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 first show that pre-quota, new female nominees received greater support than new male nominees, consistent with women being held to a higher standard. Post-quota, as the number of women increased, support for new (mandated) female nominees decreased to the same level of support that new male nominees enjoy. We conclude that shareholders approve of the quota-mandated female nominees. Share prices reacted negatively to the quota because some boards turned over highly-supported male incumbents rather than the least-supported ones when complying with the quota.

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

JEL Codes: G30, G34, G38, J16, K38

1 Introduction

In September 2018, California (CA) passed a gender quota for corporate boards (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. 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 implying 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, recent evidence casts doubt on whether labour market constraints for female directors are driving the negative stock price reaction to quotas. In the Norwegian case, Bertrand et al., 2019 showed that the female director pool was able to broaden without compromising quality. Within the context of the CA gender quota, analyses of selected characteristics of quota-mandated female directors also do not explain the negative response of the stock market (Hwang, Shivdasani, and Simintzi, 2018; Greene, Intintoli, and Kahle, 2021).[1]

We investigate two potential explanation to for the negative stock price reaction. Both are based on the premise that a quota is a shock to board composition. This shock, in turn, prompts a restructuring process which the board itself is in charge of through director appointments and turnovers. Both our proposed explanations focus on potential errors in the replacement process of incumbent directors when new female directors join the board as a result of the quota. First, it may be that boards are unable to recruit shareholders' preferred female directors to comply with the mandate (even though such candidates exist). In this case, boards replace shareholders' preferred incumbent male directors with new female directors that do not meet shareholders' standards. Second, it could be that boards add female directors that shareholders approve of, but they fail to turn over the least-preferred incumbent male directors. Both of these errors could lead to negative share price reactions. Our results show that boards are able to recruit female

[1]This is consistent with Erel et al., 2021, who point out that there is no clear mapping from qualification (skill) measures to shareholder preferences. Thus, we focus on support as the direct measure of shareholder preferences.

directors who shareholders approve of. Consistent with the second explanation, we find that stock prices of companies reacted negatively only when companies retain the least-supported male director and replace a male director with higher support when adding a female director to comply with the quota.

Stock prices do not provide information on shareholders' attitudes towards individual director nominees. To provide such a measure, we hand-collected data on shareholder voting results from annual shareholder meetings for approximately 600 firms, before and after the introduction of the CA quota. Because shareholders also price the company's stock, combining the share price reaction with how shareholders vote provides a more holistic perspective from which to analyze shareholders' attitudes.

Voting results are consequential for directors and, as a result, 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). At the same time, shareholders do not need to vote in favor of female nominees to ensure that the firm complies with the quota because elections for the board of directors are uncontested, non-binding and the nominee has agreed to serve on the board prior to the election. Thus shareholders do not risk the woman not being appointed to the board conditional on her standing for election. At the same time, low shareholder support provides a signal of shareholder disapproval to the board (Erel et al., 2021).

We show that, pre-quota, new female nominees received greater shareholder support than new male nominees. This is consistent with women facing a higher bar to be nominated for board positions.[2] Post-quota, the number of female appointees greatly increased. We show that while shareholder support for new female nominees decreased after the quota, it did not decrease below the level of support for new male nominees. Thus, we see no evidence that shareholders support quota-mandated female nominees less than new male nominees. This evidence does not support the idea that boards are unable to recruit female directors as an explanation for the negative stock price reaction to the quota. It suggests that there is a sufficient supply of women

[2] A higher support threshold for women to become nominees may emerge if, for instance, boards select nominees based on "easy to measure" director characteristics where women fall behind and that shareholders don't value highly (e.g. CEO status or board experience). For example, Erel et al., 2021 show that boards put too much emphasis on board experience and network when recruiting new directors, and that such characteristics therefore turn out to be predictors of low director support.

shareholders approve of to fill board seats within the context of the CA quota.

In all our analyses, we include election fixed effects to compare female and male as well as incumbent and new nominees within the same election. To further establish robustness, we separately analyze the subset of non-classified boards and firms that are not traded on major exchanges as well as control for the shareholder advisory firm Institutional Shareholder Services (ISS) recommendations. We also show that our results are not driven by board committee membership or the independence status of a nominee.

We next test our second proposed explanation for the negative stock market reaction to the CA quota: that boards do not turn over the least-supported male directors when adding female directors to comply with the quota. We find that the negative stock price reaction to the quota is concentrated within firms that turn over a male director when a new female director joins their board after the quota. We further show that stock prices of companies reacted negatively only when companies retain the least-supported male director and replace a male director with higher support when adjusting board composition. The fact that unpopular male directors remain on boards as new women join is also reflected in a substantial decline in shareholder support for incumbent male nominees post-quota. We provide supporting evidence that shareholders are able to predict which boards will fail to turn over the least-supported male director at the time of the quota announcement based on observable board characteristics.

In all these analyses, we control for board characteristics associated with corporate governance quality at the time of the quota announcement. We also show that firms that retained the least-supported male director are more likely to have plurality voting rules, which protects weak directors. Furthermore, we separately analyze the subset of non-classified boards, control for firm size, and ensure that our results are not driven by instances where a committee chair is turned over.

The evidence supports our proposed explanation that the failure of boards to turn over the least-supported directors when they add a woman to the board helps explain the negative stock price reaction to the quota. Prior literature documents evidence of misalignment between director and shareholder interests (Hermalin and Weisbach, 1998; Bebchuk and Cohen, 2005; Coles, Daniel, and Naveen, 2014). We argue that this sub-optimal turnover of incumbent directors is correctly anticipated by shareholders. They can predict which firms are more likely to make value-destroying turnover decisions to comply with the quota.

Taken together, our analysis provides two pieces of evidence that are jointly derived from shareholder behavior in pricing a firm's stock and voting for director nominees at elections: i) a high level of shareholder support for new (quota-mandated) female nominees; and ii) 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. Jointly, these pieces of evidence lend support to the conclusion that the quota destroys value for firms, but not because of the women newly appointed to directorships. Our results provide an important reminder that when a share price reacts to a new regulation, the reaction reflects a combination of shareholder considerations. 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.

Alternative explanations must jointly account for findings i) and ii). 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). While such developments might help explain increasing support for female nominees in general, they cannot explain the negative share price reaction to the quota, or the relationship between the negative share price reaction and turnover decisions regarding incumbent male directors. In additional tests, we explore alternative drivers of shareholder support for new female nominees. We analyze voting trends in other US states, and investigate where support for new female nominees should have been lower based on their characteristics. In addition, we show that our results hold for the subset of institutional investors who don't have a built-in preference for female directors.

Our work contributes to the vibrant literature seeking to understand the consequences of gender quotas for boards of directors. While the evidence on the viability and benefits of gender board quotas is still mixed (e.g. Adams and Ferreira, 2009; Gul, Srinidhi, and Ng, 2011; Adams and Funk, 2012; Kim and Starks, 2016; Bernile, Bhagwat, and Yonker, 2018; Naaraayanan and Meisner Nielsen, 2020), quotas are increasing in popularity as a policy tool to increase female representation in leadership positions (Smith, 2018).

In 2003, Norway became the first country in the world to introduce a gender quota for corporate boards. In an early study 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 with a related empirical design. With respect to the qualification of quota-mandated female directors, Ahern and Dittmar, 2012 documented that the new women who joined the board post-quota were less experienced than incumbent male directors. An empirical challenge when investigating the Norwegian quota is uncertainty about what should constitute the event date.[3] 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.[4] 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 counterparts and as the incumbent female board members who were appointed pre-quota.

The 2018 CA quota has a precise event date, and firms were left with a relatively short 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 the 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. All three studies provide evidence of significant negative announcement returns to the quota, ranging from -1.2% to -2.2%. The exact impact depends on the extent of compliance, i.e., firms who were already in compliance with the quota at enactment experienced no adverse effect on returns.[5] Hwang, Shivdasani, and Simintzi, 2018 showed that firms with an insufficient

[3] For instance, Nygaard, 2011 found that the stock market reaction to the quota was positive for firms with low information asymmetries between the board and management. Female directors, who more often represented outsiders, would have worse access to information in firms with high information asymmetries 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.

[4] 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.

[5] Of these three papers, Greene, 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.

supply of female directors experienced increasing costs as a result of the 2018 CA quota, with costs including weaker corporate governance, lower profitability, more limited access to the local director pool, negative announcement returns, lower earnings forecasts, and wider credit default spreads. Von Meyerinck et al., 2019 suggest that the negative announcement returns stem from shareholders' reactions to the government's attempt to regulate non-economic values.

These papers all use announcement returns, and the findings of these papers support the view that shareholders opposed the introduction of the CA quota. Using election results for individual nominees as a direct measure for shareholder preferences, our study provides a new lens for analyzing shareholder reactions. Our results challenge the view that opposition towards quota-mandated female directors fueled the negative stock price reactions and 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, and Section 4 presents our empirical strategy. Thereafter, Section 5 discusses the results, and Section 6 concludes.

2 Institutional Setting

2.1 The Quota: California Senate Bill No. 826

The CA gender quota for corporate boards 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 (i.e. with a principal executive office as identified in the firm's 10-K filing), corresponding to 12% of all US firms. The quota required firms to have at least one appointed female director by the end of 2019. Further, 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. 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. This fine is small relative to the size of the firms it affects (Fried, 2021).[6] Nonetheless, to date, virtually all firms complied with the requirement to have at least one female director on their board.[7]

The CA quota offers a good setting for an event study because it 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 majority. 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 before enacting it 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, for example, the Norwegian gender quota for corporate boards.

2.2 Director Elections

We analyze shareholder attitudes towards mandated female board nominees by studying their voting behavior 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, and corporate law mandates that all shareholders get the right to vote on these nominees in the yearly shareholder meeting.[8] 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 and 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.

[6] In our sample, the median firm has a market capitalization of $1.5 billion meaning that the initial fine of $100,000 represents less than 0.001% of firm value. The size of these fines may put 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. On the other hand, there may also be other costs, for example reputational, arising from not complying with the law. 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.

[7] Firms comply with the law by filing a report through the website of the California Secretary of State.

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

Within the context of our study, it is essential to clarify why shareholder votes are meaningful and what motivates shareholders to vote. In the literature, shareholder votes are considered a market-based measure of individual director performance that reflect shareholders' preferences (Erel et al., 2021). Hart, Zingales, et al., 2017 argue that popularity of directors among shareholder (based on votes) is synonymous with their performance. As shown in Erel et al., 2021, shareholder support does not represent a constant set of characteristics. Instead, it reflects the perception of a director-firm fit that captures a bundle of characteristics shareholders with heterogeneous preferences value. Voting is a way for shareholders to communicate with the board and reveal their views on the individual nominees.

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 that they are not elected.[9] Furthermore, shareholder votes are not binding and firm management can choose to reject the shareholders' recommendations. 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).

We thus argue that shareholders do not vote for women simply because they want the firm to comply with the quota. As the nominees are basically guaranteed to be elected, shareholders do not have to concern themselves with quota compliance, provided enough women are nominated. However, building on the previous literature, we argue that shareholders use their votes to signal to the firm whether they consider certain nominees suitable.

While shareholders cannot, in practice, influence whether or not an individual nominee is elected, their votes matter in other ways. 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 has negative consequences for the directors and the firm, and is unlikely to be ignored. Iliev et al., 2015 show that if a director receives low support in an election, they are less likely to be nominated again in the following year. Similarly,

[9] 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. Overall, in our sample there are 69 cases where a nominee received less than 50% support. Only 7 of those cases involved female nominees.

Aggarwal, Dahiya, and Prabhala, 2019 show that shareholder dissent can lead directors to be moved to a less favorable board position. Directors are also more likely to engage in actions that improve corporate governance after bad election results to demonstrate their suitability to shareholders (Fos, Li, and Tsoutsoura, 2018). In addition, Grundfest, 2003 argues that poor election results can induce negative press coverage for the firm.

To conclude, in our context, a shareholder who considers a female nominee unsuitable can express this through voting behavior without putting the company at immediate risk of violating the quota.

3 Data

Our sample is composed of the population of firms affected by the CA quota. We construct our dataset 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 a "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).[10]

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 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, that have director election results (item 5.07) both pre- and post-quota. We let the data start in 2016 to ensure we have sufficient coverage

[10]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 should accidentally have been included, this would 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. Moreover, we conduct a robustness check to ensure that our results are robust for the exclusion of the firms whose equity is not listed on the major exchanges (see Table A2 in the Appendix).

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 collect all election data until the end of 2020.

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.

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 use 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.[11] Nominee gender is identified from the nominee biographies in the DEF14A filings, which use gendered pronouns. We use other sources (e.g. LinkedIn) to identify nominee gender when biographies are ambiguous.

Our data set includes 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 firms with classified boards, not all directors who will be on the board in the upcoming year stand for election. Classified boards have been

[11] 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.

found to be associated with worse corporate governance (Bebchuk and Cohen, 2005). Therefore, we make sure our results also hold in the sub-sample of non-classified boards (see Table A1 in the Appendix). 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. Our main analysis, however, 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, as well as and subsequent changes to this composition.

3.1 Shareholder Support for Nominees

We define our main variable of interest, *Support*, as the fraction of supporting votes 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 the shareholder advisory firm Institutional Shareholder Services (ISS).[12] We also follow the standard of this literature and exclude broker non-votes.[13] Typically, these votes are not considered "votes cast" under state law.[14] For ease of interpretation, we use a standardized version of our *Support* measure throughout our analyses. This means that we subtract the sample mean from *Support* and subsequently divide it by the sample standard deviation. As such, differences in support are

[12] 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.

[13] 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.

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

expressed as a fraction (percentage) of the sample standard deviation of support unless otherwise stated.

3.2 Descriptive Statistics

Our sample consists of 585 distinct firms which held a cumulative total of 2,744 elections over the 60 month-year periods from January 2016 to December 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 (21,206) than our nominee sample (15,257), as the former also covers continuing directors at classified boards (which stagger director elections; 43.1 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. In our nominee sample, each observation represents a nominee who will be voted on in a given election. The average (median) raw support is 94.0% (97.8%). However, there is variation as the standard deviation equals 9.0% and, as discussed above, even small deviations from this high level have been documented to be meaningful for the nominees (Erel et al., 2021).

Table 2 splits our nominee sample by gender. 17.7% of nominees are female, and they receive, on average, 1.9% (20.8% of a standard deviation) more support from shareholders than male nominees. Also, female nominees receive higher median support than male nominees and the voting results for women have a slightly lower standard deviation. Female candidates are, on average, 2.9 years younger and have served 3.6 years less on the board than their male counterparts. The fraction of new nominees is more than twice as high for women as for men, reflecting the fact that a large number of women were added to boards recently. Figure 1 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 15.9% in 2018, and 19.2% (23.4%) in 2019 (2020). In Figure 2, we also see a strong increase in newly-appointed female directors. In 2019, more female than male nominees were standing for election to corporate boards. Together, these figures indicate that there were more female nominees and more female appointed directors after the quota.

3.3 Announcement Returns to the 2018 CA Quota

There is 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 The Center for Research in Security Prices (CRSP) database. 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), and our estimation window spans 255 trading days prior to the event and six days after. 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.[17,18] We estimate daily abnormal returns by subtracting the predicted returns from the raw returns. The predicted returns equal 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.[19] Thus, our results are 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).

[15] 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] The three most frequently represented industries (based on the Fama-French 12 industry classification) in our sample are: Chemicals and Allied Products (23%), Manufacturing (19%), and Money & Finance (16%).

[18] These firms cover 89.3% 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 A5 in the Appendix.

[19] One firm traded on an OTC exchange was excluded due to a material event at the time of the quota announcement.

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 expected shareholder support (reflecting shareholder preferences), such a constraint implies that firms must dip further down in the distribution of shareholder support for female nominees. Thus, as firms are mandated to increase the number of women on boards, we would expect a decline in shareholder support for female relative to male nominees.

The standard narrative used to explain the negative stock price reaction to gender quotas is that new female nominees are less preferred by shareholders than the men they replace, presumably because the former are of lower quality. This occurs if, prior to the quota, the board holds men and women to the same standard so they enjoy the same shareholder support. Then, optimality implies the marginal support for men equals the marginal support for women. If this is true, then the quota requires that firms choose women with support lower than the men they replace, and we would expect a negative stock price reaction.

Proponents of the quota argue that women and men are, however, not held to the same standards. If women are held to a higher standard, then the marginal support for women would be higher than the marginal support for men before the quota.[20] Support for women will fall due to the quota, but the marginal support for women can remain at or above the marginal support for men. In this case, we expect a positive, or at least zero, stock price reaction as worse men are replaced with better women. If the quota is set too high, the marginal support for women could fall below the marginal support for men. In this case we would also expect a negative stock price reaction.

Can a negative share price reaction to the quota be consistent with a sufficient supply of new female directors shareholders would approve of? We propose two errors that a board could make when replacing directors that could explain a negative stock price reaction to a quota even though

[20] Erel et al., 2021 provide evidence that boards select nominees based on characteristics that do not lead to higher shareholder support. In fact, director experience, one of the most common characteristics cited as a director qualification, is even negatively related to shareholder support. If boards use experience, for example, in choosing nominees, this is equivalent to setting a relatively high bar for women who, through history, have had fewer directorships than men.

shareholders support new female directors. Both explanations focus on the replacement of existing male directors with new female directors, and the explanations are not mutually exclusive. First, the board could select women with relatively low shareholder support even though women with relatively high shareholder support are available. Second, when adding new female directors, the board could turn over male directors with relatively high shareholder support instead of male directors with relatively low support. Either error would result in a negative stock price reaction to the quota, even if potential female directors that shareholders would support do in fact exist.

4.2 Estimation

We analyze the effect of the 2018 CA quota on female board 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 new female nominees relative to new male nominees before and after the quota. Therefore, we specifically differentiate between new and incumbent nominees. We use the following main specification:

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

where $Support_{i,ct}$ is the ratio of supporting votes to the sum of all votes for an individual nominee i in election c that takes place in year t. *Support* is standardized by subtracting the sample mean and subsequently dividing by the sample standard deviation. The nominee can be either a new or incumbent candidate ($New_{i,ct}$) and they can either be female or male ($Female_{i,ct}$). 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 election meeting. α_{ct} are election fixed effects and $Post_{i,ct}$ is an indicator of the observation being pre- versus post-the 2018 quota ($Post_{i,ct}$ takes a value of one if the election took place after September 30, 2018 and zero otherwise). We use heteroskedasticity-robust (White) standard errors throughout the analysis.[21]

[21] Our standard errors are robust to clustering at the firm, election, or director level instead.

Note that since we have three indicator variables, we have six categories: *Post*, *Female*, and *New*. Thus, in Specification 1, *Pre*, *Male*, and *Incumbent* are the omitted categories. Therefore, $Female_{i,ct}$ measures the difference between an incumbent male nominee pre-quota and an incumbent female nominee pre-quota.

We are interested in the interaction effects between $Post_{ict}$ and $Female_{i,ct}$ (β_5) as well as $Post_{i,ct}$, $Female_{i,ct}$ and $New_{i,ct}$ (β_7). These indicate whether the support for female nominees changes post-quota relative to the support for male nominees and whether this change differs between new and incumbent nominees. In this regression, $Post_{i,ct}$ is absorbed by the election fixed effects so β_1 is not identified.

Because we want to compare new female and male directors, we reformulate the above regression and make $New \times Male$ the baseline group instead. We thus run the following regression:

$$\begin{aligned}\text{Support}_{i,ct} = \alpha_{ct} + \gamma_1 Pre_{i,ct} \times Inc_{i,ct} + \gamma_2 Post_{i,ct} \times Inc_{i,ct} + \gamma_3 Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct} \\ + \gamma_4 Post_{i,ct} \times Female_{i,ct} \times New_{i,ct} + \gamma_5 Pre_{i,ct} \times Female_{i,ct} \times Inc_{i,ct} \\ + \gamma_6 Post_{i,ct} \times Female_{i,ct} \times Inc_{i,ct} + \epsilon_{i,ct}\end{aligned} \tag{2}$$

where, $Inc_{i,ct} = 1 - New_{i,ct}$. In this specification, $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ (γ_3) tests whether new men and new women are equal in the pre-quota period, while $Post_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ (γ_4) tests whether new men and new women are equal in the post-quota period. Note that, these two regression specifications are effectively the same and the coefficient estimates of Specification 2 can be obtained from Specification 1 and vice versa.[22]

We use election fixed effects throughout our analysis to control for any omitted characteristics at the election level, including firm characteristics (even if affected by the quota) such as board composition, firm performance, differences in voting rules, or the degree of shareholder

[22]For example, in Table 4 the coefficients in the lower panel (Implied differences between female and male nominees) correspond to Specification 2 and the coefficients in the upper panel correspond to Specification 1. In Column (1), the coefficient on *New nominee post: female-male* (γ_4) (0.026) can be obtained from the coefficients in the upper panel in the following way: the sum of the coefficients β_2 to β_7 (0.389) is the difference in the support between incumbent male nominees pre-quota and new female nominees post-quota. The sum of the coefficients β_2 and β_4 (0.363) is the difference in support between incumbent male nominees pre-quota and new male nominees post-quota. Thus, the difference in support between new female and new male nominees post-quota is 0.389-0.363=0.026.

participation. We thus pick up differences in voting outcomes for incumbent and new as well as male and female nominees within the same election.

To address potential concerns that shareholders supported certain nominees in anticipation of the CA quota, we verify in Figure 3a that the support for new and incumbent male and female nominees does not diverge before the event (we will provide an additional discussion of these figures in Section 5).

5 Results

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

We start by testing the first potential explanation for the observed negative stock price reaction to the quota: boards are unable to recruit female directors that shareholders approve of when complying with the mandate. If this is the case, we expect post-quota support for new female nominees to be below the post-quota support for new male nominees.

5.1.1 Univariate Analysis

We first look at simple averages. Figure 3a shows the average (standardized) support for new female, new male, incumbent female and incumbent male nominees before and after the announcement of the quota. We see that new nominees generally enjoy stronger support than incumbent nominees.[23] Importantly, consistent with women being held to a higher standard, the figure shows that new female nominees receive greater support from shareholders than new male nominees pre-quota. However, after the quota announcement, the level of support for new female nominees decreases and converges to the level of support for new male nominees.

Figure 3a also reveals a pronounced decrease in support for incumbent male nominees post-quota. This suggests that the board composition may have changed to include less supported incumbent male directors. Figure 3b shows the number of new versus incumbent female and

[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.

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 3.1% in 2018 to 5.0% (6.7%) in 2019 (2020). In turn, the number of new male nominees shrunk, from 9.8% in 2018 to 6.9% (6.1%) in 2019 (2020). The proportion of incumbent male nominees remains sticky at first, but decreases from 73.6% in 2019 to 69.7% 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.[24] Lastly, Figure 3a shows that the support for incumbent female nominees remains flat after the quota. This suggests that shareholders do not simply vote for women due to the quota. If shareholders would try to hold on to their existing female directors we would expect to see an increase in the support for female incumbent nominees.

5.1.2 Multivariate Analysis

Table 4 analyzes post-quota support for the four nominee groups in a multivariate setting including election fixed effects, i.e., Specification 1. The results are consistent with the univariate analysis in Figure 3a. Column (1) considers the full sample of nominees where incumbent male nominees pre-quota are the omitted category. Column (2) focuses on new nominees and includes only elections with at least one new female nominee and one new male nominee in the same election; here new male nominees pre-quota are the omitted category. Column (3) considers incumbent nominees separately in the subset of elections with at least one incumbent female and one incumbent male nominee. Incumbent male nominees pre-quota are the omitted category. For ease of interpretation, we also provide the calculated implied differences between female and male nominees from the three regressions in the bottom part of the table. As discussed, these can be obtained through calculations, or through running Specification 2.

Support for New Female Nominees Post Quota In Column (1) in Table 4, we see that the coefficient on the triple interaction of being a new female nominee post-quota is negative (β_7 in Specification 1). This implies that support for new female nominees post quota was 13% of one standard deviation of support lower than what would have been predicted for a new female

[24] 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.

nominee after the quota. In other words, after the introduction of the quota, shareholder support for new female nominees fell more than for their male counterparts, or for incumbent female nominees.

Support for New Female Versus New Male Nominees At the same time, the coefficient on the implied differences for new female and new male nominees show that, before the quota, new female nominees' support was 7.9% of one standard deviation of support higher than new male nominees' support (coefficient γ_3 in Specification 2). This is consistent with the notion that women had to clear a higher bar than men pre-quota.

After the quota, support for new female nominees fell to a level statistically indistinguishable from new male nominees. For the sub-sample of elections where both a new female and a new male nominee were on the ballot (Column (2)), new female nominees had 12.1% of one standard deviation more support than their new male counterparts (coefficient γ_3 in Specification 2). After the quota, new female nominees lost 4.1% of a standard deviation of support, but still remain statistically significantly more supported than new male nominees by 8% of a standard deviation (coefficient γ_4 in Specification 2). Thus, despite a fall in support for new female nominees after the quota relative to before, support for new female nominees still remains at a high level, and we can conclude that they are not less supported than new male nominees.

Support for Incumbent Female Versus Incumbent Male Nominees Column (1) in Table 4 shows that incumbent female and male nominees were indistinguishable in terms of support before the introduction of the quota. However, after the quota, incumbent female nominees received 10.2% of one standard deviation of support more support than incumbent male nominees. This difference in support is statistically significant and arises due to a decrease in the popularity of male incumbent nominees. This evidence is substantiated in Column (3), where we only consider elections where both incumbent female and male nominees are voted on. In sum, we see a decrease in support for incumbent male nominees and observe changes to board composition after the quota.

Robustness Our results become stronger in the sub-sample of elections of non-classified boards (Table A1 in the Appendix). In non-classified boards, every director stands for election every year as opposed to just a part of the slate of directors, meaning that all directors on the current board can be compared to each other. Our results also hold when we exclude firms that are not traded on major stock exchanges (Table A2 in the Appendix). Additionally, we can control for the voting recommendation issued by the ISS and our results remain qualitatively similar (Table A3 in the Appendix).[25] The coefficient on new female nominees pre-quota loses statistical significance (Column (2)), but remains positive and of similar magnitude. More importantly, there is no evidence of shareholder opposition to female nominees post-quota and we can rule out that new female nominees are 1.7% (6.3%-2*4%) less supported than new male nominees with statistical confidence. Within this sample, when we restrict our analysis to elections of non-classified boards (Table A4 in the Appendix), the results are strong and consistent with the pattern we observe in our main analysis in Table 4. Lastly, for the sub-sample of new nominees, we check whether the difference in support between new female and male nominee is driven by whether they are independent nominees and which committees they are assigned to. We include controls for being part of the audit or compensation committee as these committee memberships have been found to influence to support (Erel et al., 2021). We also control for whether the nominee has been appointed to the board before the election (within one year) as opposed to the time of the election. The results in Table A6 in the Appendix show that new female nominees are still more supported than new male nominees pre- and post-quota.

5.2 Stock Price Reactions and Board Turnover Decisions

In the preceding analysis, we showed that new female nominees do not receive less support than new male nominees after the introduction of the quota. We conclude that the negative stock price reaction to the quota does not reflect shareholder concern that boards cannot recruit supported female directors to comply with the quota.

We next examine the second potential explanation for the negative share price reaction to the CA quota: the possibility that boards fail to turn over the least-preferred incumbent male directors when they add a female director to comply with the quota. Figure 3a and Table 4 show

[25] ISS voting recommendations are available for 96.4% of our sample firms. There is no clarity to what extent shareholders follow ISS' advice and to what extent ISS follows shareholder preferences when making a voting recommendation. For instance, Aggarwal, Erel, and Starks, 2016 show that shareholders are less likely to follow ISS recommendations and form their own opinion.

that incumbent men become less supported after the quota. This suggests that boards failed to replace their least-supported male directors.

Note that the board itself is in charge of selecting nominees and has significant power over board composition. Evidence of divergence between the interests of shareholders and directors is widely documented in the literature (Hermalin and Weisbach, 1998; Bebchuk and Cohen, 2005; Coles, Daniel, and Naveen, 2014). We do not attempt to explain why seemingly popular directors leave some firms. Instead, we take the event "a more popular director left and a less popular director stayed" as a direct measure of a sub-optimal turnover decision (as reflected by shareholder preferences). We expect to see a negative share price reaction to the quota, when subsequently the least-supported directors do not turn over. We thus propose that the share price reaction to the quota reflects shareholders' expectations about the likelihood of sub-optimal turnover decisions.

5.2.1 Different Types of Violators

To test our conjecture, we examine returns based on how boards actually replaced board members. First, we investigate which boards drove the abnormal negative stock price reactions. To do so, we regress the firm's abnormal announcement return 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).[26] 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 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 needs to add 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

[26] 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.

on board composition at the time of the quota announcement. Table 5 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.

Table 6 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. The group that shows the strongest negative reaction is that of 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 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.

5.2.2 Do directors leave when women join?

Next, we analyze whether shareholders react differently depending on the quota announcement in anticipation of how firms will change their boards to comply with the quota. In particular, we test whether shareholders react differently to the announcement when in the subsequent restructuring process a male director depart from the board as a female director is added, as opposed to when no such turnover takes place.[27] We do not consider instances where a female

[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. Thus, 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

director departs as the literature focuses on the replacement of male directors with less preferred 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 6 but run the regressions for each group separately, conditional on a firm being a violator in their respective group. We create a variable that identifies firms that turned over at least one male director in the time period after the quota announcement and until after 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 7. We see a negative and statistically significant coefficient on the interaction term between *Turnover male director* and *Add female director* for firms who need at least one additional female director to satisfy the immediate 2019 requirement and need to add three female directors by 2021 (Columns (1) and (4)). The effect is weaker for 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 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 negatively when the addition of a new female director is accompanied by the departure of a male director for a firm that violates the quota at announcement.

5.2.3 Which directors leave?

The previous analysis indicates that the negative stock price reaction to the quota is concentrated in firms that turn over a male incumbent director when a female director is added to the board post-quota. We now look at boards' decisions regarding which director to turn over. Note that in

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.

order to obtain a value-neutral substitution of a male director with a female director, the next best available female director needs to be as supported by shareholders as the marginal male director. If the board recruits such a female candidate but turns over a higher-supported (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 find the least-supported directors as determined by shareholder votes in the firm's election before the quota announcement.[28]

As discussed above, we re-estimate the regression specification in Table 6 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 includes firms that are compliant and those that are not compliant with the quota requirement at the quota announcement. Firms that are not compliant with the requirement at the time of the quota announcement must add a female director to comply with the quota. The literature as well as our results show that violating firms have a negative share price reaction relative to non-violating firms on the quota announcement date. We now compare violating firms to non-violating firms conditional on which male director turns over in the period following the quota announcement to understand whether the negative reaction to the quota is related to which male director leaves.

We consider turnovers and additions of female directors made by firms until after the first post-quota election. This ensures that turnovers are related to the quota requirement, and more closely connects turned over directors with their pre-quota shareholder support. 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 first voting opportunity after the quota for the majority of firms.[29] As in the analysis above (Table 7), we exclude turnover of female directors, lead directors, or CEOs, as well as turnovers due to changes

[28] A ranking for every director in their last pre-quota election is determined by calculating their *Excess Support* that is defined as the nominee's support in the election minus the average for all other nominees in that election. We exclude lead directors and CEOs from the calculation as these are considered special cases in the literature.

[29] 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). 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 are even stronger than in our main sample and are reported in Tables A7 and A8 (for the sub-sample of non-classified boards) in the Appendix.

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 exact same level of support in the final pre-quota election.[30] Overall, this results in a sample of 127 firms who turn over at least one male director and have at least one female director on their boards after the quota is in place. A total of 142 directors are turned over in these firms. Out of the 27 (109) firms who violate the 2019 (2021) quota requirement based on their board composition in the last election before the quota announcement, 51.9% (52.3%) firms turn over the least or second-least-supported director.[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 labeled *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] We report summary statistics for turned-over directors in Table 8. In this table we can see that in cases where a higher-supported instead of the least-supported director leaves post-quota, the least-supported director received 55.9% of a standard deviation of support less support pre-quota than the more popular leaving director. This implies that there is a substantial difference in the level of support between these two types of directors.

The results of the regressions are presented in Table 9, and the coefficients are reported in Column (*Base*). The dummy variables *LS turned over* and *LS not turned over* indicate whether the least supported male incumbent director was turned over or not. The results show that if firms replaced the least-supported (Column (2)) (or second-least-supported (Column (3)))

[30] 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.

[31] When more than one director leaves, we classify the firm as one in which the least-supported director leaves if the least-supported director was among the directors that left.

[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 and firms that are traded on major stock exchanges (see Tables A9 and A10 in the Appendix).

director with a female director, their announcement returns 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 announcement returns significantly lower than firms that already had a female director in place. This is the case both for firms that violated the immediate 2019 quota requirement (*Violation19 x LS not turned over*) and firms that had the largest gap (three female directors) to fill to comply with the upcoming 2021 requirement (*Shortfall21:3 Female directors x LS not turned over*).[34]

As a robustness check, we control for industry effects using Fama-French 12 industry portfolio returns on the day of the quota announcement as well as the firm's market capitalization at the time of the quota announcement.[35] Table A11 in the Appendix reports the results and shows that they remain qualitatively the same.

The results of this analysis show 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.

Overall, our analysis suggests that the negative share price reaction does not reflect shareholder opposition towards mandated female directors, but reflects the anticipation of sub-optimal replacement of incumbent male directors. 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-decreasing decision.

Can investors predict which directors leave? Our results suggest that, at the time of the quota announcement, shareholders can predict which boards have internal issues that will prevent them from adjusting board structure optimally in response to the quota. These internal issues likely arise from firm or director characteristics that facilitate the entrenchment and protection of weak directors and manifest themselves in wrong turnover decisions with respect to incumbent male directors after the quota when a female director is added to comply with quota. Following the quota, weak male directors face a particularly strong incentive to hold on to their board positions as their outside options deteriorate with a stronger demand for female directors. In the

[34] We also explore the possibility that there is a difference in the types of female directors firms who turn over and those who do not turn over the least supported director recruit. The analysis is presented in Appendix B.

[35] We obtain these data from Compustat. It was not available for three firms in our sample. Our results remain robust if we use SIC two-digit industry fixed effects instead.

subsequent analysis, we provide evidence that shareholders are able predict which boards will make wrong turnover decisions after the quota based on observable board characteristics at the time of the quota announcement.

We estimate the probability that a board turns over the least supported male director by the time of the first post-quota election based on a number of firm and director characteristics. We select determinants that specifically have the purpose to help or prevent weak directors to remain on the board at the time of the quota announcement. First, we include an indicator for whether a firm has a plurality (as opposed to majority) voting rule in place for director elections. While under the majority voting rule a minimum number of votes is required to be elected to the board, under the plurality voting rule no such threshold exists (one vote is enough for the nominee to be elected if the number of nominees equals the number of board seats). Because weak directors face the risk of not being re-elected to the board only under the majority voting rule, the plurality voting rule serves the purpose of protecting the weakest directors. We also include the Coles, Daniel, and Naveen, 2014 co-opted board measure whereby a board is more co-opted the more directors were hired after the CEO. We use an indicator that is equal to one if a board is more co-opted than the sample average. While a more co-opted board may be inclined to protect its members, it is also younger by definition and may be more likely to remove least-supported directors of longer tenure. We also include an indicator if ISS issued an against recommendation for the least-supported board member. Lastly, we control for whether a board is classified. The staggered election process protects all directors from being removed from the board at the same time but also make it more difficult to identify which director is the least supported one.[36]

In our regression, we interact each of the determinants above with the *Violator19* indicator. This is because only firms that are not compliant with the quota at the time of announcement experience a shock to board composition and are forced to make adjustments to board structure. Thus, we expect our determinants to only affect the probability of turning over the least-supporting director among violator firms.

[36] We also included an indicator whether the least-supported director is a chair of an important committee (audit, compensation, nominating). This characteristics does not have any predictive power over which director will turn over. While our results remain robust for the inclusion of this variable we exclude it from our specification for the sake of parsimony.

The results of the regression are reported in Table 10, Column (1) and show that the plurality voting rule and whether a board is co-opted are important determinants in predicting whether the least-supported director will be turned over after the quota announcement. Next, we use the predicted probabilities and residual for the probability for the least supported director to turn over from the regression model and include them separately in the our regression in Table 9 in place of the actual turnover variable (*LS not turned over*). If shareholders can predict whether the least-supported director leaves based on the observables above, we should see that the predicted value but not the residual predicts returns for violators. Columns (2) and (3) show that this is indeed the case: Violator firms with a zero probability to turn over the least-supported director have 6.5% lower announcement returns than non-violators. However, a higher probability of turning over the least-supported director among violators increases announcement returns by a factor of 12.8%.

Overall, this analysis shows that shareholders are able to predict which boards will have trouble turning over the least supported director after the quota based on observables at the time of the quota announcement.

5.3 Alternative Explanations for Shifts in Shareholder Support

Our analysis provides evidence that shareholders do not oppose quota-mandated female nominees. The high support for new female nominees post-quota is in line with there being a sufficient supply of female directors shareholders approve of to fill board seats mandated by the quota, and firms actually being able to recruit these women. Alternative explanations for our findings must jointly explain three pieces of evidence: 1) shareholders do not support quota-mandated female nominees less than new male nominees, 2) but share prices fall, and 3) those share prices are concentrated in firms that do not turn over their least-supported director.

What if shareholder support for female nominees was positively impacted by recent shifts in general attitudes towards women or initiatives of institutional investors? In this case, we would not expect a negative share price reaction to the announcement of the quota. Moreover, we would not know why the negative share price reaction is related to turnover decisions made after the quota. In Appendix C, we provide a number of robustness checks to explore alternative drivers for shareholder support for new female nominees. We show that support for new female nominees should not have been lower based on their observable characteristics. We further explore the general trend in voting behavior in all US states. Finally, we specifically look at the voting behavior of institutional investors and provide evidence that our results also hold for the subset of shareholders who do not have a built-in preference for women (or diversity).

6 Conclusion

We use hand-collected longitudinal data to analyze how the 2018 California quota affected shareholder support for new female board nominees. To our knowledge, this is the first study to analyze shareholder attitudes towards quota-mandated female board nominees by jointly considering shareholders' behaviors in pricing the stock and in voting in elections for the board of directors.

We discuss two potential explanations for the negative stock price reaction to the quota announcement. The first is that boards may be unable to recruit female directors that shareholders approve of. The second is that firms could fail to remove the least-supported male directors when they add women to the boards to comply with the quota.

We start by analyzing whether boards are able to recruit female board members shareholders approve of. Our results show that shareholder support for new female nominees is greater than it was for new male nominees before the quota. This is consistent with the presence of a higher bar for female board candidates prior to the quota. After the quota, support for new female nominees falls but not below the level of support for new male nominees. We thus argue that shareholders do not oppose quota-mandated female nominees. Within the context of the CA quota, there appears to be a sufficient pool of women that shareholders approve of to fill board seats.

Thereafter, we analyze whether stock price reactions are related to the turnover choices firms make with respect to incumbent male directors when adding a female director to the board after the quota. 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, these firms did not replace the least-supported directors and instead turned over a higher-supported male director when they added a female director to the board. This result indicates that the opposition towards female board directors is driven by entrenched board dynamics rather than by shareholders disliking the new female nominees per se.

An important implication of our result is that, in the case of the CA board quota, it was possible to implement the quota in a value-neutral way for shareholders if the replacement of board members was done appropriately. This challenges the existing narrative, which interprets the negative announcement returns associated with board quotas 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. We also 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 by internal organizational opposition and entrenched institutional dynamics rather than by a lack of supply of qualified minority candidates.

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Figures and Tables

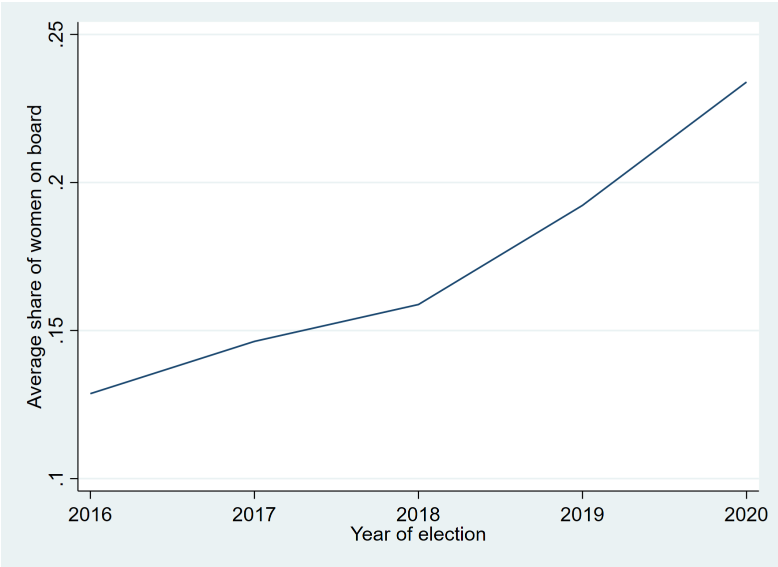


Figure 1: The share of female board nominees/members over time. Based on the full board sample (N=21,206) that includes directors who never stand for election.

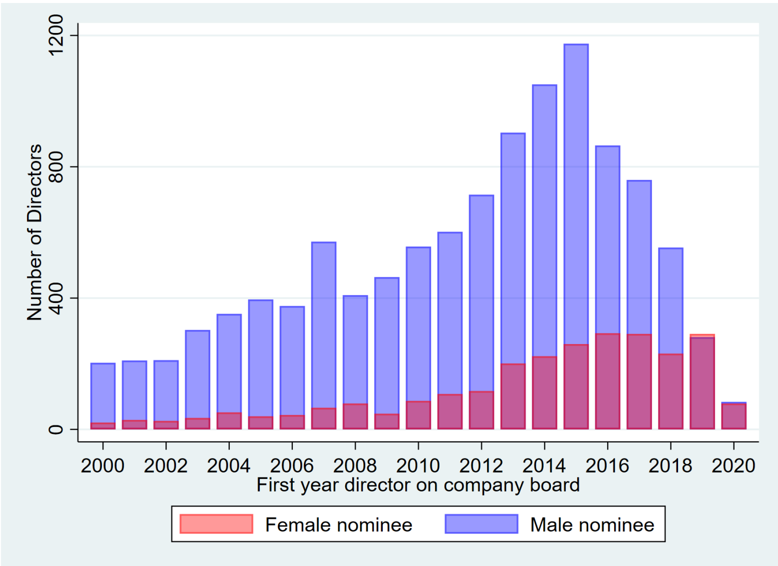
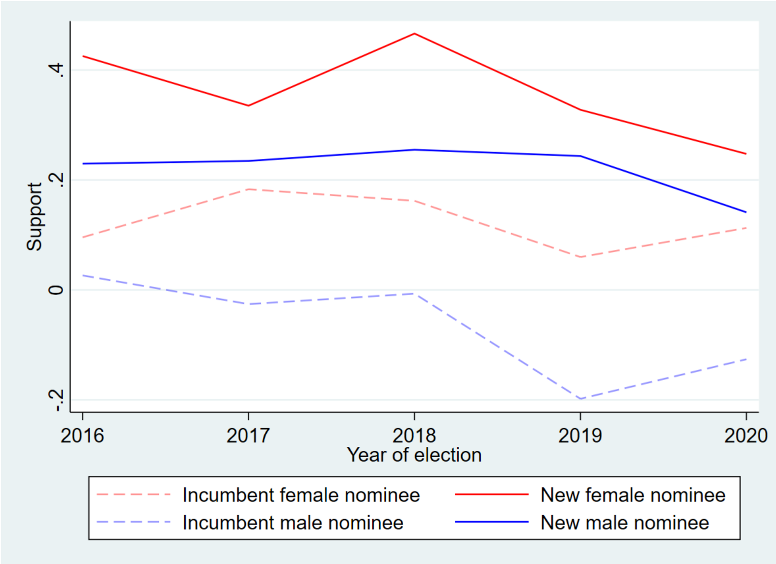
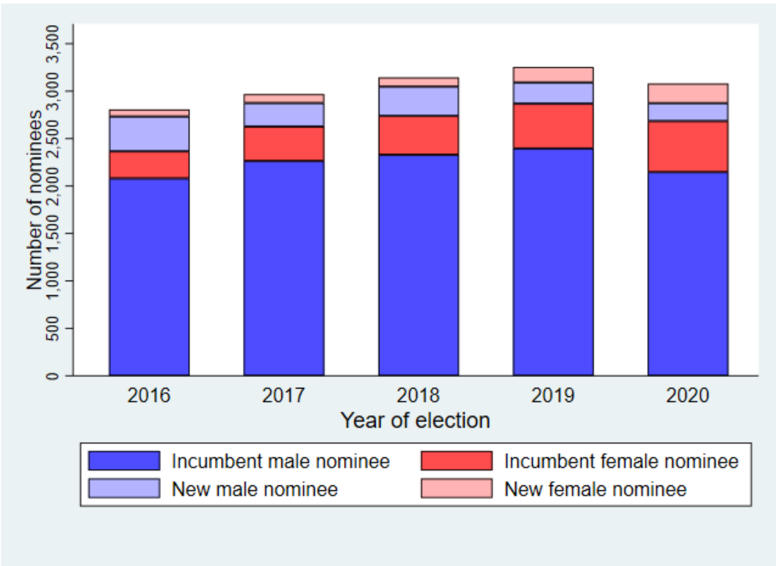


Figure 2: Additions of new female and new male board nominees/members over time. Based on the nominee sample (N=15,257) that only includes nominees at elections.



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



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

Figure 3: (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. It is standardized by subtracting the sample average and subsequently divided by the sample standard deviation. 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.

Table 1: Descriptive Statistics of Main Variables - Full board

Variable	N	mean	sd	p25	p50	p75
Support (raw)	15,257	0.940	0.091	0.934	0.978	0.992
Support (standardized)	15,257	0	1	-0.070	0.412	0.568
Share of female board members	21,206	0.173	0.123	0.111	0.167	0.250
Number of female board members	21,206	1.499	1.152	1	1	2
Director age	21,206	61.116	9.594	55	61	68
Director tenure	21,206	7.919	7.493	2	6	11
Board size	21,206	8.261	2.043	7	8	9
Independent	21,206	0.755	0.430	1	1	1
Classified board	21,206	0.431	0.495	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. Raw *Support* is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. Standardized *Support* is the z-score of raw *Support* which is calculated as raw *Support* minus its sample average and subsequently divided by the sample standard deviation.

Table 2: Descriptive Statistics of Main Variables - Nominees

Variables	N	mean	sd	p25	p50	p75
Panel A: Female Nominees						
Support (raw)	2,704	0.956	0.077	0.957	0.986	0.994
Support (standardized)	2,704	0.171	0.849	0.188	0.500	0.595
Director age	2,704	59.103	8.051	54	59	64
Director tenure	2,704	5.130	5.761	1	3	7
New nominee	2,704	0.235	0.424	0	0	0
Independent	2,704	0.851	0.357	1	1	1
Panel B: Male Nominees						
Variables	N	mean	sd	p25	p50	p75
Support (raw)	12,553	0.937	0.093	0.927	0.976	0.991
Support (standardized)	12,553	-0.037	1.026	-0.146	0.390	0.558
Director age	12,553	61.995	9.751	55	62	69
Director tenure	12,553	8.729	7.939	3	6	13
New nominee	12,553	0.106	0.308	0	0	0
Independent	12,553	0.729	0.444	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. Raw *Support* is defined as the number of "for" votes divided by the sum of "for," "abstain," "against," and "withhold" votes. Standardized *Support* is the z-score of raw *Support* which is calculated as raw *Support* minus its sample average and subsequently divided by the sample standard deviation.

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 for new and incumbent nominees

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.024	0.121*	0.026
	(0.022)	(0.069)	(0.023)
Post x Female nominee	0.077**	-0.041	0.069**
	(0.031)	(0.083)	(0.031)
New nominee	0.240***		
	(0.030)		
Female nominee x New nominee	0.054		
	(0.052)		
Post x New nominee	0.123**		
	(0.050)		
Post x Female nominee x New nominee	-0.130*		
	(0.075)		
Election FEs	Yes	Yes	Yes
R-squared	0.680	0.626	0.672
Observations	15,257	578	9,679

Implied differences between female and male nominees

	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.024		0.026
	(0.022)		(0.023)
Incumbent nominee post: female - male	0.102***		0.095***
	(0.022)		(0.022)
New nominee pre: female - male	0.079*	0.121*	
	(0.047)	(0.069)	
New nominee post: female - male	0.026	0.080*	
	(0.048)	(0.046)	

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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 5: Descriptive statistics at the firm level by violation type- pre-quota board characteristics

Panel A: Violation19

Variable	Violation19=0 N	mean	sd	Violation19=1 N	mean	sd
Abnormal return	361	-0.01	0.031	163	-0.013	0.040
Board size	361	8.316	1.857	163	6.153	1.542
Independent	361	0.766	0.169	163	0.704	0.173
Director tenure	361	7.640	4.029	163	7.468	5.050
Classified board	361	0.474	0.500	163	0.411	0.494

Panel B: Violation21

Variable	Violation21=0 N	mean	sd	Violation21=1 N	mean	sd
Abnormal return	68	0.000	0.041	456	-0.012	0.033
Board size	68	9.000	2.259	456	7.441	1.914
Independent	68	0.792	0.187	456	0.740	0.169
Director tenure	68	6.654	3.369	456	7.726	4.485
Classified board	68	0.382	0.490	456	0.465	0.499

Panel C: Shortfall21

Variable	Shortfall21=1 N	mean	sd	Shortfall21=2 N	mean	sd	Shortfall21=3 N	mean	sd
Abnormal return	162	-0.008	0.034	188	-0.011	0.031	106	-0.021	0.033
Board size	162	7.722	2.352	188	7.431	1.824	106	7.028	1.082
Independent	162	0.778	0.148	188	0.725	0.171	106	0.708	0.188
Director tenure	162	8.353	4.953	188	7.396	4.183	106	7.379	4.183
Classified board	162	0.401	0.492	188	0.516	0.501	106	0.472	0.502

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 6: Abnormal returns and quota violations

	(1)	(2)	(3)
Variables	Violation19	Violation21	Shortfall21
Violation19	-0.008*		
	(0.004)		
Violation21		-0.015**	
		(0.006)	
Shortfall21: 1 Female director			-0.011*
			(0.006)
Shortfall21: 2 Female directors			-0.014**
			(0.006)
Shortfall21: 3 Female directors			-0.026***
			(0.007)
Board size	-0.002**	-0.002*	-0.002**
	(0.001)	(0.001)	(0.001)
Independent	-0.011	-0.011	-0.015
	(0.010)	(0.010)	(0.010)
Tenure	0.000	0.001*	0.001*
	(0.000)	(0.000)	(0.000)
Classified board	-0.009***	-0.008***	-0.008***
	(0.003)	(0.003)	(0.003)
Constant	0.015	0.022	0.028
	(0.015)	(0.016)	(0.017)
Observations	524	524	524
R-squared	0.036	0.046	0.070

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 5 defined at the firm level at the time of the announcement of the quota. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 7: 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	0.026**	-0.005	0.005	0.029***
	(0.012)	(0.006)	(0.007)	(0.010)
Add female director	-0.001	0.016	0.000	0.011
	(0.006)	(0.016)	(0.006)	(0.007)
Turnover male director x Add female director	-0.034**	-0.028	-0.013	-0.045***
	(0.015)	(0.019)	(0.009)	(0.016)
Board size	-0.004*	0.000	-0.002*	0.003
	(0.002)	(0.002)	(0.001)	(0.004)
Independent	-0.004	-0.033	-0.001	0.004
	(0.016)	(0.024)	(0.013)	(0.013)
Tenure	0.001**	0.001*	-0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Classified board	-0.005	-0.008	-0.013***	-0.004
	(0.006)	(0.005)	(0.005)	(0.006)
Constant	0.005	0.016	0.018	-0.059*
	(0.017)	(0.020)	(0.014)	(0.032)
Observations	163	162	188	106
R-squared	0.108	0.117	0.083	0.102

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 5 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 (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 8: Summary statistics for turned over directors

Panel A: Least supported replaced												
	Least-supported						Least or second-least supported					
Variables	N	mean	sd	p25	p50	p75	N	mean	sd	p25	p50	p75
Support: raw	55	0.886	0.118	0.853	0.919	0.968	74	0.899	0.109	0.866	0.930	0.980
Support: standardized	55	-0.590	1.301	-0.957	-0.237	0.304	74	-0.456	1.193	-0.810	-0.110	0.443
Excess support	55	-0.066	0.095	-0.083	-0.028	-0.005	74	-0.054	0.086	-0.071	-0.020	-0.004
Independent	55	0.873	0.336	1	1	1	74	0.878	0.329	1	1	1
Director age	55	64.891	10.976	57	66	74	74	64.932	10.474	57	66	74
Director tenure	55	11.364	8.314	5	9	15	74	11.122	8.420	5	9	15
Panel B: Other than least or second-least supported replaced												
	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: raw	87	0.954	0.056	0.939	0.977	0.990	68	0.959	0.052	0.945	0.979	0.991
Support: standardized	87	0.150	0.610	-0.015	0.404	0.545	68	0.211	0.576	0.057	0.429	0.560
Excess support	87	0.012	0.046	-0.001	0.003	0.026	68	0.021	0.043	0.001	0.008	0.033
Independent	87	0.874	0.334	1	1	1	68	0.868	0.341	1	1	1
Director age	87	63.057	11.054	56	65	71	68	62.5	11.455	56	64.5	71
Director tenure	87	8.816	6.489	4	8	13	68	8.368	5.635	4	7.5	13
Difference in (standardized) support:												
Least supported - turned over director*	87	-0.559	0.890	-0.627	-0.195	-0.033	68	-0.642	0.208	-0.838	-0.211	-0.033

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=127) 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). Standardized Support is the z-score of raw Support which is calculated as raw Support minus its sample average and subsequently divided by the sample standard deviation. Excess Support that is defined as the nominee's support in the election minus the average for all other nominees in that election. 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.*The average is used to calculate statistics in cases where both the least and second-least supported directors were turned over.

Table 9: Abnormal returns, quota violations, and board turnover

Panel A: Violation19			
	Base	Least supported	Least or second-least supported
Violation19	-0.017*		
	(0.009)		
Violation19 x LS turned over		-0.002	0.000
		(0.014)	(0.012)
Violation19 x LS not turned over		-0.024**	-0.029**
		(0.010)	(0.012)
Board controls	Yes	Yes	Yes
Observations	127	127	127
R-squared	0.286	0.338	0.333
Panel B: Shortfall21			
	Base	Least supported	Least or second-least supported
Shortfall21: 1 Female director	-0.012*		
	(0.007)		
Shortfall21: 2 Female directors	-0.013*		
	(0.007)		
Shortfall21: 3 Female directors	-0.027**		
	(0.011)		
Shortfall21: 1 Female director		-0.003	-0.009
x LS turned over		(0.009)	(0.008)
Shortfall21: 1 Female director		-0.013	-0.010
x LS not turned over		(0.009)	(0.012)
Shortfall21: 2 Female directors		-0.000	-0.006
x LS turned over		(0.011)	(0.010)
Shortfall21: 2 Female directors		-0.017*	-0.013
x LS not turned over		(0.009)	(0.010)
Shortfall21: 3 Female directors		-0.003	-0.007
x LS turned over		(0.017)	(0.015)
Shortfall21: 3 Female directors		-0.038***	-0.041***
x LS not turned over		(0.012)	(0.015)
Board controls	Yes	Yes	Yes
Observations	127	127	127
R-squared	0.307	0.357	0.348

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). *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. *LS turned over* is a dummy that takes a value of one if the departing director is the least (column (2)) or second-least (column (3)) supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *LS not turned over* is a dummy that equals 1-*LS turned over* . Both variables are included separately in the regressions but are not reported in the table. All specifications include the control variables listed in Table 5 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 A9. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 10: Predicting whether the least-supported director leaves and announcement returns

Variables	(1) Pr(Least-supported leaves)	(2) Announcement Returns	(3)
Violation19	0.087	-0.013	-0.065**
	(0.258)	(0.009)	(0.025)
Co-opted board	-0.021		
	(0.106)		
Violation19 x Co-opted board	0.398**		
	(0.189)		
Plurality voting rule	0.053		
	(0.105)		
Violation19 x Plurality voting rule	-0.412*		
	(0.236)		
ISS opposition against LS	-0.042		
	(0.109)		
Violation19 x ISS opposition against LS	-0.111		
	(0.213)		
Classified board	0.092		
	(0.106)		
Violation19 x Classified board	0.102		
	(0.208)		
Residual(LS leaves)		0.006	
		(0.006)	
Violation19 x Residual(LS leaves)		0.016	
		(0.021)	
Pr(LS leaves)			-0.095*
			(0.054)
Violation19 x Pr(LS leaves)			0.128**
			(0.058)
Constant	0.338***	-0.033*	-0.002
	(0.092)	(0.017)	(0.032)
Board Controls	No	Yes	Yes
Observations	127	127	127
R-squared	0.073	0.091	0.104

Column (1) presents results from an OLS estimation where the dependent variable is equal to one if the least-supported director (pre-quota) leaves by the time of the first election after the quota and zero otherwise. *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). *Co-opted board* is a dummy that takes a value of one if the share of directors who joined the board after the CEO is above the sample average. *Plurality voting rule* is a dummy that takes a value of one if the firm has a plurality voting rule in place for director elections and zero if it has a majority voting rule. *ISS opposition against LS* is a dummy that takes a value of one if ISS issued an against recommendation for the least-supported director in the last pre-quota election. *Classified board* is a dummy that takes a value of one if the board is classified in its last pre-quota election. In Columns (2) and (3), the dependent variable is *Abnormal Return*, which is the market model adjusted stock return on October 1, 2018. *Pr(LS leaves)* is the predicted value for the dependent variable, Least-supported leaves, extracted from the regression in Column (1). *Residual(LS leaves)* is the residual extracted from the regression in Column (1). The specifications in Columns (2) and (3) include the control variables listed in Table 5 defined at the firm level except for the classified board dummy that is used in the prediction specification in Column (1). The sample corresponds to the sample used in Table 9 and consists of firms that have at least one female director and who turn over at least one male incumbent director by time of the first election after the quota (complying with the 2019 quota requirement). Robust (White) 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 – Non-classified boards

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.040*	0.156**	0.040*
	(0.024)	(0.077)	(0.024)
Post x Female nominee	0.081**	-0.051	0.073**
	(0.032)	(0.090)	(0.032)
New nominee	0.202***		
	(0.033)		
Female nominee x New nominee	0.100*		
	(0.058)		
Post x New nominee	0.101*		
	(0.054)		
Post x Female nominee x New nominee	-0.204**		
	(0.081)		
Election FEs	Yes	Yes	Yes
R-squared	0.631	0.637	0.581
Observations	12,053	478	7,579
Implied differences between female and male nominees			
	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.040*		0.040*
	(0.024)		(0.024)
Incumbent nominee post: female - male	0.121***		0.113***
	(0.022)		(0.022)
New nominee pre: female - male	0.140***	0.156**	
	(0.052)	(0.077)	
New nominee post: female - male	0.017	0.105**	
	(0.051)	(0.046)	

Corresponds to specification in Table 4 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A2: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Firms whose equity is traded on a major stock exchange

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.026	0.132*	0.029
	(0.024)	(0.075)	(0.025)
Post x Female nominee	0.074**	-0.083	0.065*
	(0.034)	(0.086)	(0.034)
New nominee	0.253***		
	(0.033)		
Female nominee x New nominee	0.065		
	(0.057)		
Post x New nominee	0.135**		
	(0.053)		
Post x Female nominee x New nominee	-0.142*		
	(0.079)		
Election FEs	Yes	Yes	Yes
R-squared	0.679	0.603	0.673
Observations	13,629	534	8,789

Implied differences between female and male nominees

	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.026		0.029
	(0.024)		(0.025)
Incumbent nominee post: female - male	0.100***		0.094***
	(0.023)		(0.023)
New nominee pre: female - male	0.091*	0.132*	
	(0.051)	(0.075)	
New nominee post: female - male	0.023	0.049	
	(0.049)	(0.042)	

Corresponds to specification in Table 4 for the sub-sample of 554 firms whose equity is traded on one of the major exchanges (see Table 5 for details). 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) 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 – ISS recommendations

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.003	0.083	0.004
	(0.018)	(0.063)	(0.018)
Post x Female nominee	0.101***	-0.019	0.099***
	(0.026)	(0.074)	(0.026)
New nominee	0.079***		
	(0.025)		
Female nominee x New nominee	0.045		
	(0.042)		
Post x New nominee	0.122***		
	(0.042)		
Post x Female nominee x New nominee	-0.126**		
	(0.063)		
ISS Against Recommendation	-1.479***	-1.268***	-1.753***
	(0.039)	(0.357)	(0.058)
Election FEs	Yes	Yes	Yes
R-squared	0.772	0.746	0.776
Observations	14,623	559	9,304
Implied differences between female and male nominees			
	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.003		0.004
	(0.018)		(0.018)
Incumbent nominee post: female - male	0.104***		0.103***
	(0.019)		(0.019)
New nominee pre: female - male	0.048	0.083	
	(0.038)	(0.063)	
New nominee post: female - male	0.022	0.063	
	(0.041)	(0.040)	

Corresponds to specification in Table 4 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A4: Support for female nominees: pre- versus post-quota for new and incumbent nominees – ISS recommendations in non-classified boards

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.010	0.123*	0.010
	(0.019)	(0.070)	(0.019)
Post x Female nominee	0.107***	-0.053	0.108***
	(0.027)	(0.083)	(0.027)
New nominee	0.093***		
	(0.028)		
Female nominee x New nominee	0.080*		
	(0.046)		
Post x New nominee	0.092**		
	(0.046)		
Post x Female nominee x New nominee	-0.152**		
	(0.068)		
ISS Against Recommendation	-1.463***	-1.321***	-1.759***
	(0.044)	(0.409)	(0.062)
Election FEs	Yes	Yes	Yes
R-squared	0.731	0.710	0.714
Observations	11,468	460	7,231
Implied differences between female and male nominees			
	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.010		0.010
	(0.019)		(0.019)
Incumbent nominee post: female - male	0.118***		0.118***
	(0.019)		(0.019)
New nominee pre: female - male	0.090**	0.123*	
	(0.041)	(0.070)	
New nominee post: female - male	0.070	0.045	
	(0.045)	(0.043)	

Corresponds to specification in Table A3 for the sub-sample of firms with non-classified boards. 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A5: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Firms with stock returns

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.035	0.138*	0.040
	(0.024)	(0.076)	(0.025)
Post x Female nominee	0.071**	-0.098	0.061*
	(0.034)	(0.087)	(0.034)
New nominee	0.249***		
	(0.031)		
Female nominee x New nominee	0.039		
	(0.056)		
Post x New nominee	0.132**		
	(0.053)		
Post x Female nominee x New nominee	-0.125		
	(0.079)		
Election FEs	Yes	Yes	Yes
R-squared	0.676	0.605	0.660
Observations	13,631	521	8,635
Implied differences between female and male nominees			
	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.035		0.040
	(0.024)		(0.025)
Incumbent nominee post: female - male	0.106***		0.102***
	(0.023)		(0.023)
New nominee pre: female - male	0.074	0.138*	
	(0.049)	(0.076)	
New nominee post: female - male	0.021	0.041	
	(0.050)	(0.042)	

Corresponds to specification in Table 4 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 5). 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A6: Support for new female nominees: pre- versus post-quota – Including nominee attributes

Variables	(1) New nominees
Female nominee	0.121*
	(0.065)
Post x Female nominee	0.036
	(0.080)
Independent	-0.031
	(0.093)
Appointed before election	-0.107**
	(0.045)
Audit committee	0.074
	(0.051)
Compensation committee	-0.003
	(0.054)
Election FEs	Yes
R-squared	0.629
Observations	578

Implied differences between female and male nominees

	New nominees
New nominee pre: female - male	0.121*
	(0.065)
New nominee post: female - male	0.085*
	(0.048)

Corresponds to specification in Table 4 Column (2) which includes the subsample of new nominees where at least one new female and one new male nominee stand for election. Additional controls are included indicating whether a nominee is independent (*(*independent)), part of the audit committee (*(*Audit Committee)), and/ or part of the compensation committee (*(*Compensation Committee)). The control variable *Appointed prior election* is equal to one if a nominee was appointed within one year prior to the election and is standing for election for the first time. The variable is equal to zero if a nominee was not appointed prior to the election and is standing for election for the first time. 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *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. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Pre_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A7: Abnormal returns, quota violations and board turnover (alternative specification)

Panel A: Violation19			
	Base	Least supported	Least or second-least supported
Violation19	-0.016*		
	(0.009)		
Violation19 x LS turned over		0.000	0.004
		(0.014)	(0.012)
Violation19 x LS not turned over		-0.025**	-0.032***
		(0.011)	(0.012)
Board controls	Yes	Yes	Yes
Observations	126	126	126
R-squared 0.288	0.336	0.343	

Panel B: Shortfall21			
	Base	Least supported	Least or second-least supported
Shortfall21: 1 Female director	-0.014**		
	(0.007)		
Shortfall21: 2 Female directors	-0.013*		
	(0.007)		
Shortfall21: 3 Female directors	-0.028**		
	(0.011)		
Shortfall21: 1 Female director		-0.001	-0.008
x LS turned over		(0.008)	(0.008)
Shortfall21: 1 Female director		-0.017*	-0.015
x LS not turned over		(0.009)	(0.011)
Shortfall21: 2 Female directors		-0.013	-0.008
x LS turned over		(0.011)	(0.009)
Shortfall21: 2 Female directors		-0.017*	-0.008
x LS not turned over		(0.009)	(0.010)
Shortfall21: 3 Female directors		-0.002	-0.003
x LS turned over		(0.017)	(0.015)
Shortfall21: 3 Female directors		-0.042***	-0.046***
x LS not turned over		(0.013)	(0.014)
Board controls	Yes	Yes	Yes
Observations	126	126	126
R-squared	0.313	0.364	0.371

Corresponds to specification in Table 9. 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). *LS turned over* is a dummy that takes a value of one if the departing director is the least (column (2)) or second-least (column (3)) supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *LS not turned over* is a dummy that equals 1- *LS turned over*. Both variables are included separately in the regressions but are not reported in the table. *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. All specifications include control variables listed in Table 5 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 A8. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A8: Abnormal returns, quota violations and board turnover (alternative specification) – Non-classified boards

Panel A: Violation19			
	Base	Least supported	Least or second-least supported
Violation19	-0.023**		
	(0.011)		
Violation19 x LS turned over		-0.002	0.003
		(0.009)	(0.007)
Violation19 x LS not turned over		-0.032**	-0.035***
		(0.014)	(0.015)
Board controls	Yes	Yes	Yes
Observations	57	57	57
R-squared	0.255	0.334	0.323
Panel B: Shortfall21			
	Base	Least supported	Least or second-least supported
Shortfall21: 1 Female director	-0.002		
	(0.007)		
Shortfall21: 2 Female directors	-0.006		
	(0.010)		
Shortfall21: 3 Female directors	-0.029*		
	(0.014)		
Shortfall21: 1 Female director		0.004	0.004
x LS turned over		(0.006)	(0.006)
Shortfall21: 1 Female director		-0.002	-0.004
x LS not turned over		(0.011)	(0.015)
Shortfall21: 2 Female directors		0.012	0.003
x LS turned over		(0.019)	(0.016)
Shortfall21: 2 Female directors		-0.017	-0.012
x LS not turned over		(0.014)	(0.017)
Shortfall21: 3 Female directors		0.005	0.006
x LS turned over		(0.009)	(0.010)
Shortfall21: 3 Female directors		-0.049**	-0.048**
x LS not turned over		(0.019)	(0.020)
Board controls	Yes	Yes	Yes
Observations	57	57	57
R-squared	0.278	0.414	0.379

Corresponds to specification in Table A7 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). *LS turned over* is a dummy that takes a value of one if the departing director is the least (column (2)) or second-least (column (3)) supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *LS not turned over* is a dummy that equals 1-*LS turned over*. Both variables are included separately in the regressions but are not reported in the table. *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. All specifications include control variables listed in Table 5 defined at the firm level at the time of the quota announcement. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A9: Abnormal returns, quota violations and board turnover – Non-classified boards

Panel A: Violation19			
	Base	Least supported	Least or second-least supported
Violation19	-0.023**		
	(0.011)		
Violation19 x LS turned over		-0.001	0.003
		(0.009)	(0.010)
Violation19 x LS not turned over		-0.028*	-0.030*
		(0.014)	(0.016)
Board controls	Yes	Yes	Yes
Observations	60	60	60
R-squared	0.233	0.299	0.280
Panel B: Shortfall21			
	Base	Least supported	Least or second-least supported
Shortfall21: 1 Female director	0.001		
	(0.008)		
Shortfall21: 2 Female directors	-0.008		
	(0.010)		
Shortfall21: 3 Female directors	-0.026**		
	(0.013)		
Shortfall21: 1 Female director		0.002	0.000
x LS turned over		(0.006)	(0.008)
Shortfall21: 1 Female director		0.004	0.007
x LS not turned over		(0.011)	(0.018)
Shortfall21: 2 Female directors		0.011	0.000
x LS turned over		(0.019)	(0.019)
Shortfall21: 2 Female directors		-0.014	-0.006
x LS not turned over		(0.014)	(0.020)
Shortfall21: 3 Female directors		0.005	-0.005
x LS turned over		(0.009)	(0.013)
Shortfall21: 3 Female directors		-0.036*	-0.033
x LS not turned over		(0.019)	(0.024)
Board controls	Yes	Yes	Yes
Observations	60	60	60
R-squared	0.254	0.355	0.309

Corresponds to specification in Table 9 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). *LS turned over* is a dummy that takes a value of one if the departing director is the least (column (2)) or second-least (column (3)) supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *LS not turned over* is a dummy that equals 1-*LS turned over*. Both variables are included separately in the regressions but are not reported in the table. *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. All specifications include control variables listed in Table 5 defined at the firm level at the time of the quota announcement. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table A10: Abnormal returns, quota violations and board turnover – Firms whose equity is traded on a major stock exchange

Panel A: Violation19			
	Base	Least supported	Least or second-least supported
Violation19	0.012		
	(0.009)		
Violation19 x LS turned over		-0.002	0.000
		(0.014)	(0.012)
Violation19 x LS not turned over		-0.018*	-0.023*
		(0.010)	(0.011)
Board controls	Yes	Yes	Yes
Observations	124	124	124
R-squared	0.281	0.319	0.310
Panel B: Shortfall21			
	Base	Least supported	Least or second-least supported
Shortfall21: 1 Female director	-0.012*		
	(0.007)		
Shortfall21: 2 Female directors	-0.013*		
	(0.007)		
Shortfall21: 3 Female directors	-0.022**		
	(0.010)		
Shortfall21: 1 Female director		-0.005	-0.011
x LS turned over		(0.009)	(0.008)
Shortfall21: 1 Female director		-0.013	-0.010
x LS not turned over		(0.009)	(0.012)
Shortfall21: 2 Female directors		-0.002	-0.008
x LS turned over		(0.011)	(0.010)
Shortfall21: 2 Female directors		-0.017**	-0.013
x LS not turned over		(0.009)	(0.010)
Shortfall21: 3 Female directors		-0.006	-0.009
x LS turned over		(0.017)	(0.015)
Shortfall21: 3 Female directors		-0.033***	-0.035**
x LS not turned over		(0.012)	(0.014)
Board controls	Yes	Yes	Yes
Observations	124	124	124
R-squared	0.300	0.339	0.326

Corresponds to specification in Table 9 excluding firms not traded on a major stock exchange (as shown in Table 3). 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). *LS turned over* is a dummy that takes a value of one if the departing director is the least (column (2)) or second-least (column (3)) supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *LS not turned over* is a dummy that equals 1-*LS turned over*. Both variables are included separately in the regressions but are not reported in the table. *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. All specifications include control variables listed in Table 5 defined at the firm level at the time of the quota announcement. Robust (White) standard errors in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Table A11: Abnormal returns, quota violations and board turnover – controlling for market capitalization and industry returns

	Base	Least supported	Least or second-least supported
Panel A: Violation19			
Violation19	0.012		
	(0.008)		
Violation19 x LS turned over		-0.004	-0.003
		(0.012)	(0.011)
Violation19 x LS not turned over		-0.022**	-0.027**
		(0.010)	(0.012)
Fama-French 12 industry returns	-2.021**	-1.967**	-1.937**
	(0.914)	(0.898)	(0.933)
Log of market capitalization	-0.003**	-0.003**	-0.003**
	(0.001)	(0.001)	(0.001)
Board controls	Yes	Yes	Yes
Observations	125	125	125
R-squared	0.336	0.363	0.358
Panel B: Shortfall21			
	Base	Least supported	Least or second-least supported
Shortfall21: 1 Female director	-0.007		
	(0.007)		
Shortfall21: 2 Female directors	-0.007		
	(0.007)		
Shortfall21: 3 Female directors	-0.019*		
	(0.010)		
Shortfall21: 1 Female director		-0.007	-0.014*
x LS turned over		(0.008)	(0.001)
Shortfall21: 1 Female director		-0.010	-0.005
x LS not turned over		(0.009)	(0.011)
Shortfall21: 2 Female directors		-0.005	-0.011
x LS turned over		(0.009)	(0.009)
Shortfall21: 2 Female directors		-0.017*	-0.012
x LS not turned over		(0.009)	(0.010)
Shortfall21: 3 Female directors		-0.010	-0.014
x LS turned over		(0.016)	(0.014)
Shortfall21: 3 Female directors		-0.036***	-0.038***
x LS not turned over		(0.012)	(0.014)
Fama-French 12 industry returns	-1.780*	-1.637*	-1.664*
	(1.006)	(0.938)	(0.983)
Log of market capitalization	-0.003**	-0.003**	-0.004**
	(0.001)	(0.001)	(0.001)
Board controls	Yes	Yes	Yes
Observations	124	124	124
R-squared	0.346	0.383	0.378

Corresponds to specification in Table 9 controlling for the firms' (logarithm of) market capitalization at the time of the quota announcement and industry returns (Fama-French 12 industry portfolio returns) at the day of the quota announcement. 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). *LS turned over* is a dummy that takes a value of one if the departing director is the least (column (2)) or second-least (column (3)) supported one based on shareholder votes (*Support*) in the last election before the quota announcement. *LS not turned over* is a dummy that equals 1-*LS turned over*. Both variables are included separately in the regressions but are not reported in the table. *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. All specifications include control variables listed in Table 5 defined at the firm level at the time of the quota announcement. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

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.

Substitution of Male Incumbent Directors with New Female Directors

One alternative explanation for the negative share price reaction within the group of firms who violated the quota at announcement and did not turn over the least-supported director is that these firms also have difficulties attracting high-quality female candidates. To examine this explanation, we compare the average excess support of new female nominees in their first post-quota election and the excess support of the turned over male directors in their last pre-quota election. Excess support is defined as the nominee's support in an election minus the average for all other nominees in that same election. Note that while these are two different elections, excess support accounts for the average level of support in the respective elections.

First, the excess support of new female nominees in violator firms who fail to turn over the least-supported male director is not below the level of excess support for new female nominees in violator firms who turn over the least-supported male director (6.4% versus 5.0%). 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. This does not support the conjecture that there are differences in the abilities of these two types of firms to recruit suitable female nominees. Second, the average excess support of the new female nominees (6.4% and 5.0%) is above the average excess support of the departing male incumbents on boards where the least-supported male director leaves (-5.7%) and on boards where a different male director leaves (2.8%). If a firm does not turn over the least-supported director, any new director mechanistically has relatively high support. Therefore, we re-calculate the excess support for new female nominees while excluding the retained low-supported male directors. This leads to a slightly but not substantially lower excess support of 6.3% for new female nominees.

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

Panel A: Violation19		
	Base	Least or second-least supported turned over
Violation19	0.000	
	(0.012)	
Violation19 x Committee chair		-0.009
		(0.032)
Violation19 x Not committee chair		-0.001
		(0.011)
Board controls	Yes	Yes
Observations	51	51
R-squared	0.214	0.288

Panel B: Shortfall21		
	Base	Least or second-least supported turned over
Shortfall21: 1 Female director	0.011	
	(0.011)	
Shortfall21: 2 Female directors	0.011	
	(0.013)	
Shortfall21: 3 Female directors	0.009	
	(0.016)	
Shortfall21: 1 Female director x Committee chair		0.000
		(0.015)
Shortfall21: 1 Female director x Not committee chair		0.011
		(0.016)
Shortfall21: 2 Female directors x Committee chair		0.008
		(0.018)
Shortfall21: 2 Female directors x Not committee chair		-0.005
		(0.013)
Shortfall21: 3 Female directors x Committee chair		-0.006
		(0.036)
Shortfall21: 3 Female directors x Not committee chair		0.002
		(0.018)
Board controls	Yes	Yes
Observations	51	51
R-squared	0.226	0.314

Corresponds to specification in Table 9 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 the first election after the quota (complying with the 2019 quota requirement) and where a male incumbent director departs by 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). *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. *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. *Not 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 5 defined at the firm level at the time of the quota announcement. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

C Appendix

Alternative Explanations for Changes in Support for Female Nominees

Our analysis provides evidence that shareholders do not oppose quota-mandated female nominees. 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. Therefore, in the subsequent section, we more closely investigate underlying drivers of shareholder votes and support for female nominees.

Director Characteristics

Shareholder votes a are market-based measure of director performance and reflect quality in the perception of shareholders (Erel et al., 2021). However, one may ask whether shareholders vote in favour of female nominees post-quota not because they regard them as a good fit for the firm but to express their view that the firm should avoid violating the quota and the resulting fine. As a result, female nominees gain higher shareholder support than the same nominee would receive without the quota. Our argument is that there is no need for shareholders to vote in favour of the female nominee to ensure compliance because there is essentially no risk to end up non-compliant as long as there is a female nominee standing as a director for election. Nevertheless, in the following analysis, we test whether there is evidence of inflated shareholder support for quota-mandated female nominees by analyzing whether changes in the characteristics between new female nominees pre and post-quota would have predicted lower support than they actually received.

The current literature on board composition fails to provide unambiguous evidence of universal director characteristics 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; Erel et al., 2021). A director characteristic that is beneficial for one board may be disadvantageous for another board. Erel et al., 2021 create a machine learning algorithm trained to identify nominees that will perform well in uncontested elections for the board of directors (i.e. obtain high shareholder support). Importantly, their model was trained using a sample of shareholder votes outside of the CA quota period. Based on a Lasso model, the authors identify ten features and associated coefficients that are most relevant in predicting shareholder support for new nominees. While these coefficients cannot be interpreted in the same way as OLS coefficients, they provide a sense for the magnitude and direction of how a characteristic will affect support (see Mullainathan and Spiess, 2017). We select the five features that would not have been absorbed by election fixed effects in our analysis and check how these characteristics changed for new female and male nominees from pre to post-quota.

Table C1 shows the average values on the five characteristics for female (Columns (1) and (3)) and male nominees (Columns (2) and (4)) that stood for election for the first time before (Columns (1) and (2)) and after the quota (Columns (3) and (4)). The table also shows the difference on these characteristics between men and women before and after the quota. Lastly, the table shows the relative change in these characteristics between female and male nominee pre to post-quota (Post-Pre). Based on the *Erel et al. coefficient*, being in the audit committee exerts a positive impact on support. Being on the compensation committee, having three or more board seats (Busy), and being born between 1965 and 1980 (Generation X) has a negative influence on support; having sat on many private company boards exerts the most negative impact on support. The table shows that, pre-quota, new female nominees had a higher average value on the positive attribute and lower average values on the negative attributes than new men. After the quota, the gap between female and male nominees becomes even larger on all except for one attribute (more female nominees serve on the compensation committee post-quota than before). Overall, this means that one would rather expect new female nominees to have more support post than pre-quota. Thus, we see no evidence that the quota provided new female nominees with a boost inconsistent with their characteristics.

General Trends: Shareholder Support in Other US States

We investigate whether the trend in shareholder voting we observe for female nominees is unique to the state of California. For instance, Von Meyerinck et al., 2019 show that the announcement of the CA quota had also spill-over effects to other states. They argue that firms in other states also experienced negative announcement returns to the CA quota in anticipation of similar mandates. Indeed, at the end of 2020, Nasdaq announced new listing rules related to board diversity (Nasdaq, 2020). To see whether similar patterns as in California can be found elsewhere, we analyze voting results for US companies headquartered outside of California over the same time period (January 2016 until year-end 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 firms and 39,865 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 C1, we can see that the relative number of female nominees increased over the last years in other US 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 2). Next, we repeat our main analysis in Table 4 for all US states excluding California. The regression results are presented in Table C2. The triple interaction for new female nominees post is also negative (albeit lower in magnitude), meaning that new female nominees lose support post-quota relative to prediction in other US states, too. Furthermore, like in California, new female nominees are more supported than new male nominees pre-quota, suggesting that women were held to a higher standards by boards in other US states as well. Similarly, after the quota, new female nominees fall to levels closer to new male nominees. (Column (2)). However, as can be seen in Figure C2, changes in the differences of support between new female and new male nominees seem to be driven by changes in support for new male nominees. New male nominees appear to lose support around the time of the quota announcement and regain some of it afterwards. In the case of California, new female nominees experience a large decline in support at the time of the quota that brings their support closer to the level of new men. The most crucial difference between California and other US states is that in other states, incumbent male nominees do not experience such a steep decline in support around the time of the quota, as it was the case in California (Column (3) in Table C2 and Figure C2). Our finding is that the negative stock price reaction to the quota is not related to concerns related to quota-mandated women but to how boards subsequently turn over male incumbent directors. The voting patterns in other US states suggests that male incumbent nominees might not have been turned over in the same way as in California to add new female nominees. This is in line with the less pronounced negative quota announcement returns observed in other states (Von Meyerinck et al., 2019).

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 US is in line with our conclusion that shareholders do not oppose the addition of female board members.

Institutional Investor Voting

Institutional investors have strong influence on voting results and stock prices because of the large size of their investments. We want to ensure that these large investors show no opposition towards quota-mandated female nominees. Previous literature identifies 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). As a result, some funds will have a larger preference for female directors than others. We expect that mutual funds with a high emphasis on diversity in their investment strategy will not oppose female nominees pre or post-quota in elections. In the following analysis, we want to make sure that the group of institutional investors that does not have a built-in preference for women, also shows no opposition towards female nominees post-quota.

Mutual funds with a diversity focus First, we split mutual funds based on their 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.[37] These are based on N-PX filings that must be filed by mutual funds and are available through EDGAR. ISS Voting Analytics does 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

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

fund families and determine the composition of their investment portfolios.[38] 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 for new female nominees in Table 4 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. The analysis is restricted to elections and nominees for which we observe votes from both mutual fund types (top 10 percent and not top 10 percent in terms their diversity orientation strength).[39] The results of the analysis are presented in Table C3. We separately show sub-sample results for mutual funds that are in the top ten percent based on the strength of their diversity orientation (Column (1)) and mutual funds that are below the top ten percent in this ranking (Columns (2)).[40] In neither of the two groups do we see evidence of less support for new female nominees than for new male nominees after the quota. In line with our expectations, we find that the voting pattern we observe for new female nominees in our main analysis is driven by the subset of mutual funds that don't have a diversity focus in their portfolio (not in the top ten percent). Nevertheless, even in the subset of mutual fund investors who don't have a built-in preference for women, we observe no opposition towards female nominees post-quota.

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

[38] In total, we are able to identify 903 different fund families.

[39] Note, that we do not consider how many shares each fund holds and can vote on.

[40] Our results remain qualitatively the same when we split our sample based on the top 100 firms with respect to the strength of their diversity orientation.

female representation on corporate boards of their portfolio firms in 2017.[41] Because of the preference for female directors of the "Big Three" one may expect that new female nominees will be supported in firms where these investors have a large ownership stake. Therefore, we next want to make sure that post-quota voting outcomes for new female nominees are not worse than voting outcomes for new male nominees in firms that do not have a high ownership concentration by 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.[42] As previously, we focus on the sub-group of new nominees, as this is the group that is affected by the campaigns. We are interested in whether new female nominees are supported in the sub-sample of firms where the "Big Three" have a large ownership stake but not in the remaining firms. Table C4 in the Appendix reports the results. In neither group we find evidence of opposition towards new female nominees post quota. Thus, we do not see that institutions without a preference for women disapprove of the new female nominees.

Overall, the preceding analysis shows no evidence of a group of large shareholders that support women to a lesser degree than men post quota. Since these large investors potentially have a large influence on stock prices, this substantiates our earlier interpretation that the negative share price reaction to the quota is not due to shareholders' negative attitudes toward new women.

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

[42] 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.

Table C1: Characteristics of new female and male nominees up for election pre and post-quota

	New nominee pre-quota		New nominee post-quota		Difference			
	Female	Male	Female	Male	Pre	Post		
Characteristic	(1)	(2)	(3)	(4)	(1)-(2)	(3)-(4)	Post-Pre	Erel et al. coefficient
Audit committee	0.412	0.375	0.384	0.342	0.037	0.042	0.005	0.005
Compensation committee	0.342	0.389	0.384	0.311	-0.046	0.073	0.119	-0.005
Total number of unlisted boards sat on	1.191	1.695	1.168	1.932	-0.504	-0.763	-0.259	-0.018
Busy	0.455	0.481	0.400	0.453	-0.025	-0.053	-0.027	-0.004
Generation X	0.296	0.299	0.332	0.366	-0.004	-0.035	-0.031	-0.002
N	257	882	380	453				

This table reports characteristics and differences in characteristics of female (Columns (1) and (3)) and male (Columns (2) and (4)) who were standing for election for the first time (new nominee) before (Columns (1) and (2)) and after (Columns (3) and (4)) the quota announcement (October 2018). All characteristics are based on the time of the Def14A (proxy material) that was submitted to shareholders before the respective election. *Audit committee* equals one if the nominee is a member of the audit committee. *Compensation committee* equals one if the nominee is a member of the audit committee. *Total number of unlisted boards sat on* is the number of boards of private companies that the nominee has served on. *Busy* equals one if the nominee sits on three or more boards. *Generation X* equals one if the nominee was born between 1965 and 1980. The source of information is Boardex and Def14a filings. The characteristics are based on Table A.1 in Erel et al., 2021 that reports the most relevant characteristics that predict shareholder support. This table only includes characteristics that would not be absorbed by election fixed effects in our model *Erel et al. coefficient* is the estimated coefficient in Erel et al., 2021 (Table A.1) for the respective characteristic based on a Lasso model that predicts shareholder support. Note, that these coefficients cannot be interpreted in the same way as OLS coefficients.

Table C2: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Non-Californian sample

Variables	(1) Pooled	(2) New nominees	(3) Incumbent nominees
Female nominee	0.048***	0.098***	0.044***
	(0.007)	(0.018)	(0.007)
Post x Female nominee	0.022**	-0.047	0.019*
	(0.011)	(0.033)	(0.011)
New nominee	0.197***		
	(0.008)		
Female nominee x New nominee	0.013		
	(0.015)		
Post x New nominee	0.108***		
	(0.016)		
Post x Female nominee x New nominee	-0.078***		
	(0.028)		
Election FEs	Yes	Yes	Yes
R-squared	0.684	0.826	0.574
Observations	111,549	3,493	50,459
Implied differences between female and male nominees			
	Pooled	New nominees	Incumbent nominees
Incumbent nominee pre: female - male	0.048***		0.044***
	(0.007)		(0.007)
Incumbent nominee post: female - male	0.070***		0.064***
	(0.009)		(0.009)
New nominee pre: female - male	0.061***	0.098***	
	(0.013)	(0.018)	
New nominee post: female - male	0.005	0.051*	
	(0.022)	(0.028)	

Corresponds to specification in Table 4 for the sample of US 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). 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. Column (1) includes the full sample of nominees. Column (2) includes the sub-sample of new nominees where at least one new female and one new male nominee stand for election. Column (3) includes the sub-sample of incumbent nominees where at least one incumbent female and one incumbent male nominee stand for election. We use election fixed effects in all regressions. The top part of the table presents results from Specification 1. The bottom part of the table presents results from Specification 2. The implied differences between female and male nominees shown in the bottom part of the table for new and incumbent female nominees relative to new and incumbent male nominees respectively can also be calculated from the point estimates in the regression specification 1 shown in the top part of the table. For example, the coefficient γ_3 in Specification 2 of $Post_{i,ct} \times Female_{i,ct} \times New_{i,ct}$ equals $\beta_3 + \beta_6$, i.e., the coefficients on $Female_{i,ct}$ plus $Female_{i,ct} \times New_{i,ct}$, in Specification 1. Robust (White) standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C3: Support for female nominees: pre- versus post-quota for new and incumbent nominees – Mutual funds with a diversity focus

Variables	(1) Top10%	(2) Other
Female nominee	0.065	0.102*
	(0.041)	(0.056)
Post x Female nominee	0.038	-0.061
	(0.094)	(0.062)
Election FEs	Yes	Yes
R-squared	0.442	0.377
Observations	257	257

Corresponds to specification in Table 4 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. We standardize *Support* by subtracting its sample mean and subsequently dividing it by the sample standard deviation (z-score). *Top 10%* includes the sub-sample of votes for a nominee from mutual fund investors who are ranked in the top ten percent based on the (value-weighted) MSCI ESG KLD ratings in the category Workforce Diversity of their portfolio firms in 2017 (column (1)). *Other* includes votes for a nominee from mutual fund investors who are not in the top ten percent based on the MSCI ESG KLD ratings for the category Workforce Diversity of their portfolio firms in 2017 (column (2)). Only elections and nominees are considered where we observe votes from both types of mutual funds (Top 10% and Other). 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. Includes only the sub-sample of elections where at least one new female and one new male nominee stand for election. We use election fixed effects in all regressions. Robust (White) Standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table C4: 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	0.114*	0.148	0.010	0.147*	0.122**	0.119	0.053	0.158*
	(0.059)	(0.267)	(0.060)	(0.084)	(0.060)	(0.162)	(0.092)	(0.094)
Post x New female nominee	-0.018	-0.090	0.086	-0.089	0.004	-0.052	0.041	-0.083
	(0.076)	(0.281)	(0.079)	(0.120)	(0.096)	(0.172)	(0.106)	(0.113)
Election FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.481	0.699	0.690	0.615	0.502	0.665	0.476	0.645
Observations	409	169	207	371	270	308	192	386

Corresponds to specification in Table 4 for the sub-sample of new nominees where at least one new female and one new male nominee stand for election. 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. Robust (White) standard errors in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

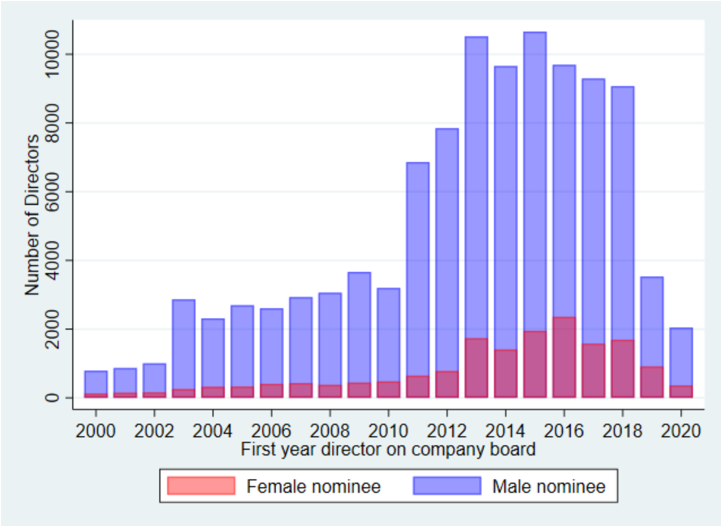


Figure C1: Additions of female and male nominees over time in US firms that are headquartered outside of California. The sample includes Russell 3000 firms from the ISS Voting Analytics database.

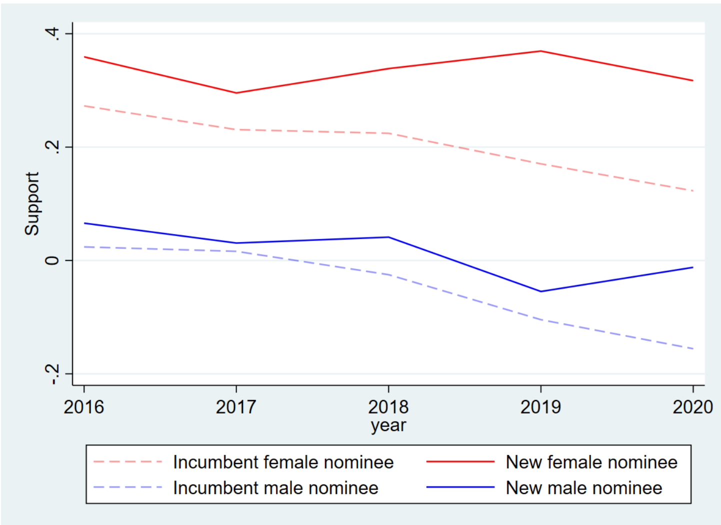


Figure C2: Average yearly support for incumbent and new, male and female nominees standing for election in US firms that are headquartered outside of California. The sample includes Russell 3000 firms from the ISS Voting Analytics database. Support is defined as the ratio of "for" votes to the sum of "for," "abstain," and "against" votes. It is standardized by subtracting the sample average and subsequently divided by the sample standard deviation. 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.