DO MARKETS LIKE MANDATED COMPLIANCE WITH SOCIAL JUSTICE ISSUES? EVIDENCE FROM NASDAQ'S RULE ON BOARD DIVERSITY

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ABSTRACT

On December 1, 2020, NASDAQ proposed a rule requiring listed companies to meet specific gender and racial diversity standards or explain non-compliance. Approved by the SEC on August 6, 2021, the rule faced legal and academic challenges, culminating in its rejection by the Fifth U.S. Circuit Court of Appeals on December 11, 2024. This study uses event study methodology to examine market reactions to the rule's announcement. Despite growing awareness of diversity and social justice issues in financial markets, we find that cumulative abnormal returns for NASDAQ-listed firms were significantly negative three days post-announcement. This finding suggests that markets view mandatory diversity requirements as burdensome, offering economic insights for organizations considering similar policies.

INTRODUCTION

According to the article titled "Analysis: How 2021 became the year of ESG investing" published on December 23, 2021, on the Reuters' website, "The latest Refinitive Lipper data shows that a record $649 billion poured into ESG-focused funds worldwide through Nov. 30, up from the $542 billion and $285 billion that flowed into these funds in 2020 and 2019, respectively. ESG funds now account for 10% of worldwide fund assets."[26] This shows that investors are increasingly becoming concerned about environmental, social, and governance (EGS) issues. ESG issues are not a new phenomenon as they have gained credence and fame over the last decade in response to climate change and social justice, especially supported by younger investors.[27] The global pandemic in 2020, and the killing of George Floyd on May 25, 2020, in Minnesota, USA, have contributed to an increase in scrutiny from stakeholders to make sure that public corporations pay attention to sustainable business practices like social justice, equity in hiring/ promotion policies, community development, lowering of carbon footprint, conserving the environment and biodiversity, to name a few.

[26] **HTTPS://WWW.REUTERS.COM/MARKETS/US/HOW-2021-BECAME-YEAR-ESG-INVESTING-2021-12-23/**

[27] "Why ESG investing is on the rise", RBC Wealth Management. https://www.rbcwealthmanagement.com/en-eu/insights/why-esg-investing-is-on-the-rise-in-2020

Board diversity is considered to be a good corporate governance practice as it increases social participation and diverse viewpoints[28], enhances the decision-making process and firm performance (Connor and Prahalad, 1996), improves oversight of businesses, and strengthens internal controls. In spite of this, progress toward this issue has been slow. According to Deloitte's 2018 census on board composition, "While women of color represent 18% of the U.S. population, they held only 4.6% of Fortune 500 board seats in 2018. Male underrepresented minorities held 11.5% of board seats at Fortune 500 companies in 2018, compared to 66% of board seats held by Caucasian/White men."[29]

After 2020, the social justice movement has brought about a closer examination of the commitment of public corporations to diversity, equity, and inclusion (DEI). Indeed, different stakeholders have indicated that corporate board diversity is an important issue. Deloitte and the Society for Corporate Governance surveyed more than 200 companies and the results (September 2020) report that "most companies and/or their boards have taken, or intend to take, actions in response to recent events surrounding racial inequality and inequity; 71% of public companies and 65% of private companies answered this question affirmatively".[30] Investors are also increasingly demanding increased gender and ethnic diversity on corporate boards (Reeve, 2017).[31] Regulators and watchdogs are also bringing measures of increased scrutiny and accountability to DEI issues. In September 2020, California enacted legislation requiring each publicly held corporation, whose principal executive offices are located in California, to have a minimum of one director from an "underrepresented community on its board of directors by December 31, 2021."[32] Like California, many states have either mandated or are considering legislation requiring gender and ethnic diversification and reporting of such efforts by corporate boards.[33]

[28] International Corporate Governance Network, 2016, "ICGN Guidance on Diversity on Boards 5". https://www.icgn.org/sites/default/files/2021-06/ICGN%20Guidance%20on%20Diversity%20on%20Boards%20-%20Final.pdf

[29] Deloitte, "*Missing Pieces Report: The 2018 Board Diversity Census of Women and Minorities on Fortune 500 Boards* 9" (2018), available at: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/center-for-board-effectiveness/us-cbe-missing-pieces-report-2018-board-diversity-census.pdf.

[30] Deloitte and the Society for Corporate Governance, "*Board Practices Quarterly: Diversity, equity, and inclusion"* (Sept. 2020). https://www2.deloitte.com/us/en/pages/center-for-board-effectiveness/articles/diversity-equity-and-inclusion.html

[31] Also see, ISS Governance, "*2020 Global Benchmark Policy Survey, Summary of Results* 6" (Sept. 24, 2020). https://www.issgovernance.com/wp-content/uploads/publications/2020-iss-policy-survey-results-report-1.pdf

[32] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB979

[33] Harvard Law School Forum on Corporate Governance, May 12, 2020, "States are leading the charge to Corporate Boards: Diversify!" https://corpgov.law.harvard.edu/2020/05/12/states-are-leading-the-charge-to-corporate-boards-diversify/

Large institutional investment firms are developing guidelines for "voting against" companies that lack sufficient board diversity. In November 2020, one of the largest advisors to hedge funds and mutual funds, Institutional Shareholder Services (ISS), announced policy changes specific to ethnic and racial diversity on boards of Russell 3000 or S&P 1500 companies, stating that "In 2021, ISS research reports will highlight boards of companies in the Russell 3000 or S&P 1500 that lack racial and ethnic diversity (or lack disclosure of such), with the goal of helping investors identify companies with which they may wish to engage and to foster dialogue between investors and companies on this topic."[34] Vanguard announced in 2020 that it would begin asking companies about the race and ethnicity of directors.[35] Starting in 2020, State Street Global Advisors will vote against the entire nominating committee of companies that do not have at least one woman on their boards and have not addressed questions on gender diversity within the last three years.[36] Gormley et. al. (2023) find that after the "The Big Three" institutional investors' (State Street Global Advisors, Blackrock, and Vanguard) 2017 campaign to increase the gender diversity of corporate boards, corporations added at least 2.5 times more female directors to their boards in 2019 as compared to in 2016.

Since its approval by the SEC, NASDAQ's proposed rule has faced several legal challenges. In October 2024, Attorneys General of 22 states wrote a letter to NASDAQ's CEO stating that the rule is discriminatory.[37] On December 11, 2024, the Fifth U.S. Circuit Court of Appeals rejected the rule. Even though the legal battle over this rule is still ongoing, it is clear that markets and investors are demanding these changes as evidenced by NASDAQ's response to the Attorneys General's letter – "The board disclosure framework was developed in response to strong demand from both investors and corporates, with pragmatism as a guiding principle". As organizations and businesses consider similar rules to comply with investors' wishes around ESG, it is imperative that we study the economic reaction to such rules. Therefore, the purpose of this paper is to examine the stock price reaction to NASDAQ's rule on board diversity. On December 1, 2020, the NASDAQ stock market filed a proposed rule with the Securities and Exchange Commission (SEC) to adopt diversity-related disclosure requirements for companies listed on NASDAQ's stock exchange. The rule was approved by the SEC on August 6, 2021.[38] New Rule 5605(f) requires Nasdaq-listed companies to have, or publicly disclose why they do not have, at least two diverse directors, including at least one self-identified female director; and

[34] https://www.issgovernance.com/iss-announces-2021-benchmark-policy-updates/

[35] Vanguard, *Investment Stewardship 2020 Annual Report* (2020). https://about.vanguard.com/investment-stewardship/perspectives-and-commentary/2020_investment_stewardship_annual_report.pdf.

[36] State Street Global Advisors, *Summary of Material Changes to State Street Global Advisors' 2020 Proxy Voting and Engagement Guidelines* (2020). https://www.ssga.com/library-content/pdfs/global/proxy-voting-and-engagement-guidelines.pdf.

[37] *WALL STREET JOURNAL, OCTOBER 4, 2024, "NASDAQ FACES MULTISTATE INVESTIGATION OF ITS LISTING RULES ON BOARD DIVERSITY"*

[38] https://www.sec.gov/news/public-statement/statement-nasdaq-diversity-080621

at least one director who self-identifies as an underrepresented minority" or as LGBTQ+. The rule also requires public disclosure of board diversity statistics using a standardized format on an annual basis. A company is required to provide its initial board diversity matrix by the later of (1) August 8, 2022; or (2) the filing date of its proxy statement for its 2022 annual meeting. Following the first year of applicability, companies will be required to include in the matrix information for the current year and the immediately preceding year. The rule offers compliance flexibility to smaller boards and also lays out a compliance phase-in timeline. Generally, based on the desirability of diverse boards by different stakeholders, it should be expected that the markets will react positively to an announcement of a new rule that not only mandates increased board diversity but also requires greater transparency and accountability of the practice.

However, on the other hand, such a mandate burdens the companies with increased costs of compliance and reporting (Solomon et. al., 2004). This could result in a negative reaction from the companies, as we have witnessed with previous legislations like the Sarbanes-Oxley Act of 2002 (Zhang, 2007) and the Dodd-Frank Act of 2010 (Gao et al., 2013). In relation to ESG issues, some setbacks were also reported in 2021, like shareholder resolutions that drew significant support but did not gain majorities including a call to reform employment arbitration procedures at Tesla Inc., and a call for Amazon.com Inc. to review how it addresses racial justice and equity[39].

Based on this, we argue that the stock market reaction to the announcement of the new NASDAQ rule on board diversity is a question open to examination. In this paper, using event analysis, we study the stock market reaction around the announcement of the new proposed rule on December 1, 2020. Using a cross-section analysis of all publicly listed companies in the US at the end of the year 2019 (in order to isolate the effects of the pandemic in 2020), we find that NASDAQ-listed companies have significant negative abnormal returns in the 3 days after the announcement. The returns are not significant around SEC's approval of the new rule on August 6, 2021.

This research contributes to the ever-expanding research area related to ESG issues. By studying the market reactions around NASDAQ's rule proposal, our results indicate that in spite of increased interest in ESG issues, maybe the investors and other stakeholders are not yet ready to embrace mandates and regulations. This raises the question that if returns around these new rules are negative, then are the voluntary measures adopted by companies mere "greenwashing" (Mitchell and Ramey, 2011)? If the companies are not mandated to make changes and disclose them, are investors content with just these issues being mentioned in the companies' proxy statements and annual reports? Indeed, a recent survey conducted by Investopedia and TreeHugger asked respondents to choose stocks that they thought performed best by ESG standards. The survey found that when it comes to choosing assets that align with their values,

[39] Reuters, May 28, 2021, "Amazon pressed for racial equity review after strong vote tally". https://www.reuters.com/business/call-amazon-consider-blue-collar-director-wins-17-support-2021-05-28/

investors are still relying heavily on brand perception rather than companies' policies on ESG-related issues.[40]

It is noteworthy that here we do not investigate the reason for the negative reaction around the announcement of the new rule. This is subject to further research on the topic.

LITERATURE REVIEW AND RESEARCH QUESTION

There is a plethora of extant research that focuses on board diversity – both gender and racial/ ethnic – and investor reactions, firm performance, and firm value. Gow et. al. (2023) explore the crucial question of whether shareholders value board diversity by examining the shareholders' voting patterns for board diversity based on their voting behavior during the director election process. They find that shareholders place a slight voting premium on board diversity. Based on their analyses, they argue that the historical lack of shareholder voting support for diverse boards might be an explanation for the historically low levels of board diversity.

Several studies have found a positive relationship between diverse boards and various aspects of firm performance. Carter et. al. (2003) study the relationship between board diversity (gender and racial/ethnic diversity) and firm value large firms. After controlling for size, industry, and other corporate governance measures, they find significant positive relationships between the fraction of women or minorities on the board and firm value. They also find that the proportion of women and minorities on boards increases with firm size and board size. Bernile et. al. (2017) show that greater diversity on boards—including gender, ethnicity, educational background, age, financial expertise, and board experience—is associated with increased operating performance, higher asset valuation multiples, lower stock return volatility, reduced financial leverage, increased dividend payouts to shareholders, higher investment in R&D and better innovation. After analyzing 1,039 companies across 15 countries for the period from December 2018 to November 2019, a report released by McKinsey and Company (2020) found that companies in the top quartile for board gender diversity were "28 percent more likely than their peers to outperform financially," and that there is a statistically significant correlation between board diversity and outperformance on earnings before interest and taxation margin.

There is also evidence that greater board diversity improves the financial reporting and internal controls of firms. Srinidhi et al. (2011) find that companies with women on the audit committees are associated with higher earnings quality and better reporting discipline by managers. Similar findings are reported by Pucheta-Martinez et. al. (2016). Studies have also shown that diverse boards are better at overseeing management. Adams and Ferreira (2009) found that more diverse boards are more likely to hold CEOs accountable for poor stock price performance; and that CEO turnover is more sensitive to stock return performance in firms with relatively more women on boards. Robinson and Dechant (1997) show that diversity enhances creativity, different approaches to business problems, and leadership efficiency.

[40]YAHOO! NEWS, JULY 26, 2021, "ESG INVESTING IS BOOMING, AND INVESTORS ARE 'WINGING IT WHEN IT COMES TO RESEARCH'". **HTTPS://NEWS.YAHOO.COM/ESG-SUSTAINABLE-INVESTING-RESEARCH-141640643.HTML**

More recently, Akhtar et. al. (2021) examine the link between board gender diversity and abnormal stock returns during the period when negative market sentiment induced by the COVID-19 pandemic was at its peak. In a sample of S&P 1500 firms, they find that companies with greater board gender diversity experienced significantly higher crisis-period abnormal returns. Using France's board gender quota requirement of 2011, Ginglinger and Raskopf (2023) find that the environmental and social (E&S) performance of French firms is significantly enhanced compared to both the US matched sample and the sample of firms listed in Paris that are not subject to the quota law, after the law. They find that this happened primarily because of increased numbers and authority of women on the boards, and because of more E&S committees being created post quota, and women participating and leading several of these committees.

However, although most of the extant literature draws a positive relationship between board diversity and economic performance, some studies, specifically on gender diversity, find the opposite. Pletzer et al. (2015) find that board gender diversity alone has a small and non-significant relationship with a company's financial performance. Carter et. al. (2010) find that when Tobin's Q is used as the measure of financial performance, it has no relationship to gender diversity or ethnic minority diversity, neither positive nor negative. They conclude that decisions concerning the appointment of women and ethnic minorities to corporate boards should be based on criteria other than future financial performance. Their finding begs the question that when companies decide to increase the diversity of their boards, is it because they are truly committed to issues of DEI, or is it just "tokenism" or "greenwashing"? Indeed, Miller and Triana (2009) find a positive relationship between board racial diversity and firm reputation. Similar to Carter et. al. (2010), Rhode and Packel (2014) present a comprehensive review of the research on board diversity, financial performance, and good governance and conclude that the "business case for diversity" is less compelling than other reasons rooted in social justice, equal opportunity, and corporate reputation. Roberson and Park (2006) show a non-linear relationship between corporate leaders' racial diversity and firms' financial performance and argue that inclusion of minorities in companies is counterproductive if the only aim is to satisfy certain inclusion quotas. Adams and Ferreira (2009) find that the average effect of gender diversity on firm performance is negative. This negative effect is driven by companies with fewer takeover defenses. Their results suggest that mandating gender quotas for directors can reduce firm value for well-governed firms.

Perhaps the most relevant studies related to this research are the ones on the California Senate Bill 826. In 2018, the state of California instituted minimum quotas for the inclusion of female directors on corporate boards through Senate Bill 826. Using this event as an exogenous shock to market returns around board composition, Allen and Wahid (2023) document either significantly positive or insignificant 2-day abnormal returns for California firms across a variety of model specifications. They conclude that, contrary to several previous studies (example, Greene et. al., 2020) showing negative returns around mandated quotas, their findings suggest that these are, in fact, value-adding events and that non-robust methodologies drive the previous studies. Interestingly, the California quota law was repealed in 2022. von Meyerinck et. al. (2025) study the market reaction around the adoption and the repeal of the law. They find a robust and significantly negative market reaction from both California and non-California firms

to the adoption of the California gender quota. They attribute this negative reaction to the lack of availability of a qualified female director pool and the higher costs associated with compliance, or the market's negative reaction to regulatory overreach that shifts the power from the shareholders to other stakeholders like the government. They also examine the "reverse shock" of the quota's repeal in May 2022 and find that California and non-California firms experienced robust and significantly positive two-day abnormal returns. This reasoning can also be extended to board diversity mandated through regulation like NASDAQ's new rule on board diversity, and we can argue that this might lead to an insignificant or negative relationship between firm performance and board diversity.

Fried (2021) argues that, based on the current available empirical studies, NASDAQ's rule will harm investors and adversely affect firm performance. In response to this paper, Painter (2022) argues that boardroom diversity not only benefits shareholders and corporations but these positive effects are rooted in historical experience, management economics, and ethics.

Based on all the above discussion, this research is an exploratory analysis of how the markets reacted to NASDAQ's rule around the announcement. We are not hypothesizing the direction of market returns around the announcement of the NASDAQ rule but analyzing it as an open question.

DATA AND METHODOLOGY

NASDAQ's new rule related to board diversity was proposed on December 1, 2020. We study the market's reaction to this announcement by conducting an event study where we measure the cumulative abnormal returns (CAR) over the three days after the announcement, including the announcement day (December 1, 2020 – December 3, 2020). This event period allows us to exclude any "Friday effect" on stock prices (Delavigna and Pollet, 2009) and gives us sufficient time to capture any stock market reaction to the announcement.

We start with a list of publicly-traded companies in the US derived from the Compustat dataset at the end of 2019. Given the market's reaction to the pandemic in 2020, an event study over this period of time presents a few challenges, especially, with regards to the estimation period. Thus, we follow Dzabarovs et. al. (2021) in methodology. Following them, to determine each company's "normal" beta coefficients, we regress daily excess returns for a two-year estimation period from January 2, 2018 to December 31, 2019 (hereafter, long-estimation period). This is to exclude the effects of the covid-19 pandemic on the stock market in 2020. Dzabarovs et. al. (2021) state that the most dramatic market response to the pandemic (or the "surprise" factor) was over by March 20, 2020. Hence, our event window of December 1-3, 2020 is not affected by this.

However, for robustness' sake, we also use a much shorter estimation period over May 1, 2020 – October 31, 2020 (128 trading days, and 19 trading days gap between estimation and event window) (hereafter, short-estimation period). Krivin et. al. (2003) state that "[t]here is little reason to expect a large difference in the relationship between returns to a stock and returns to the selected market or industry indices if an estimation window runs for sixty days or one year before the event, assuming that the company in question did not undergo a major change in its

profitability or line of business. There is of course a trade-off between windows extending back farther, and thus providing a larger data sample, and windows that start soon before the event window, and thus are less likely to include periods when the parameters of the market model were different." (pp. 3). Based on this, we argue that this shorter period of estimation should not affect our results significantly.

There is a lot of debate on which asset pricing model is the most appropriate to use. Keeping in line with most of the extant literature, we use three asset pricing models – the Capital Asset Pricing Model (CAPM) (Sharpe, 1964), the three-factor model (Fama & French, 1993), and the four-factor model (Carhart, 1997). For the same reason, for both long- and short – estimation periods we compute abnormal returns for only those companies that have at least half of the daily observations in the estimation periods (Dzabarovs, et. al., 2021). The asset pricing model factors are obtained from the Wharton Research Data Services (WRDS).

We calculate the daily abnormal return for each firm over the 3-day event window, then we calculate the cumulative abnormal returns (CAR) as the sum of the daily abnormal returns over the event window.

Next, to further analyze the market's reaction, we perform the following ordinary least squares (OLS) regression.

$$CAR_i = \gamma_0 + \gamma_1 Exchgdum_i + \gamma_2 Controls_i + \gamma_3 Industry_i + \varepsilon_i$$

Where, *Exchgdum* is a dummy variable equal to 1, if the firm is NASDAQ-listed, 0, otherwise. Following Dzabarovs et. al. (2021), we also control for firm characteristics, namely, firm size (natural logarithm of market capitalization), book-to-market (book value of market divided by market value of equity), and profitability (the trailing twelve months of earnings excluding extraordinary items divided by total assets). All firm characteristics (*Controls*) are calculated at the end of the year 2019 to avoid the effects of the pandemic in 2020. For industry control, we use GICS sectors industry classification. These variables are obtained from Compustat.

RESULTS AND DISCUSSION

Descriptive statistics are presented in Table 1. The descriptive statistics are presented for the sample where the CAR is calculated using the long-estimation period (from January 2, 2018 – December 31, 2019). Around 56% of the firms in the sample are listed on NASDAQ.

Table 1
Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Exchange Dummy	56%	50%	0	1
Ln(Market Value)	6.91	2.19	0.86	13.74
Book-to-Market	0.62	5.49	-28.59	264.07
Profitability	-0.13	1.08	-11.33	41.65

This table presents the descriptive statistics for the sample using the long-estimation period for calculating CAR. ExcgDum is a dummy variable equal to 1, if the firm is listed on NASDAQ, zero, otherwise. Size is the natural logarithm of market capitalization of the firm, book-to-market is calculated as book value of equity divided by market value of equity, and profitability is the trailing twelve months of earnings excluding extraordinary items divided by total assets. Number of observations = 2,383

Table 2
CARs for NASDAQ and non-NASDAQ firms

	Panel A: CAR calculated using long estimation period; N = 2,383					
	Non-NASDAQ firms		NASDAQ firms		Comparison	
	CAR	t-stat	CAR	t-stat	Difference	t-stat
CAPM	3.35%	16.58	1.50%	12.02	1.85%***	6.02
3-factor Model	1.61%	8.52	-0.11%	5.23	1.71%***	5.76
4-factor Model	1.32%	6.96	-0.26%	3.18	1.58%***	5.23
N	1,049		1,334			
	Panel B: CAR calculated using short estimation period; N = 2,532					
	Non-NASDAQ firms		NASDAQ firms		Comparison	
	CAR	t-stat	CAR	t-stat	Difference	t-stat
CAPM	2.38%	12.52	0.49%	4.26	1.89%***	6.17
3-factor Model	0.56%	4.11	-0.83%	3.14	1.39%***	4.69
4-factor Model	0.52%	3.96	-0.72%	1.73	1.24%***	3.98
N	1,080		1,452			

This table shows the CARs for Non-NASDAQ and NASDAQ firms three days after the announcement. The CARs are reported using the three models, CAPM, three-factor model, and the four-factor model. Panel A depicts the CARs using the long-estimation period, and Panel B reports results for short-estimation period. The last column compares the CARs of Non-NASDAQ and NASDAQ firms. T-statistics significance, ***p <.01, **p <.05, *p <.1

Table 2 reports the CARs for the non-NASDAQ and NASDAQ firms over the three days after the announcement. Panel A of Table 2 shows the CARs for the long-estimation period using all three estimation models. Panel B represents the CARs for the short-estimation period. Results in Table 2 show that CARs are significantly positive for both the NASDAQ and non-NASDAQ firms using the long- and short-estimation period and the CAPM. However, NASDAQ-listed firms exhibit significantly lower positive returns as compared to non-NASDAQ firms. Using the three-factor and the four-factor model exhibits significantly negative returns for NASDAQ-listed

firms. The CARs in both models are also significantly different from those of the non-NASDAQ firms. These results suggest that the market reaction in the three days following the announcement of the NASDAQ diversity rule was significantly negative for the NASDAQ-listed firms, supporting the previous studies that markets react adversely to mandated quota requirements.

To further support the results from CARs, Table 3 presents the results for the OLS regression using the long-estimation period. Columns 1-3 show the results for the CAPM, three-factor, and four-factor model, respectively. In all three models the cumulative abnormal returns over the 3-day event window are significantly negatively related to the exchange dummy which indicates that following the announcement of the proposed new rule by NASDAQ, the stock returns of NASDAQ-listed firms were negatively affected.

Table 3
OLS Regression with CAR calculated using long-estimation period

	CAPM	3-factor Model	4-factor Model
Variables	CAR	CAR	CAR
ExchgDum	-0.011	-0.01	-0.01
	(3.05)	(2.81)	(2.44)
Size	-0.002	-0.002	0.0005
	(2.54)	(0.86)	(0.61)
Book-to-Market	-0.0002	-0.0005	-0.0006
	(0.54)	(1.71)	(2.39)
Profitability	0.000	0.006	0.007
	(0.18)	(0.12)	(0.53)
Industry FE	Yes	Yes	Yes
Observations	2,383	2,383	2,383
R-squared	9.24%	5.47%	5.18%

This table shows results of cross-sectional ordinary least squares (OLS) regressions of individual stock returns for three asset pricing models. Column 1 reports the result for cumulative abnormal return (CAR) using the Capital Asset Pricing Model (CAPM), column 2 uses the three-factor model, and column 3 uses the four-factor model. The CAR is calculated over a 3-day event window after the announcement of NASDAQ's new rule on board diversity was proposed on December 1. The estimation period for the three models is January 2, 2018-December 31, 2019. ExcgDum is a dummy variable equal to 1, if the firm is listed on NASDAQ, zero, otherwise. Size is the natural logarithm of market capitalization of the firm, book-to-market is calculated as book value of equity divided by market value of equity, and profitability is the trailing twelve months of earnings excluding extraordinary items divided by total assets. All three models control for GICS sector industry fixed effects. T-statistics based on robust standard errors are presented in parentheses, where, ***p <.01, **p <.05, *p <.1

These results support the CARs reported in Table 2. The reason for the negative reaction of the market to the announced proposed rule could be because of the perceived increased cost of compliance and reporting. Dzabarovs et. al. (2021) show that boards are paying more attention to racial diversity issues in the aftermath of the Black Lives Matter (BLM) protests, but only a low

correlation exists between talking about racial diversity in proxy statements and actual racial diversity in the boardroom. This is also supported by a recent report by The Conference Board released in October 2021, which states that even though levels of gender and racial diversity, and their disclosure, have increased from 2020 to 2021, gender diversity is increasing at a faster rate than racial/ethnic diversity.[41] The report states "To accelerate progress on both racial and gender diversity, boards should consider broadening the scope of candidates beyond their sitting directors' networks. They will need to invest time and effort in familiarizing themselves with fresh crops of candidates, getting an understanding of if they would be a good cultural fit, and what competencies they would bring to the table. For some boards, such an approach will require taking a longer-term view of succession planning—a plan in which they start scouting for potential candidates well before the year in which one of their sitting directors reaches retirement age". This indicates that companies will have to invest more time and resources to comply with mandated increased diversity and reporting on the board, potentially leading to lower returns.

Table 4 presents the results for the OLS regression using CARs calculated over the short-estimation period. We find that the results are similar to the long-estimation period, except the relationship between CAR and the exchange dummy is insignificant for the 4-factor model.

Table 4
OLS Regression with CAR calculated using short-estimation period

	CAPM	3-factor Model	4-factor Model
Variables	CAR	CAR	CAR
ExchgDum	-0.009	-0.007	-0.01
	(2.59)	(2.15)	(0.90)
Size	0.002	0.002	0.001
	(2.04)	(2.45)	(1.91)
Book-to-Market	-0.0002	-0.0002	-0.0006
	(0.74)	(0.84)	(0.69)
Profitability	0.002	0.002	0.002
	(1.16)	(1.22)	(1.01)
Industry FE	Yes	Yes	Yes
Observations	2,532	2,532	2,532
R-squared	7.80%	5.23%	4.96%

This table shows results of cross-sectional ordinary least squares (OLS) regressions of individual stock returns for three asset pricing models. Column 1 reports the result for cumulative abnormal return (CAR) using the Capital Asset Pricing Model (CAPM), column 2 uses the three-factor model, and column 3 uses the four-factor model. The CAR is calculated

[41] The Conference Board, October 19, 2021, "Report: Disclosure of US Board Diversity Soars; Boards Increase Gender Diversity Faster than Racial and Ethnic Diversity". https://www.conference-board.org/press/board-diversity-disclosure

over a 3-day event window after the announcement of NASDAQ's new rule on board diversity was proposed on December 1. The estimation period for the three models is June1, 2020 – July 1, 2021. ExcgDum is a dummy variable equal to 1, if the firm is listed on NASDAQ, zero, otherwise. Size is the natural logarithm of market capitalization of the firm, book-to-market is calculated as book value of equity divided by market value of equity, and profitability is the trailing twelve months of earnings excluding extraordinary items divided by total assets. All three models control for GICS sector industry fixed effects. T-statistics based on robust standard errors are presented in parentheses, where, ***p <.01, **p <.05, *p <.1

The new rule was approved by SEC on August 6, 2021. We argue that this approval should not affect the stock prices because there was no "surprise" factor to the news. We conduct another event study around three days after the approval of the new rule (August 6, 2021 – August 10, 2021, includes a weekend), and find no significant relationship between the CARs and exchange dummy. For this analysis, we use an estimation period of June1, 2020-July 1, 2021 (270 days).[42]

CONCLUSION

The analysis and evidence presented here suggest that even though investors and other stakeholders are demanding increased accountability and transparency from companies around issues of social justice, equality, diversity, and inclusion, regulators must tread with care when they mandate these changes. More research is warranted in this area that studies how companies and investors react to required ESG measures, which includes the long-term effects of these changes. The importance of such studies cannot be emphasized enough, as these measures and rules also face legal challenges.

An interesting extension of this study would be a similar analysis of the court decisions regarding the legality of this rule. If the markets truly do not support mandated diversity rules, the returns around the December 11, 2024 court ruling should be positive. This is in line with the reasoning of von Meyerinck et. al. (2025) who found a significant positive reaction to the repeal of the California Senate Bill 826 requiring gender quotas on California firms' corporate boards. However, in our analysis of comparison of CAR's of NASDAQ and non-NASDAQ firms we do not observe significant returns for either or a significant difference between the CARs[43]. This market reaction could also be driven by the result of the November 2024 presidential election because of the incoming administration's negative outlook on DEI issues.

This study's results support the market's negative reactions toward mandated DEI issues (Greene et. al., 2020, and von Meyerinck et. al., 2025). The results also beg the question of whether regulatory and policy interventions achieve the desired outcomes or they only add to compliance overburden for corporate firms. Field et. al. (2020) show that diverse directors are significantly less likely to serve in leadership positions despite possessing stronger qualifications

[42] Results available upon request

[43] Results available upon request

than nondiverse directors, despite evidence that diverse directors are not less effective. Perhaps, this points to a bigger and more complex problem that cannot be solved through mandated quotas.

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