

# **Mandatory Disclosure and Female Representation in Corporate Leadership: Evidence from NASDAQ**

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## **Abstract**

We study how firms and financial markets respond to mandates requiring disclosure of information. The context is NASDAQ's board diversity rule, a comply-or-explain regulation requiring listed firms to disclose board gender composition and either appoint at least one female director or explain non-compliance. Unlike gender quotas, this disclosure-based mandate operates through market pressures rather than financial penalties, allowing reputational concerns to shape firm behavior. Using NYSE-listed firms as a control group, we find that mandatory disclosure increases female board representation by 5%, with effects concentrated among larger firms and those with higher pre-regulation Environmental, Social, and Governance ratings. Event-study evidence shows abnormal returns of approximately 0.5% for NASDAQ firms around regulatory approval and -0.5% around judicial repeal, with larger effects for firms with all-male boards. Firms that choose to explain most often cite supply-side constraints such as an inability to find qualified candidates. Our findings indicate that mandatory disclosure generates positive valuation effects but only modestly increases gender diversity in corporate leadership.

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# 1 Extended Abstract

How do firms and financial markets respond to information disclosure mandates? A new regulatory frontier has emerged to increase diversity in corporate boardrooms: mandates that require disclosure of diversity statistics and explanations for non-diverse boards. Unlike quotas, mandatory disclosure affects behavior by altering information available to market participants, potentially generating market pressures that can influence firm conduct (Stiglitz 2002; Leuz and Wysocki 2016). If firms face sizable reputational costs from stakeholders for revealing a lack of diversity, they may add women to their boards to avoid negative scrutiny, rather than merely providing an explanation. Alternatively, if information surrounding board diversity was already widely available to stakeholders prior to the regulation, perhaps through voluntary disclosures (e.g., Ross 1979; Grossman 1981), then mandatory disclosure regulations should have limited impacts.

In this paper, we provide the first causal evidence on the effects of mandatory diversity-disclosure regulations in the United States. We find that mandatory disclosure increases female board representation by 5% and raises firm valuations by 0.5%. Our setting is the NASDAQ board diversity rule, approved by the Securities and Exchange Commission (SEC) on August 6, 2021. The rule required NASDAQ-listed firms to disclose the annual gender and demographic composition of their boards and either (i) include at least one female and one other diverse director, or (ii) explain why they did not.<sup>1</sup> The regulation featured a multi-year phase-in period (one diverse director by 2023 and two by 2025) and was ultimately struck down by the Fifth Circuit Court in a split decision on December 11, 2024. We answer four sets of questions: 1) Do firms increase gender diversity in response to the mandatory diversity-disclosure requirement, and what types of firms are most responsive? 2) How do investors perceive the regulation as reflected by share price reactions to its adoption and unexpected repeal? 3) How does the regulation affect medium-run financial outcomes? and 4) How do firms that maintain non-diverse boards explain their choice,

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<sup>1</sup>More specifically, firms are required to have at least one director who self-identifies as female and another who self-identifies as an underrepresented minority or LGBTQ+. If a firm has five or fewer board members, it needs only one diverse member to comply. We focus on gender diversity in this paper because data on board gender composition is more complete and reliably measured than information on ethnic, racial, or sexual orientation diversity. The rule imposed no financial penalties for companies choosing to explain.

based on a textual analysis of their explanations?

To evaluate the causal effects of mandatory disclosure on annual measures of board diversity and financial outcomes, we compare NASDAQ-listed firms (treated) with NYSE-listed firms (control) using a difference-in-differences design. NYSE-listed firms serve as an ideal control group because they are subject to similar U.S. regulations enforced by the SEC but are not subject to the NASDAQ-specific mandate to disclose diversity. Although the two exchanges differ cross-sectionally, the identifying assumption relies on parallel trends and not identical baseline characteristics. As a robustness check, we use the synthetic difference-in-differences (SDiD) estimator of Arkhangelsky et al. (2021), which constructs a counterfactual for NASDAQ firms as weighted combinations of NYSE firms that best reproduce pre-treatment trends.<sup>2</sup> We use firm fixed effects and cluster standard errors at the firm level.

We find mandatory disclosure increases the female board share by 0.8 percentage points – approximately a 5% increase relative to a baseline mean of 20% (Figure 1). The increases in the female share are concentrated among larger firms and those with higher Environmental, Social, and Governance (ESG) scores prior to the regulation (both defined as above the median in 2020), suggesting these firms may have faced greater reputational costs for disclosing a lack of diversity. Compliance occurs primarily at the extensive margin, consistent with all-male boards adding a single female director to avoid filing an explanation. The SDiD estimator yields qualitatively similar results.

In standard asset-pricing frameworks, news about expected firm value is reflected in share prices at the time it arrives (MacKinlay 1997). We examine Cumulative Abnormal Returns (CARs) around both the SEC’s approval of NASDAQ’s diversity rule and its subsequent split-decision repeal by the Fifth Circuit. Following the rule’s approval, NASDAQ-listed firms experienced larger positive abnormal returns than NYSE-listed firms, with gains concentrated among firms that pre-

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<sup>2</sup>As additional robustness checks, we restrict the sample to firms that were diverse in 2020 (the year before implementation) and track them over time, before and after the regulation. We also estimate a triple-difference specification using variation between NASDAQ and NYSE firms, before and after the regulation, and among companies that did and did not have diverse boards prior to the regulation. Both specifications typically yield insignificant effects, as there are only 86 firms on the NYSE with all-male boards prior to the regulation.

viously had no female directors. The one-day CAR after SEC approval is 0.486% for NASDAQ firms and statistically significant at conventional levels, compared with  $-0.056\%$  and statistically insignificant for NYSE firms. In contrast, the rule's split-decision judicial repeal is associated with negative abnormal returns for NASDAQ firms ( $-0.531\%$ ) and negligible returns for NYSE firms ( $0.038\%$ ), with the losses again concentrated among firms that lacked board diversity prior to the court's decision.<sup>3</sup> We highlight the losses from judicial repeal closely mirror the gains from adoption for NASDAQ firms and the null effects for NYSE firms, mitigating the usual concerns about event-anticipation and confounding events.

In the three years following the regulation, we find precisely estimated null effects on firm operating performance and key governance outcomes, including CEO turnover and compensation. We find no evidence of evasive behavior, such as delistings or shifts in IPO venue. Firms did, however, adjust board composition at the margin: boards became more educationally credentialed and included more first-time directors, though we observe no reductions in other forms of relevant experience. Textual analysis of explanations provided by firms that remained non-diverse indicates that supply-side constraints such as a lack of qualified candidates and merit-based hiring considerations constitute the majority of stated rationales. Taken together, these findings indicate that mandatory disclosure generates value-positive market responses while inducing only modest changes in board composition, highlighting both the promise and limits of disclosure-based governance.

**Relationship to the Literature:** Our paper contributes to three strands of literature. It is most directly related to nascent research studying the effects of mandatory disclosure of diversity statistics. Bakke et al. (2021) and Hu, Hung, and Li (2025) study Canada's 2014 policy that required mandatory disclosure of female representation on corporate boards. Bakke et al. (2021) find that Canada's regulation increased the female share by 4 percentage points or approximately 40%. From examining share prices, they find that firms most affected by the regulation exhibit positive

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<sup>3</sup>As a robustness check, we also compute abnormal returns at the portfolio level (Jaffe 1974; Allen and Wahid 2023). Under this specification, we do not detect significant abnormal returns around SEC approval, while the judicial repeal is associated with negative abnormal returns of  $-0.6\%$  for all NASDAQ firms and  $-1.3\%$  for NASDAQ firms with all-male boards; no discernible effects are observed for NYSE firms.

and statistically significant cumulative abnormal returns around the announcement, with two-day abnormal returns of 2%. Hu, Hung, and Li (2025) find similar first-stage point estimates and show that the increase in the percentage of women directors is larger when firms face stronger shareholder oversight, as reflected by ESG-friendly investors, pension fund ownership, and institutional ownership. In addition, they show that firms with stronger diversity commitments experience a greater increase in ownership by ESG-friendly investors.<sup>4</sup>

Unlike the Canadian context, we document substantially smaller effects of NASDAQ's mandatory disclosure regulation on female representation. Our evidence does not support the view that the "naming and shaming" effect of comply-or-explain regulations has similar effects on board composition as quotas, as argued by Fried (2021). Several factors may contribute to the smaller point estimates in our study. First, this regulation did not bundle requirements to disclose diversity statistics with requirements to disclose specific policies for increasing female representation.<sup>5</sup> Second, the U.S. corporate governance model is associated with shareholder rather than stakeholder primacy, as articulated by Friedman (1970). Third, the time period also plays a factor – board gender diversity doubled from 2010 to 2020 in the U.S., and Diversity, Equity, and Inclusion (DEI) policies in the workplace faced backlash over our sample period (Bian, Li, and Li 2023). Despite these differences, we similarly find that ESG-oriented firms particularly increased female representation and that investors appear supportive of mandatory disclosure. Given the small changes to financial outcomes following the regulation, we share the interpretation of Hu, Hung, and Li (2025) that investors' positive reaction to mandatory disclosure reflects changes to expected returns rather than cash flows. Relative to prior work, our study is also unique in providing a textual analysis of comply-or-explain justifications in the diversity setting.

Research on DEI in the workplace has largely focused on gender quotas on corporate boards.

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<sup>4</sup>See also Bourveau, Gao, and Hope (2025), who study Canada's follow up 2020 regulation that requires disclosure of racial diversity as opposed to gender diversity. They find racial diversity on corporate boards increases by roughly 33% relative to baseline levels, but document minimal effects for racial diversity in senior management.

<sup>5</sup>As discussed in Bakke et al. (2021), the Canadian regulation required firms to disclose the details of any policies concerning the identification and nomination of women directors, the board's consideration of the representation of women in the director identification and selection process, whether the firm has adopted targets for representation of women on the board, and whether the firm has director term limits. The amendment is principles-based, as listed firms are required to disclose these policies or to provide an explanation for their absence.

While their effects on firm performance remain debated, there is broad consensus that quotas substantially increase female board representation. For example, studies of Norway’s 2003 quota document increases in the female share of roughly 30–35 percentage points, alongside evidence of firm restructuring to avoid quota requirements and mixed valuation effects (Ahern and Dittmar 2012; Bertrand et al. 2019; Eckbo, Nygaard, and Thorburn 2022). Within the U.S., research on California’s gender quota finds first-stage effects of approximately 10 percentage points in the three years preceding NASDAQ’s regulation (Allen and Wahid 2023; Gopal 2025). Some studies find non-negative to positive market responses (Allen and Wahid 2023), while other work reports short-run negative share-price reactions of 1-2% following the quota’s adoption or repeal (Hwang, Shivdasani, and Simintzi 2018; Greene, Intintoli, and Kahle 2020; Von Meyerinck et al. 2018; Klick 2025).<sup>6</sup> Institutional investor pressure has also been shown to increase female board representation in magnitudes comparable to quotas (Gormley et al. 2023). In contrast to these quota and pressure-based interventions, we show that mandatory disclosure imposes minimal constraints on firms, as reflected by minimal evasion and smaller increases in diversity induced by the regulation.

Finally, we contribute to the broader literature on the economics of disclosure and financial reporting regulation, as recently reviewed by Leuz and Wysocki (2016). A central challenge identified in this literature is the difficulty of establishing credible counterfactuals—specifically, unaffected control groups and natural experiments that enable clean identification of regulatory effects and their economic consequences. We view our study as making progress in addressing this challenge by using an unaffected control group of NYSE-listed firms and conducting an event study around both adoption and split-decision repeal. Leuz and Wysocki (2016) further categorize the potential economic benefits of disclosure into seven dimensions: market liquidity, cost of capital, Tobin’s Q, investors’ portfolio allocations, the analyst and broader information environment, capital raising and structure, and investment behavior. We typically find small or null effects in the mechanisms we examine—including changes in cash flows, return on assets, corporate governance

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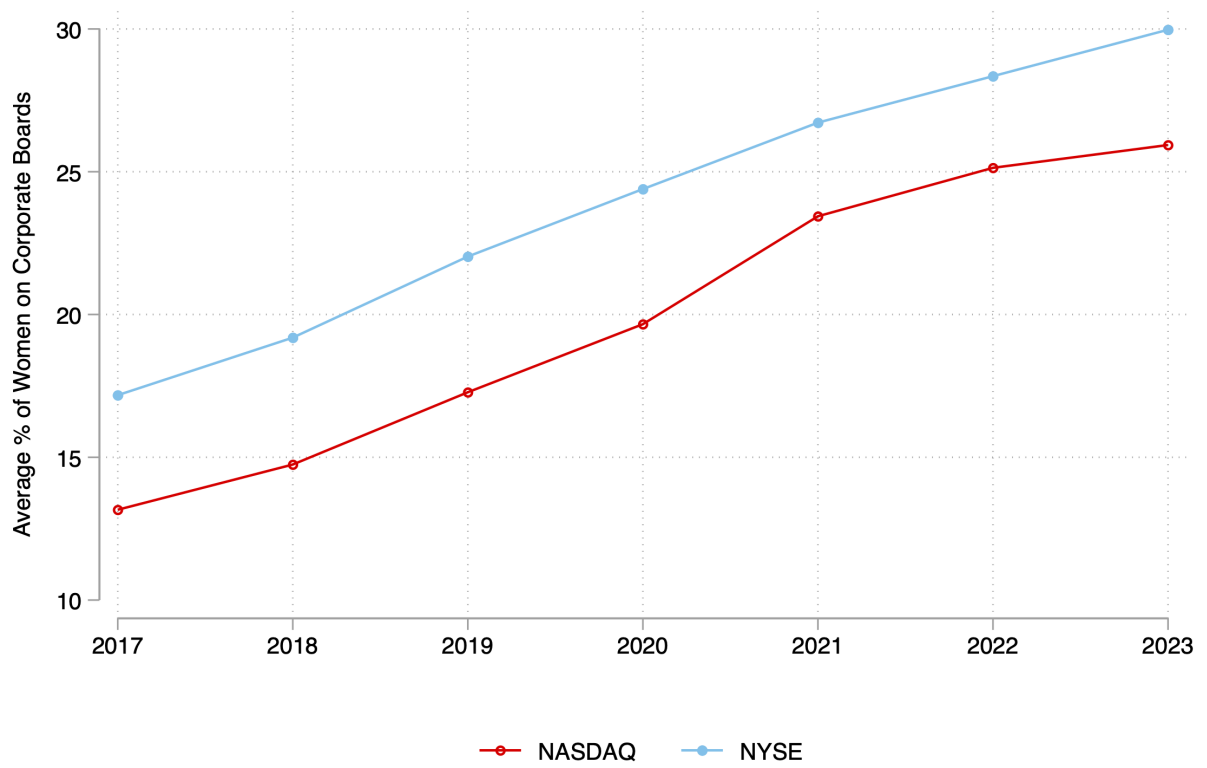
<sup>6</sup>As in Gopal (2025), board gender diversity exhibits mean reversion in our sample, motivating the use of difference-in-differences methods rather than the traditional shift-share instrument used in prior literature. We similarly observe a cross-sectional relationship between diversity and firm size in our sample.

actions, and observable board characteristics—so these mechanisms do not appear to explain the positive announcement returns.<sup>7</sup> We leave the exploration of other channels to future work.

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<sup>7</sup>We observe negative effects for Tobin's Q, though its use as a measure of firm value is contested (Bartlett and Partnoy 2020).

Figure 1: Female Board Share





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