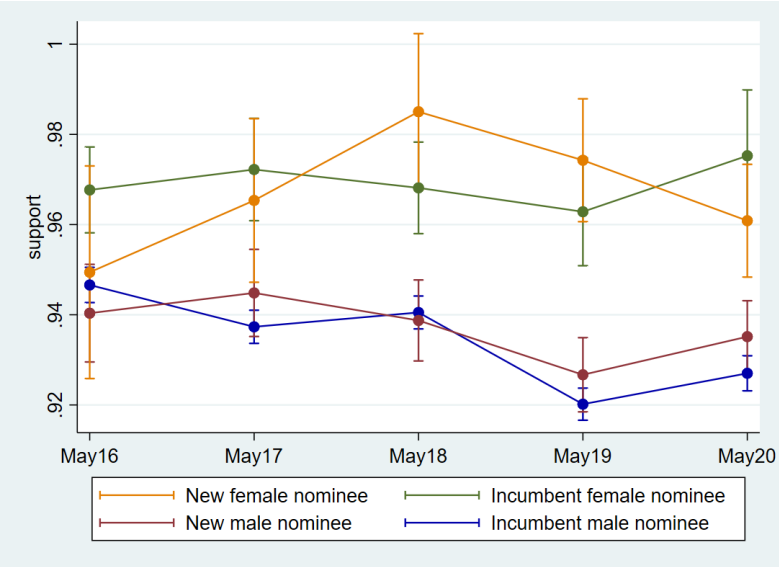


Figure 5: Support for incumbent and new, female and male nominees over time. *Support* is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. Marginal effects with 95% confidence intervals from an OLS regression of *Support* on *Female nominee* with an interaction between *Post*, *Female nominee* and *New nominee* and time dummies (for the main voting seasons May and June of every year). Includes company fixed effects.

Table 1: Descriptive Statistics of Main Variables - Full board

Variable	N	mean	sd	p25	p50	p75
Support	14,527	0.941	0.09	0.935	0.978	0.992
Share of female board members	20,262	0.169	0.122	0.1	0.167	0.250
Number of female board members	20,262	1.471	1.144	1	1	2
Director age	20,262	61.102	9.591	55	61	68
Director tenure	20,262	7.929	7.478	2	6	11
Board size	20,262	8.274	2.039	7	8	9
Independent	20,262	0.753	0.431	1	1	1
Classified board	20,262	0.435	0.496	0	0	1

This table reports descriptive statistics for the full board of directors as well as the nominee sample that is used for our main analysis. The full board sample is larger because in classified (staggered) boards not all board members are up for election every year.

Table 2: Descriptive Statistics of Main Variables - Nominees

Panel A: Female Nominees						
Variables	N	mean	sd	p25	p50	p75
Support	2,513	0.956	0.078	0.959	0.986	0.994
Director age	2,513	59.082	8.048	54	59	64
Director tenure	2,513	5.215	5.809	1	3	7
New nominee	2,513	0.230	0.421	0	0	0
Independent	2,513	0.850	0.358	1	1	1
Panel B: Male Nominees						
Variables	N	mean	sd	p25	p50	p75
Support	12,014	0.937	0.093	0.927	0.976	0.991
Director age	12,014	61.987	9.745	56	62	69
Director tenure	12,014	8.736	7.928	3	6	13
New nominee	12,014	0.107	0.309	0	0	0
Independent	12,014	0.729	0.445	0	1	1

This table reports descriptive statistics for the nominee sample that is used for our main analysis split by nominee gender. The full board sample is larger because in classified (staggered) boards not all board members are up for election every year.

Table 3: Average raw and abnormal returns for sample firms on quota announcement day

	Number of firms	Mean	Median	t-test
Abnormal return	524	-1.06%	-1.05%	***
Abnormal return (excluding 30 firms traded on OTC)	494	-1.12%	-1.09%	***
Raw return	524	-0.84%	-0.83%	***
Raw return (excluding 30 firms traded on OTC)	494	-0.99%	-0.87%	***

This table reports the mean and median raw and abnormal returns on the quota announcement day (October 1, 2018) for the sample firms. Of the 524 firms, 30 are traded on OTC exchanges. It excludes 31 firms for which no time series of stock prices was available and 30 firms who had material events at the time of the quota announcement. The abnormal return is calculated based on predicted returns from a market model using a 255 day event window prior to the event and weights firms by their market values. The estimation window ends 6 days before the event. The t-test indicates whether the mean raw and abnormal return is different from zero. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4: Support for female nominees: pre- versus post-quota

Variables	(1) Main	(2) Pre-period clean	(3) Pre-period	(4) Post-period
Female nominee	0.005***	0.006**	0.005***	0.013***
	(0.002)	(0.003)	(0.002)	(0.002)
Post x Female nominee	0.008***	0.007**		
	(0.003)	(0.003)		
Election FEs	Yes	Yes	Yes	Yes
R-squared	0.666	0.665	0.656	0.675
Observations	14,527	11,388	8,482	6,045

The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. Specification (2) excludes the time period between October 2017 and October 2018. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 5: Support for female nominees: pre- versus post-quota - within nominee comparison

Excess support	N	Pre	Post	Difference (Post-Pre)
Female Nominee	1,132	0.005	0.001	-0.004
Male Nominee	5,925	0.002	-0.007	-0.009***
Difference (Female-Male)		0.002	0.008***	

This table provides average excess support within nominee before (pre) and after (post) the quota for incumbent female and male nominees. *Excess Support* is defined as the focal nominee's support in an election minus the average for all other nominees in that election. Includes only nominees who stand for election in the pre- and post period. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 6: Support for female nominees: pre- versus post-quota for new and incumbent nominees

	(1)	(2)	(3)	(4)
Variables	Main	New-Interaction	Incumbent	New
Female nominee	0.003	0.002	0.002	0.011**
	(0.002)	(0.002)	(0.002)	(0.005)
Post x Female nominee	0.005*	0.007**	0.006*	-0.006
	(0.003)	(0.003)	(0.003)	(0.008)
New nominee	0.027***	0.022***		
	(0.002)	(0.002)		
Female nominee x New nominee		0.005		
		(0.005)		
Post x New nominee		0.017***		
		(0.004)		
Post x Female nominee x New nominee		-0.016**		
		(0.007)		
Election FEs	Yes	Yes	Yes	Yes
R-squared	0.673	0.674	0.705	0.842
Observations	14,527	14,527	12,664	1,863

The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 7: Descriptive statistics at the firm level by violation type- pre-quota board characteristics

Panel A: Violation19

	Violation19=0			Violation19=1		
Variable	N	mean	sd	N	mean	sd
Abnormal return	360	-0.01	0.031	164	-0.012	0.041
Board size	360	8.317	1.86	164	6.165	1.544
Independent	360	0.766	0.169	164	0.704	0.173
Director tenure	360	7.651	4.03	164	7.446	5.043
Classified board	360	0.478	0.5	164	0.409	0.493

Panel B: Violation21

	Violation21=0			Violation21=1		
Variable	N	mean	sd	N	mean	sd
Abnormal return	67	-0.001	0.041	457	-0.012	0.033
Board size	67	9.03	2.263	457	7.44	1.912
Independent	67	0.795	0.187	457	0.74	0.169
Director tenure	67	6.739	3.321	457	7.711	4.491
Classified board	67	0.388	0.491	457	0.466	0.499

Panel C: Shortfall21

	Shortfall21=1			Shortfall21=2			Shortfall21=3		
Variable	N	mean	sd	N	mean	sd	N	mean	sd
Abnormal return	160	-0.007	0.034	190	-0.011	0.03	107	-0.02	0.035
Board size	160	7.719	2.364	190	7.432	1.818	107	7.037	1.081
Independent	160	0.776	0.149	190	0.727	0.17	107	0.708	0.187
Director tenure	160	8.328	4.986	190	7.398	4.178	107	7.345	4.178
Classified board	160	0.412	0.494	190	0.511	0.501	107	0.467	0.501

This table reports descriptive statistics for board characteristics by violation type at the firm level at the time of the announcement of the quota (September 30, 2018) based on the sub-sample of firms in Table 3). *Abnormal Return*, is the market model adjusted stock return on October 1, 2018. *Violation19* is a dummy that takes a value of one if a board has zero female directors in the last pre-announcement election. *Violation21*is a dummy that takes a value of one if a board would not comply with the 2021 quota requirement (which is based on board size) based on its gender composition at the time of the announcement of the quota. *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition at the time of the announcement of the quota and can range from zero to three. *Shortfall21*=0 is omitted in Panel C as it is equivalent to *Violation21*=0 in Panel B.

Table 8: Abnormal returns and quota violations

Variables	(1) Violation19	(2) Violation21	(3) Shortfall21
Violation19	-0.008*		
	(0.005)		
Violation21		-0.016**	
		(0.007)	
Shortfall21: 1 Female director			-0.012*
			(0.007)
Shortfall21: 2 Female directors			-0.016**
			(0.007)
Shortfall21: 3 Female directors			-0.026***
			(0.008)
Board size	-0.002**	-0.002*	-0.002**
	(0.001)	(0.001)	(0.001)
Independent	-0.014	-0.014	-0.017
	(0.011)	(0.011)	(0.011)
Tenure	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Classified board	-0.008**	-0.007**	-0.006**
	(0.003)	(0.003)	(0.003)
Constant	0.058	0.064*	0.075*
	(0.038)	(0.038)	(0.040)
Industry FEs	Yes	Yes	Yes
Observations	524	524	524
R-squared	0.118	0.128	0.147

The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. *Violation19* is a dummy that takes a value of one if a board has zero female directors in the last pre-announcement election and zero otherwise. *Violation21* is a dummy that takes a value of one if a board would not comply with the 2021 quota requirement (which is based on board size) based on its gender composition in the last pre-announcement election and zero otherwise. *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition at the time of the announcement of the quota and can range from zero to three with zero as the base category. The remaining control variables are equivalent to those in Table 7 defined at the firm level at the time of the announcement of the quota. Regressions include industry (two-digit SIC code) fixed effects. Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 9: Abnormal returns and quota violations

Variables	(1) Violation19	(2) Shortfall21: 1 Female director	(3) Shortfall21: 2 Female directors	(4) Shortfall21: 3 Female directors
Turnover male director	0.032**	-0.006	0.001	0.038***
	(0.012)	(0.005)	(0.006)	(0.013)
Add female director	-0.001	0.017	-0.001	0.012
	(0.006)	(0.017)	(0.006)	(0.007)
Turnover male director x Add female director	-0.042**	-0.030	-0.007	-0.055***
	(0.016)	(0.020)	(0.009)	(0.018)
Board size	-0.003	0.000	-0.003**	0.004
	(0.002)	(0.002)	(0.001)	(0.004)
Independent	-0.001	-0.035	-0.003	0.010
	(0.016)	(0.024)	(0.012)	(0.014)
Tenure	0.001**	0.001*	0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Classified board	-0.006	-0.009	-0.011**	-0.006
	(0.006)	(0.005)	(0.004)	(0.007)
Constant	0.001	0.013	0.016	-0.061**
	(0.017)	(0.018)	(0.015)	(0.031)
Observations	164	160	190	107
R-squared	0.118	0.111	0.077	0.137

The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. Column (1) includes the sub-sample of firms who require one female director to comply with the 2019 quota requirement based on its gender composition at the time of the announcement of the quota. Columns (2)-(4) include the sub-samples of firms who require one, two, and three female directors respectively to comply with the 2021 quota requirement based on its gender composition at the time of the announcement of the quota and can range from zero to three. *Turnover male director* identifies firms that turn over at least one male director in the time period after the quota announcement up until the first post-quota election. *Add female director* indicates whether a firm added a female director during the same period of time (and thus became compliant with the 2019 quota requirement). The remaining control variables are equivalent to those in Table 7 defined at the firm level at the time of the time of the announcement of the quota. We exclude female directors, CEO and board chairs that were turned over by the first pre-quota election; as well as turnovers that are unlikely related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 10: Summary statistics for turned over directors

Panel A: Least supported												
	Least-supported						Least or second-least supported					
Variables	N	mean	sd	p25	p50	p75	N	mean	sd	p25	p50	p75
Support	53	0.883	0.12	0.853	0.913	0.967	72	0.897	0.11	0.864	0.928	0.981
Excess Support	53	-0.068	0.096	-0.083	-0.028	-0.006	72	-0.055	0.087	-0.072	-0.02	-0.004
Independent	53	0.868	0.342	1	1	1	72	0.875	0.333	1	1	1
Director age	53	64.604	10.943	57	66	73	72	65.042	10.534	57	66	74
Director tenure	53	11.358	8.458	5	9	15	72	11.236	8.503	5	9.5	15
Panel B: Other than least or second-least supported												
	Other than least-supported						Other than least or second-least supported					
Variables	N	mean	sd	p25	p50	p75	N	mean	sd	p25	p50	p75
Support	88	0.954	0.055	0.939	0.977	0.989	69	0.96	0.052	0.948	0.979	0.991
Excess Support	88	0.012	0.045	-0.001	0.003	0.026	69	0.021	0.043	0.001	0.008	0.032
Independent	88	0.875	0.333	1	1	1	69	0.87	0.339	1	1	1
Director age	88	63.216	11.09	56.5	65	71.5	69	62.377	11.416	56	64	71
Director tenure	88	8.875	6.475	4	8	13	69	8.319	5.609	4	7	13

This table reports descriptive statistics for male directors who were turned over by the time of the first post-quota election split by the level of shareholder support in the last pre-quota election. The sample consists of director departures in firms (N=126) that have at least one female director in the first election after the quota (complying with the 2019 quota requirement) and where a male incumbent director departs from the board. This sample excludes female directors, CEO and board chairs that were turned over by time of the first pre-quota election. It also excludes turnovers that are unlikely to be related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). Panel A shows descriptive statistics for turned over directors who had lowest support (and lowest or second-lowest support) in the last pre-quota election. Panel B shows descriptive statistics for turned over directors who were not the least-supported (and not the least or second-least supported) in the last pre-quota election. When a director did not stand for election in the last pre-quota election, their ranking is calculated based on the last election where they were a nominee. A robustness check for the sub-sample of only non-classified boards (where each director stands for election every year) is reported in Table A4.

Table 11: Abnormal returns, quota violations, and board turnover

		Least supported replaced		Least or second-least supported replaced	
	Base	No	Yes	No	Yes
Violation19	-0.016 *	-0.023 **	0.001	-0.028 **	0.004
	(0.009)	(0.010)	(0.015)	(0.011)	(0.013)
Shortfall21: 1 Female director	-0.013 **	-0.013	-0.005	-0.010	-0.011
	(0.006)	(0.008)	(0.009)	(0.011)	(0.007)
Shortfall21: 2 Female directors	-0.016 ***	-0.015 *	-0.008	-0.011	-0.012
	(0.006)	(0.009)	(0.008)	(0.011)	(0.008)
Shortfall21: 3 Female directors	-0.028 ***	-0.037 ***	-0.006	-0.040 ***	-0.006
	(0.010)	(0.012)	(0.018)	(0.014)	(0.016)
Observations	126				

The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. The sample consists of firms that have at least one female director by the first election after the quota (complying with the 2019 quota requirement) and where a male incumbent director departs from the board by the first post-quota election. This sample excludes female directors, CEO and board chairs that were turned over by the first pre-quota election. It also excludes turnovers that are unlikely related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). The coefficients reported in Column *Base* are based on a regression where *Violation19* (*Shortfall21*) is regressed on *Abnormal Return*. The coefficients in the remaining columns include an interaction term between *Violation19* (*Shortfall21*) and *Least supported replaced* or (*Least or second-lest supported replaced*). *Violation19* is a dummy that takes a value of one if a board has zero female directors at the time of the quota announcement (September 30, 2018). *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition in the last pre-announcement election and can range from zero to three. *Least supported replaced* is a dummy that takes a value of one if the departing director is the least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *Least or second-lest supported replaced* is a dummy that takes a value of one if the departing director is the least or second-least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. All specifications include the control variables listed in Table 7 defined at the firm level at the time of the quota announcement. A robustness check for the sub-sample of only non-classified boards (where each director stands for election every year) is reported in Table A4. Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

A Appendix

Table A1: Support for female nominees: pre- versus post-quota for new and incumbent nominees – ISS recommendations

	(1)	(2)	(3)	(4)
Variables	Main	New-Interaction	Incumbent	New
Female nominee	0.002	0.000	0.001	0.007
	(0.002)	(0.002)	(0.002)	(0.005)
Post x Female nominee	0.009***	0.009***	0.008***	-0.002
	(0.002)	(0.003)	(0.003)	(0.007)
New nominee		0.007***		
		(0.002)		
Female nominee x New nominee		0.004		
		(0.004)		
Post x New nominee		0.014***		
		(0.004)		
Post x Female nominee x New nominee		-0.014**		
		(0.006)		
ISS Against Recommendation	-0.138***	-0.136***	-0.140***	-0.118***
	(0.002)	(0.002)	(0.002)	(0.008)
Election FEs	Yes	Yes	Yes	Yes
R-squared	0.767	0.769	0.789	0.882
Observations	13,957	13,957	12,156	1,801

Corresponds to specification in Table 6 for the sub-sample of elections for which an ISS recommendation is available. The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *ISS Against Recommendation* takes the value of one if ISS issued an "against" recommendation for the nominee in the focal election. Female nominee takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A2: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Non-classified boards

	(1)	(2)	(3)	(4)
Variables	Main	New-Interaction	Incumbent	New
Female nominee	0.007***	0.004	0.004	0.014**
	(0.002)	(0.002)	(0.002)	(0.006)
Post x Female nominee	0.006*	0.007**	0.006*	-0.007
	(0.003)	(0.003)	(0.003)	(0.009)
New nominee		0.018***		
		(0.003)		
Female nominee x New nominee		0.009*		
		(0.006)		
Post x New nominee		0.014***		
		(0.005)		
Post x Female nominee x New nominee		-0.022***		
		(0.008)		
Election FEs	Yes	Yes	Yes	Yes
R-squared	0.614	0.620	0.647	0.759
Observations	11,441	11,441	10,093	1,348

Corresponds to specification in Table 6 for the sub-sample of non-classified boards only. The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A3: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Firms with stock returns

	(1)	(2)	(3)	(4)
Variables	Main	New-Interaction	Incumbent	New
Female nominee	0.006***	0.003	0.004	0.012**
	(0.002)	(0.002)	(0.002)	(0.006)
Post x Female nominee	0.007**	0.006*	0.005	-0.008
	(0.003)	(0.003)	(0.003)	(0.009)
New nominee		0.023***		
		(0.003)		
Female nominee x New nominee		0.004		
		(0.005)		
Post x New nominee		0.016***		
		(0.005)		
Post x Female nominee x New nominee		-0.014*		
		(0.008)		
Election FEs	Yes	Yes	Yes	Yes
R-squared	0.661	0.669	0.698	0.832
Observations	13,006	13,006	11,332	1,674

Corresponds to specification in Table 6 for the sub-sample of 524 firms for which sufficient stock price information was available to calculate abnormal returns and who did not have any other material events at the time of the quota announcement (corresponding to sample in Table 7). The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A4: Abnormal returns, quota violations and board turnover – Non-classified boards

		Least supported replaced		Least or second-least supported replaced	
	Base	No	Yes	No	Yes
Violation19	-0.022 **	-0.027 *	-0.007	-0.029 **	0.007
	(0.010)	(0.014)	(0.007)	(0.014)	(0.007)
Shortfall21: 1 Female director	-0.001	0.005	-0.002	0.011	-0.005
	(0.007)	(0.010)	(0.006)	(0.016)	(0.017)
Shortfall21: 2 Female directors	-0.013	-0.006	-0.008	0.004	-0.017
	(0.008)	(0.014)	(0.008)	(0.019)	(0.010)
Shortfall21: 3 Female directors	-0.028 **	-0.032 *	0.001	-0.027	-0.004
	(0.013)	(0.017)	(0.008)	(0.021)	(0.010)
Observations	59				

Corresponds to specification in Table 11 for the sub-sample of non-classified boards only where every director stands for election every year. The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. The sample consists of firms that have at least one female director by time of the first election after the quota (complying with the 2019 quota requirement) and where a male incumbent director departs from the board by the time of the first post-quota election. This sample excludes female directors, CEO and board chairs that were turned over by time of the first pre-quota election. It also excludes turnovers that are unlikely to be related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). The coefficients reported in Column *Base* are based on a regression where *Violation19* (*Shortfall21*) is regressed on *Abnormal Return*. The coefficients in the remaining columns include an interaction term between *Violation19* (*Shortfall21*) and *Least supported replaced* or *Least or second-lest supported replaced*. *Violation19* is a dummy that takes a value of one if a board has zero female directors at the time of the quota announcement (September 30, 2018). *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition in the last pre-announcement election and can range from zero to three. *Least supported replaced* is a dummy that takes a value of one if the departing director is the least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *Least or second-lest supported replaced* is a dummy that takes a value of one if the departing director is the least or second-least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. All specifications include control variables listed in Table 7 defined at the firm level at the time of the quota announcement. Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A5: Abnormal returns, quota violations and board turnover (alternative specification)

		Least supported replaced		Least or second-least supported replaced	
	Base	No	Yes	No	Yes
Violation19	-0.016 *	-0.027 **	0.004	-0.033 **	0.006
	(0.009)	(0.011)	(0.014)	(0.011)	(0.013)
Shortfall21: 1 Female director	-0.013 **	-0.014 *	-0.004	-0.012	-0.010
	(0.006)	(0.008)	(0.008)	(0.010)	(0.008)
Shortfall21: 2 Female directors	-0.018 **	-0.016 *	-0.010	-0.011	-0.014*
	(0.006)	(0.009)	(0.009)	(0.010)	(0.008)
Shortfall21: 3 Female directors	-0.029 ***	-0.042 ***	-0.004	-0.045 ***	-0.005
	(0.011)	(0.012)	(0.017)	(0.014)	(0.016)
Observations	124				

Corresponds to specification in Table 11. Instead of the time of the first post-quota election, turnovers of male directors and additions of new female directors are considered up until and including May 2019 for all firms. The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. The sample consists of firms that have at least one female director by May 2019 (complying with the 2019 quota requirement) and where a male incumbent director departs from the board by May 2019. This sample excludes female directors, CEO and board chairs that were turned over by time of the first pre-quota election. It also excludes turnovers that are unlikely to be related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). The coefficients reported in Column *Base* are based on a regression where *Violation19* (*Shortfall21*) is regressed on *Abnormal Return*. The coefficients in the remaining columns include an interaction term between *Violation19* (*Shortfall21*) and *Least supported replaced* or *Least or second-lest supported replaced*. *Violation19* is a dummy that takes a value of one if a board has zero female directors at the time of the quota announcement (September 30, 2018). *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition in the last pre-announcement election and can range from zero to three. *Least supported replaced* is a dummy that takes a value of one if the departing director is the least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *Least or second-lest supported replaced* is a dummy that takes a value of one if the departing director is the least or second-least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. All specifications include control variables listed in Table 7 defined at the firm level at the time of the quota announcement. A robustness check for the sub-sample of only non-classified boards (where each director stands for election every year) is reported in Table A6. Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A6: Abnormal returns, quota violations and board turnover (alternative specification) – Non-classified boards

		Least supported replaced		Least or second-least supported replaced	
	Base	No	Yes	No	Yes
Violation19	-0.024 **	-0.034 **	0.006	-0.037 **	0.006
	(0.011)	(0.014)	(0.006)	(0.015)	(0.006)
Shortfall21: 1 Female director	0.000	0.003	-0.000	0.003	0.000
	(0.007)	(0.010)	(0.005)	(0.014)	(0.005)
Shortfall21: 2 Female directors	-0.016 **	-0.016	-0.008	-0.013	-0.012
	(0.007)	(0.013)	(0.007)	(0.016)	(0.008)
Shortfall21: 3 Female directors	-0.030 **	-0.045 **	-0.001	-0.045 **	-0.001
	(0.014)	(0.017)	(0.007)	(0.019)	(0.008)
Observations	55				

Corresponds to specification in Table A5 for the sub-sample of non-classified boards. The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. The sample consists of firms that have at least one female director by May 2019 (complying with the 2019 quota requirement) and where a male incumbent director departs from the board by May 2019. This sample excludes female directors, CEO and board chairs that were turned over by time of the first pre-quota election. It also excludes turnovers that are unlikely to be related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). The coefficients reported in Column *Base* are based on a regression where *Violation19* (*Shortfall21*) is regressed on *Abnormal Return*. The coefficients in the remaining columns include an interaction term between *Violation19* (*Shortfall21*) and *Least supported replaced* or *Least or second-lest supported replaced*. *Violation19* is a dummy that takes a value of one if a board has zero female directors at the time of the quota announcement (September 30, 2018). *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition in the last pre-announcement election and can range from zero to three. *Least supported replaced* is a dummy that takes a value of one if the departing director is the least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *Least or second-lest supported replaced* is a dummy that takes a value of one if the departing director is the least or second-least supported one based on shareholder votes (*Support*) in the last election before the quota announcement. All specifications include control variables listed in Table 7 defined at the firm level at the time of the quota announcement. Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A7: Characteristics of female and male nominees by timing of appointment

	Appointed before quota		Appointed after quota				
	Male nominee	Female nominee	Male nominee	Female nominee			
Characteristic	(1)	(2)	(3)	(4)	(2)-(1)	(4)-(2)	(4)-(3)
Independent Director Experience	0.446	0.473	0.495	0.437	0.027*	-0.035	-0.057*
Independent Director Experience (Years)	2.752	2.614	3.381	2.486	-0.138	-0.128	-0.894***
CEO Experience	0.214	0.110	0.274	0.122	-0.105***	0.012	-0.152***
CEO Experience (Years)	1.898	0.894	2.342	1.053	-1.003***	0.159	-1.288***
Same Industry Experience	0.366	0.313	0.462	0.369	-0.053***	0.056**	-0.093**
Same Industry Experience (Years)	3.421	3.094	4.759	4.082	-0.327*	0.988***	-0.677
Financial Experience	0.213	0.248	0.213	0.220	0.035**	-0.028	0.007
Generalist Ability Index	1.871	1.976	2.577	2.332	0.105*	0.356***	-0.245*
Ivy League	0.255	0.261	0.253	0.203	0.006	-0.058**	-0.049*
Number of nominees	4,013	747	277	295			

This table reports characteristics and differences in characteristics of female (Columns (2) and (4)) and male (Columns (1) and (3)) director nominees appointed to boards before (Columns (1) and (2)) and after (Columns (3) and (4)) the quota announcement (October 2018). Only includes directors who are also standing as nominees for election throughout our sample period. All characteristics are calculated for each nominee at the time of their appointment to the focal board. *Independent Director Experience* indicates whether a nominee served as an independent director at another listed firm. *Independent Director Experience (Years)* is the number of years a nominee served as an independent director at another listed firm. *CEO Experience* indicates whether a nominee served as a CEO at another listed firm. *CEO Experience (Years)* is the number of years a nominee served a CEO at another listed firm. *Same Industry Experience* indicates whether a nominee has experience at another listed firm that is active in the same two-digit SIC code industry as the focal firm. *Same Industry Experience (Years)* is the number of years of experience a nominee has at another listed firm that is active in the same two-digit SIC code industry as the focal firm. *Financial Experience* indicates whether a nominee has experience as CEO of either a banking or investment firm (SIC code starts with 60, 61, or 62), or in a finance-related role (accountant, CFO, treasurer, or VP of finance), or in a large auditing firm (PWC, EY, Deloitte, or KPMG or any predecessor) (based on Custódio, Ferreira, and Matos, 2013). *Generalist Ability Index* is from Custódio, Ferreira, and Matos, 2013, estimated as GAI = 0.268 × # different positions + 0.312 × # different firms + 0.309 × # different industries + 0.281 × CEO experience + 0.153 × Conglomerate experience. *Ivy League* indicates whether a nominee graduated from an Ivy League school. The sample excludes 31 companies that are listed on OTC exchanges. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A8: Shareholder support and nominee characteristics

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Independent Director Experience	-0.005**								
	(0.002)								
Independent Director Experience (Years)		-0.000							
		(0.000)							
CEO Experience			0.001						
			(0.002)						
CEO Experience (Years)				0.000					
				(0.000)					
Same Industry Experience					0.001				
					(0.002)				
Same Industry (Years)						0.000			
						(0.000)			
Financial Experience							0.001		
							(0.002)		
Generalist Ability Index								0.000	
								(0.000)	
Ivy League									-0.000
									(0.002)
Company FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared 0.468	0.468	0.468	0.468	0.468	0.468	0.468	0.468	0.468	
Observations	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823	6,823

Corresponds to the subsample of male nominees before the announcement of the quota (September 30, 2018). (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. The independent variables are described in A7. The sample excludes 31 companies that are listed on OTC exchanges. We use company fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A9: Nominee characteristics: pre- versus post-quota for new and incumbent nominees

Variables	(1) Independent Director Experience	(2) CEO Experience	(3) Same Industry Experience	(4) Financial Experience	(5) Generalist Ability Index	(6) Ivy League
Female nominee	0.007	-0.128***	-0.008	0.049***	-0.039	-0.009
	(0.016)	(0.013)	(0.014)	(0.014)	(0.062)	(0.015)
Post	0.010	0.014*	0.015*	0.011	0.120***	0.002
	(0.009)	(0.008)	(0.008)	(0.008)	(0.035)	(0.008)
Post x Female nominee	-0.015	-0.004	-0.027	-0.033	-0.012	0.001
	(0.023)	(0.019)	(0.020)	(0.020)	(0.087)	(0.021)
New nominee	0.064***	0.051***	0.055***	0.024	0.458***	0.009
	(0.017)	(0.014)	(0.015)	(0.015)	(0.066)	(0.016)
Female nominee x New nominee	-0.048	-0.022	-0.074**	-0.059*	-0.187	-0.007
	(0.037)	(0.031)	(0.032)	(0.033)	(0.141)	(0.034)
Post x New nominee	-0.062**	-0.040	-0.016	-0.039	0.030	-0.014
	(0.030)	(0.025)	(0.026)	(0.027)	(0.116)	(0.028)
Post x Female nominee x New nominee	0.034	0.024	0.058	0.039	0.104	-0.016
	(0.053)	(0.045)	(0.046)	(0.048)	(0.205)	(0.049)
Company FEs	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.226	0.162	0.365	0.106	0.267	0.149
Observations	13,792	13,792	13,792	13,792	13,792	13,792

Corresponds to specification in Table 6 Column (2). In place of (*Support*) we use different nominee characteristics (specified in Columns (1)-(6)) described in Table A7 as the dependent variable in all OLS regressions. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The sample excludes 31 companies that are listed on OTC exchanges. The unit of analysis is a company. We use company fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A10: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Nominee characteristics controls

Variables	(1)	(2)	(3)	(4)	(5)	(6)
Female nominee	0.002	0.002	0.002	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Post x Female nominee	0.007**	0.007**	0.007**	0.007**	0.007**	0.007**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
New nominee	0.023***	0.022***	0.022***	0.022***	0.023***	0.022***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Female nominee x New nominee	0.005	0.006	0.006	0.006	0.006	0.006
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Post x New nominee	0.016***	0.016***	0.017***	0.017***	0.017***	0.017***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Post x Female nominee x New nominee	-0.017**	-0.017**	-0.017**	-0.017**	-0.017**	-0.017**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Independent Director Experience	-0.006***					
	(0.001)					
CEO Experience		-0.004***				
		(0.001)				
Same Industry Experience			0.001			
			(0.001)			
Financial Experience				-0.000		
				(0.001)		
Generalist Ability Index					-0.001**	
					(0.000)	
Ivy League						-0.003**
						(0.001)
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.676	0.675	0.675	0.675	0.675	0.675
Observations	13,792	13,792	13,792	13,792	13,792	13,792

Corresponds to specification in Table 6 Column (2). The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. Nominee characteristics based on Table A7 are included as controls. The unit of analysis is an election. The sample excludes 31 companies that are listed on OTC exchanges. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A11: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Non-Californian sample

Variables	(1) Main	(2) New-Interaction	(3) Incumbent	(4) New
Female nominee	0.005***	0.004***	0.004***	0.008***
	(0.001)	(0.001)	(0.001)	(0.002)
Post x Female nominee	0.002*	0.002*	0.002*	-0.004
	(0.001)	(0.001)	(0.001)	(0.004)
New nominee		0.016***		
		(0.001)		
Female nominee x New nominee		0.001		
		(0.002)		
Post x New nominee		0.008***		
		(0.001)		
Post x Female nominee x New nominee		-0.007**		
		(0.003)		
Election FEs	Yes	Yes	Yes	Yes
R-squared	0.679	0.683	0.700	0.821
Observations	108,277	108,277	90,525	17,752

Corresponds to specification in Table 6 for the sample of U.S. firms with headquarters outside of California over the same time period. The sample includes Russell 3000 firms from the ISS Voting Analytics database. The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. Female nominee takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A12: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Mutual funds with a diversity focus

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variables	Main		New-Interaction		Incumbent		New	
	Top100	Other	Top100	Other	Top100	Other	Top100	Other
Female nominee	0.007	0.014***	-0.000	0.009	-0.001	0.008	0.013	0.017
	(0.006)	(0.005)	(0.006)	(0.006)	(0.007)	(0.006)	(0.013)	(0.015)
Post x Female nominee	0.001	0.011	0.002	0.007	0.003	0.004	0.001	-0.004
	(0.010)	(0.009)	(0.011)	(0.010)	(0.011)	(0.010)	(0.025)	(0.027)
New nominee			0.037***	0.076***				
			(0.009)	(0.007)				
Female nominee x New nominee			0.017	-0.010				
			(0.016)	(0.014)				
Post x New nominee			-0.003	0.011				
			(0.017)	(0.014)				
Post x Female nominee x New nominee			-0.004	0.001				
			(0.028)	(0.024)				
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.535	0.633	0.538	0.643	0.573	0.682	0.860	0.831
Observations	6,503	9,959	6,503	9,959	5,741	8,694	762	1,265

Corresponds to specification in Table 6 for voting results from mutual fund investors for the period from January 2016 until September 2019. The dependent variable, (*Support*), considers only votes from mutual fund investors and is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *Top100* includes the sub-sample of votes for a nominee from mutual fund investors who are ranked in the top 100 based on the (value-weighted) MSCI ESG KLD ratings in the category Workforce Diversity of their portfolio firms in 2017 (columns (1), (3), (5), (7)). *Other* includes votes for a nominee from mutual fund investors who are not in the top 100 based on the MSCI ESG KLD ratings for the category Workforce Diversity of their portfolio firms in 2017 (columns (2), (4), (6), (8)). The fund portfolios are determined on fund family level. *Female nominee* takes the value of one if the focal nominee standing for election is a woman. *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. *New nominee* is equal to one if a nominees stands for election for the first time and was appointed to board within one year of meeting where the election took place. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A13: Support for new female nominees and ownership by the big three mutual funds

Variables	Big3	Excluding Big3	State Street	Excluding State Street	Vanguard	Excluding Vanguard	Blackrock	Excluding Blackrock
New female nominee	0.010*	0.014	-0.002	0.013**	0.011*	0.010	0.005	0.014**
	(0.005)	(0.014)	(0.009)	(0.007)	(0.006)	(0.009)	(0.007)	(0.007)
Post x New female nominee	-0.001	-0.020	0.011	-0.020	0.000	-0.009	0.004	-0.012
	(0.009)	(0.020)	(0.011)	(0.015)	(0.013)	(0.012)	(0.012)	(0.011)
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.802	0.873	0.883	0.827	0.808	0.856	0.847	0.839
Observations	1,179	684	653	1,210	705	1,158	545	1,318

Corresponds to specification in Table 6 for the sub-sample of new nominees. Sample splits are performed based on the ownership stake (with voting power) of the big three mutual funds State Street, Vanguard and Blackrock. Column (1) corresponds to the sub-sample of firms where either of the big three mutual funds had an average or above average ownership stake in the firm (based on their respective distribution of ownership) in the quarter preceding the election. Columns (2) corresponds to the sub-sample firms that excludes these firms. Columns (3), (5), (7) consider each mutual fund separately and correspond to the sub-samples of firms where either State Street, Vanguard or Blackrock had an average or above average ownership stake in the firm (based on their respective distribution of ownership) in the quarter preceding the election. The dependent variable (*Support*) in all OLS regressions is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. *New female nominee* takes the value of one if the focal nominee standing for election is a woman, is standing for election for the first time and was appointed to the board within one year of the election . *Post* is a dummy equal to one if the election takes place in October 2018 or later and zero otherwise. The unit of analysis is an election. We use election fixed effects in all regressions. Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

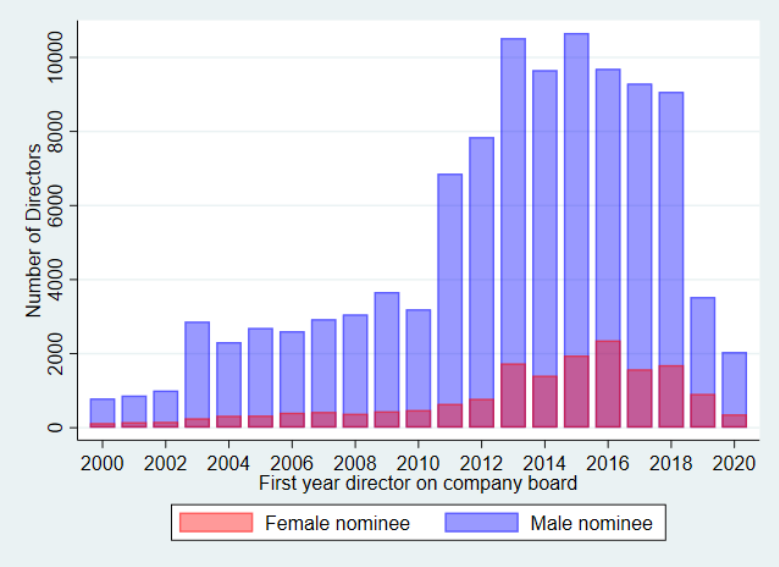


Figure A1: Additions of female and male nominees over time in U.S. firms that are headquartered outside of California. The sample includes Russell 3000 firms from the ISS Voting Analytics database.

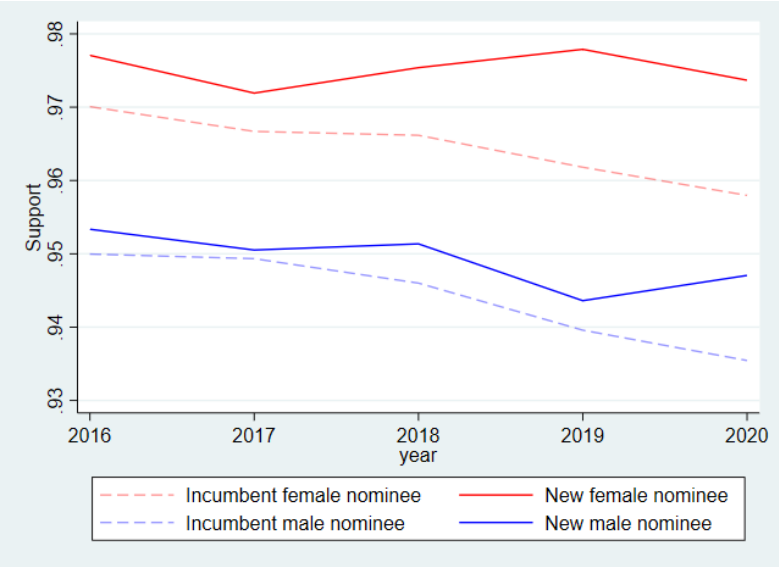


Figure A2: Average yearly support for incumbent and new, male and female nominees standing for election in U.S. firms that are headquartered outside of California. The sample includes Russell 3000 firms from the ISS Voting Analytics database. Support is defined as the ratio of "for" votes to the sum of "for," "abstain," and "against" votes. New nominees are nominees who stand for election for the first time and were appointed to board within one year of the meeting where the election took place.

B Appendix

Turnover of Committee Chairs

Ertimur, Ferri, and Oesch, 2018 show that in uncontested director elections, shareholders use their votes to express dissatisfaction with specific corporate governance problems they would like to see addressed. They do so by targeting the chairs of the committees where they see issues. However, the withdrawal of support for committee chairs is not intended to imply that the director is generally not a good fit for the company. For instance, related to gender diversity specifically, institutional investors advocating higher female board representation through campaigns preceding the quota threatened to vote against the chair of the nominating committee if they felt that their request was not sufficiently addressed by firms (as also described in Gormley et al., 2020). According to the logic described in Ertimur, Ferri, and Oesch, 2018, it might be the case that shareholders voted against committee chairs to address specific issues but did not want to see these committee chairs leave the board. This means that in cases where a committee chair is the least (or second-least) supported director and is leaving the board we should see a negative stock price reaction. Thus, the value-neutral returns for violating firms who turn over the least supported directors should be driven by firms who turn over least supported directors who are not committee chairs. To test whether this is the case, we conduct an analysis for the subsample of firms where the least or second-least supported director is leaving the board. Within this sample, we separate firms where the departing least or second-least supported director is a committee chair from those where the departing least or second-least supported director is not a committee chair. The results are reported in Table B1; in both cases the point estimates are not statistically significant and very close to zero.

Table B1: Abnormal returns, quota violations and board turnover: turnovers of committee chairs

		Departing least or second-least supported director is a committee chair	
	Base	No	Yes
Violation19	0.001	0.000	-0.003
	(0.012)	(0.012)	(0.033)
Shortfall21: 1 Female director	0.007	0.013	-0.006
	(0.010)	(0.015)	(0.013)
Shortfall21: 2 Female directors	0.001	-0.006	-0.005
	(0.009)	(0.012)	(0.012)
Shortfall21: 3 Female directors	0.004	0.001	-0.009
	(0.015)	(0.019)	(0.036)
Observations	49		

Corresponds to specification in Table 11 for the subsample of firms where the least or second least supported male incumbent director based on shareholder votes (*Support*) in the last election before the quota announcement departs from the board by the time of the first post-quota election. The dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. The sample consists of firms that have at least one female director by May 2019 (complying with the 2019 quota requirement) and where a male incumbent director departs from the board by May 2019. This sample excludes female directors, CEO and board chairs that were turned over by time of the first pre-quota election. It also excludes turnovers that are unlikely to be related to the quota (as a result of mergers and restructurings, director deaths, health reason, requirements on retirement age). The coefficients reported in Column *Base* are based on a regression where *Violation19* (*Shortfall21*) is regressed on *Abnormal Return*. The coefficients in the remaining columns include an interaction term between *Violation19* (*Shortfall21*) and *Departing least or second-least supported director is a committee chair* or *Departing least or second-least supported director is not a committee chair*. *Violation19* is a dummy that takes a value of one if a board has zero female directors at the time of the quota announcement (September 30, 2018). *Shortfall21* is equal to the board's number of female directors missing to comply with the 2021 quota requirement based on its gender composition in the last pre-announcement election and can range from zero to three. *Departing least or second-least supported director is a committee chair* is a dummy that takes a value of one if the departing director is the least or second-least supported director and the chair of a board committee. *Departing least or second-least supported director is not a committee chair* is a dummy that takes a value of one if the departing director is the least or second-least supported director and not the chair of a board committee. All specifications include control variables listed in Table 7 defined at the firm level at the time of the quota announcement. Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.