What Drives Racial Diversity on U.S. Corporate Boards?

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Abstract

We investigate the trends and drivers of racial diversity on U.S. corporate boards. During the sample period studied (2013-2021), only about 10% of directors on the average board are non-white. Furthermore, we find that through 2019, firms with racially homogenous boards are less likely to appoint minority directors. However, in 2020, new director appointments of racial minorities sharply increase. This reversal coincides with the commencement of the racial justice movement as well as diversity initiatives implemented by the NYSE, Nasdaq, and state of California. Our analysis reveals that the racial justice movement was the primary cause of the changes in minority director appointment behavior. Conservative estimates imply it led to a 120% increase in the number of black directors appointed to boards, with newly appointed minority directors having similar (or superior) qualifications to those appointed before the racial justice movement. In contrast, the California diversity mandate has primarily benefited racial groups that are not traditionally underrepresented and has suppressed appointments of black directors. Our analysis is suggestive of search frictions and racial bias being important to the persistent lack of board racial diversity that we document.

Key words: board diversity, board of directors, quotas, mandates

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Over the past two decades, governments around the world have primarily focused on increasing female representation on corporate boards of directors. Since 1999, when Israel passed the first board gender quota, 18 other countries have followed suit. Quotas in these countries range anywhere from requiring one female director (Israel, India, Pakistan) to 40% female representation (Norway, Spain, Iceland). In North America, these quotas are less pervasive, with only the state of California requiring thresholds of female representation on public boards. Not surprisingly, the academic literature on board diversity has mirrored these government policies, focusing mainly on gender.[1] Hence, while the causes and consequences of gender diversity have been studied and debated extensively in the literature, limited attention has been given to another important dimension of demographic board diversity – race.

The statistics documenting the limited racial diversity found on corporate boards are striking. For example, at the end of 2012 less than 10% of board seats of U.S. public companies were held by racial minorities (See Figure 1) but minorities were estimated to be about 25% of the U.S. population.[2] While there has been a documented steady increase in female board representation since 2012, this has not be the case for racial diversity on boards. Figure 1 illustrates this, showing the average percentage of minority directors on U.S. corporate boards by year. By the end of 2017, nearly 50% of boards in the U.S. still contained only white directors and nearly 20% included only white men (Panel C). Recent changes in corporate behavior are evident in Figure 2, which shows the percentage of new director appointments each year allocated to women and minorities for U.S. firms. The year 2020 appears to be an inflection point for the appointment of minority directors (Panel A). This is especially true for those from underrepresented groups (Panel B) who made up about 10% of board appointments in 2019 and are now close to 30% of all board appointments through the third quarter of 2021. These statistics suggest that, historically, minorities have been largely omitted from the board room.

The issue of inadequate corporate board diversity has recently become a focal point in the corporate world as social justice crusades and movements like Black Lives Matter (BLM) gain global momentum and traction. While a homogeneous board along demographic dimensions has the inherent risk of insularity due to homophily (Westphal and Zajac, 1995) and may not be well positioned to operate in an increasingly dynamic global environment characterized by shifting demographics of workforces (Russell, 2009), equally important is that homogenous boards raise societal concerns of equity, inclusion, and social justice with regard to how firms operate in specific communities and society at large. As firms consider meeting the needs of all stakeholders, not just shareholders, the significance of corporate governance structures has become more salient. Governments, customers, employees, and the communities in which firms operate are challenging firms to engage more deeply with diversity issues and there are number of open and

[1] Knyazeva et al. (2021) provide a comprehensive overview of much of the board diversity literature and its significant focus on gender.

[2] General population numbers are from the 2010 U.S. Census.

weighty questions with which they are now grappling in earnest. What drives racial diversity (or lack of diversity) on corporate boards? What caused the sudden change in firms' behavior in 2020? Should racial diversity on boards be mandated and if so, what effect does mandated board racial diversity have on firms? In addressing these questions, our study has findings relevant to the corporate finance, labor economics, and discrimination literatures.

Three mechanisms are most commonly offered as explanations for why racial minorities are underrepresented in organizations. First, search frictions along with homophily-based networks may perpetuate "in-group" selection (Jacquemet and Yannelis, 2012). Agarwal et al. (2016) provides evidence of this in director labor markets, showing that women who play golf, a male-dominated sport, are more likely to be appointed to corporate boards. Second, limited board racial diversity could be observed due to the supply of qualified minority director candidates being insufficient to meet the demand. Ahern and Dittmar (2012) cite this as a reason that women were underrepresented on Norwegian boards prior to the passage of a board gender quota in that country. For racial minorities, this could be true if they face greater barriers than others to obtaining the requisite human capital (Benoît, 1999) or to promotion during their careers (Powell and Butterfield, 2002; Rosette et al., 2008). Lastly, the lack of board racial diversity could be caused by discrimination or racial bias reflecting broader trends in discrimination in labor markets (Bertrand and Mullainathan, 2004; Lang and Manove, 2011). Indeed there is evidence of discrimination on corporate boards. Field et al. (2020) concludes that it is the primary reason female and minority directors are less likely to hold board leadership positions.

Our research has several goals. We seek to document trends in boardroom racial diversity and the characteristics of firms that seek minority directors. Ours is the first comprehensive study of board racial diversity in the U.S. and we hope to pave the way for future researchers to explore this important topic. We also hope to gain a better understanding of the effectiveness of methods designed to undermine the lack of racial diversity in the board room. Bertrand and Duflo (2017) argue that "so much of economists' attention has been devoted to using field experiments to measure the extent of discrimination, there has been much less activity in designing creative ways to better document either its consequences or ways to undermine it" (p. 382). Our analysis of the efficacy of a series of diversity initiatives targeting different mechanisms, provides insights not only into the root cause(s) of the limited diversity that we document, but also on how to design policy. Specifically, we study four racial diversity initiatives to further our understanding of the effectiveness and implications of initiatives vis-a-vis corporate goals: the California Assembly Bill No. 979 mandating board racial diversity for California-based firms; the establishment of the NYSE Board Advisory Council; the Nasdaq board diversity rule; and the racial justice movement which was accelerated by the murder of George Floyd. We discuss these events in detail in the next section.

We begin our empirical analysis by documenting firm-level characteristics that are associated with appointing racially diverse directors. To do this, we use a comprehensive database on director race and ethnicity. Our study includes 95% of all U.S.-based corporations listed on either the Nasdaq or the NYSE from the end of 2012 through the third quarter of 2021. Our sample averages about 3,100 firms each quarter and includes over 20,000 new director appointments. In our cross-sectional analysis, we find that the current racial composition of a board is an important predictor of diverse director appointments. It explains almost as much variation as firm size and growth opportunities, two variables that have been shown to predict other board diversity measures (See Bernile et al. (2018)). Firms with racially homogeneous boards are less likely to appoint minority directors. Importantly, these findings hold after controlling for both the supply of local directors (Knyazeva et al., 2013) and the demand for industry-specific skills (Dass et al., 2014). In contrast, we find that having more men on the board is positively correlated with female director appointments. Thus, while most firms were actively seeking gender diversity throughout our sample period, they were perpetuating homogeneity along the dimension of race for most of this period. It was not until 2020 that firms with racially homogeneous boards became more likely to appoint minority directors.

The timing of changes in firm behavior coincide with the four initiatives that we study. As these initiatives targeted different drivers of minority underrepresentation on boards (homophily/search costs, labor supply, racial bias), we can gain insights into the impetus for this lack of diversity by testing the efficacy of each of the initiatives in changing firm behaviors. For example, if search frictions due to homophily-based networks are the primary cause, then attenuating information asymmetries in the director search process, by providing firms with information about qualified minority director candidates, should lead to greater racial diversity on corporate boards. This was the goal of the NYSE Board Advisory Council. If racial bias is the main cause of the lack of diversity, then social movements that change society's perceptions of race and racial discrimination should prove effective. By design, mandates for quotas will necessarily increase racial diversity. However, they will lead to efficiency gains only if labor market frictions (racial bias or homophily/search costs) have prevented qualified minority candidates from being appointed to boards in the first place. If instead there is a limited supply of qualified minority director candidates, then these mandates will lead to minority directors with weaker credentials being appointed to boards.

We test the efficacy of each of these four initiatives at increasing minority director appointments. Using a triple difference framework we find that the NYSE Board Advisory Council had no significant effect on the propensity to appoint racially diverse directors to NYSE members firms, casting doubt that homophily-based networks were the only friction limiting racial diversity on boards. In contrast, we find that the racial justice movement facilitated a dramatic increase in the number of underrepresented minority (URM, hereafter), primarily black, directors appointed

to boards, with little effect on other minority groups. We conservatively estimate that after the murder of George Floyd and the ensuing protests, there has been a 120% increase in the number of black directors appointed in the post-Floyd era. This is strong evidence that racial bias was at the heart of the lack of racial diversity on corporate boards.

Not surprisingly, the mandated quota by California also has increased the number of minorities appointed to boards. However, unlike the social justice movement, which increased the number of URM directors, this mandate has primarily benefited racial groups that are not traditionally underrepresented and has had little or detrimental effects on the appointments of directors from URM groups. In particular, the California law appears to have muted the reaction of California firms to the racial justice movement, suppressing the appointments of black directors that otherwise would have occurred. This highlights the importance of key nuances regarding the development of specific racial diversity mandates and how the application of tools used to successfully increase board gender diversity is less straight-forward when considering issues of race. Depending on the mandate objective, considering races that are not traditionally underrepresented as "diverse" can lead firms to substitute away from URM directors, further exacerbating their underrepresentation.

Additionally, we test whether the quality of minority directors erodes following the initiatives. Ahern and Dittmar (2012) provides evidence that, when set too high, quotas can lead to the appointment of less qualified female directors. In a similar vein, we use the acceleration of the racial justice movement and the passage of the California and Nasdaq mandates as shocks to the demand for minority directors, allowing us to test this labor supply mechanism. We examine how the characteristics of minority directors change following these demand shocks, using observable director skills and training measures. We do not find that the quality of new directors is lower than that of previously appointed directors. Thus, our results are inconsistent with the supply of minority directors being insufficient to meet the increased demand.

While it is somewhat early to fully assess the value implications of the rise in board diversity, an event study framework provides mixed preliminary evidence on the initiatives we study. Overall, the pattern of facts that we uncover is most consistent with search costs and with D'Amico et al. (2017) who suggest this type of lack of diversity is evidence of racial bias or taste based discrimination (Becker, 1957).

Our study is related to a large literature on corporate board diversity, which encompasses various forms of diversity including: structural diversity (e.g., board independence, CEO non-duality); task-related diversity (e.g., education or functional background); and non-task-related diversity (e.g., gender, age, race, or nationality) (Adams et al., 2015). By focusing on race, our study relates most closely to other studies of non-task-related or demographic diversity, the majority of which focus on gender (Knyazeva et al., 2021). Field et al. (2020) is a notable exception, documenting

a leadership bias against female and minority directors - diverse directors are significantly less likely to serve in board leadership positions despite possessing superior qualifications.

There are several reasons why issues of race in the boardroom have been understudied. First, broad coverage of data on director race/ethnicity has been lacking. We utilize a new dataset that covers the racial backgrounds of directors for 95% of U.S. firms. In addition, recent initiatives promoting racial diversity on boards or "demand shocks" are some of the first opportunities for researchers to analyze racial diversity efforts of boards. While Field et al. (2020) are the first to document the low levels of racial diversity on boards, we are the first to show the recent dramatic changes in board racial diversity (See Figure 2) and to study recent initiatives to gain insights into the causes of lack of board racial diversity. To our knowledge, ours is the first comprehensive study focusing on board racial diversity in the United States, providing the landscape and context for future studies.

Our use of policy initiatives to understand the mechanisms driving the lack of racial diversity on corporate boards is closely related to research on gender diversity that studies the effects of government policies on shareholders. Notable studies of this nature have focused on gender quotas adopted in Norway in 2003 (Ahern and Dittmar, 2012; Matsa and Miller, 2013; Bertrand, 2019; Bøhren and Staubo, 2016), France in 2011 (Ferreira et al., 2017), and most recently California in 2018 (Greene et al., 2020; Hwang et al., 2020; vonMeyerinck et al., 2021; Gertsberg et al., 2021). One key innovation of our paper is that in addition to evaluating government policies and industry mandates (Gormley et al., 2021), we assess the effect of a social justice movement on corporate governance practices. This enables us to examine if recent board diversity goals evolving in the context of the social justice movement could be refocusing firms on erstwhile nondiscriminatory practices (Burns and Darity, 2019).

We contribute to the literatures on discrimination and labor economics by providing suggestive evidence that racial discrimination is a key cause of the low board racial diversity levels that we document. This lack of board racial diversity reflects broader trends with inequity in labor markets (Bertrand and Mullainathan, 2004; Lang and Manove, 2011) but due to the compounding effects of inequalities (Benoît, 1999; Powell and Butterfield, 2002; Rosette et al., 2008), the issue is more acute in the board room and the C-suite.[3] While there have been historical affirmative action efforts to address discrimination in hiring and employment (Holzer and Neumark, 2000;

[3]This literature shows that minorities face greater barriers to advancement than others. For example, Benoît (1999) shows that universities often determine the qualifications of applicants based upon results of statistically biased tests in which members of disadvantaged groups tend to score worse than equally qualified members of other groups. Further, Powell and Butterfield (2002) show that, for promotion review, applicants' race and gender influences promotion referral decisions to the advantage of female applicants and to the detriment of African American male applicants, with the effects unexplainable by differences in applicant qualifications. Using an experimental approach, Rosette et al. (2008) find that "being white" is perceived to be an attribute of the business leader prototype, where participants assume that business leaders more than non-leaders are white. Moreover, Lang and Manove (2011) demonstrate that the black-white wage differential is the result of labor market not premarket factors. They show blacks earn significantly less than whites with the same levels of education and cognitive abilities (as measured by the Armed Forces Qualification Test (AFQT)).

Darity and Mason, 1998), these initiatives have not been significantly extended to one of the most important arenas for corporate governance - the board room. Our results highlight key nuances policymakers should consider when designing mandated quotas, showing that defining race broadly in mandates can exacerbate underrepresentation of already underrepresented groups.

1. Background

Our study analyzes the effect of several different events that could potentially influence board racial diversity. During the 2019-2021 period, three major initiatives promoting racial diversity were proposed and/or implemented by the NYSE, the Nasdaq, and the state of California. In this section, we provide background information on each of the initiatives as well as the incident that lead to the acceleration of racial justice movement – the murder of George Floyd.

1.1. California diversity rule

On February 21, 2019, Assembly Bill No. 979 was first read in the California State Legislature. The bill was created as a follow-up measure to California's board gender diversity mandate to stimulate diversity on the basis of race/ethnicity among corporate boards of public California-based firms. The mandatory rule set forth by the bill states that all firms with their principal executive office in the state of California, listed on a major stock exchange, are to have at least one "director from an underrepresented community" on their board by the end of 2021. In the context of the bill, the term "underrepresented community" refers to individuals who self-identify as Black, African American, Hispanic, Latino, Asian, Pacific Islander, Native American, Native Hawaiian, or Alaska Native, as well as LGBTQ+ persons.[4] More stringent requirements are required by the end of 2022. Firms with 5 to 8 board members must have at least two diverse directors on their boards, while firms with 9 or more board members must have at least three diverse directors. Similar to the gender diversity law, non-compliance with the newly imposed standards leads to monetary penalties. Assembly Bill No. 979 was met with very little opposition in the legislature prior to being signed into law by Governor Gavin Newsom on September 30, 2020.[5]

1.2. NYSE Board Advisory Council

In May 2019, the NYSE established the NYSE Board Advisory Council with the goal of increasing both racial and gender diversity on boards of member firms by introducing candidates with diverse backgrounds to NYSE-listed firms looking for new directors. The creation of the

[4]Complete Assembly Bill No. 979 text is available here: `https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB979`

[5]The law passed the state senate by a margin of 26 to 8 on 8/29/2020 and the state assembly on 8/30/20 by a vote of 56 to 8.

Council was motivated by research studies advocating the need for fresh opinions on company management and by personal experiences of board members. At the launch of the initiative, NYSE Executive Vice Chairman and Co-Chair of the Council, Betty Liu, expressed a hope that in addition to promoting corporate diversity, the initiative would help to increase transparency of the board hiring process, as well as reduce costs and effort for the firms in search of directors.[6] Originally, the Council included seven members, but was expanded to include 19 members, each being a well-known, corporate, leader, who volunteered to employ their connections to identify diverse board candidates. Diverse candidates are introduced to the heads of the NYSE-listed companies through regular in-person and online arrangements, the first of which took place on June 25, 2019. Unlike the California law and the Nasdaq rule (detailed below) the use of the NYSE Board Advisory Council is voluntary for NYSE-listed firms.

1.3. Nasdaq board diversity rule

On December 1, 2020, the Nasdaq filed a proposal with the SEC containing new board composition disclosure requirements for all Nasdaq-listed firms and on August 6, 2021, the SEC approved the Nasdaq board diversity rule.[7] The CEO of the Nasdaq, Adena Friedman, discussed the rule as an attempt to not only improve diversity, but also to improve transparency and foster economic growth.[8] The rule states that Nasdaq-listed firms would have to include at least one "diverse" director on their boards within two years after the SEC approval date, and two "diverse" directors within four or five years, depending on market tier.[9] In practice, the rule is a "comply or disclose rule", since firms can be deemed in compliance if they simply disclose why they are unable to meet the targets.

The rule addresses diversity along three dimensions: gender, ethnicity, and gender identity. This means that the term "diverse" can apply to women, "underrepresented minorities", or persons from LGBTQ+ communities. The Nasdaq rule considers an individual an "underrepresented minority" if his/her race is non-white. The specific race/ethnicities included are Black/African American, Hispanic/Latinx, Asian, Native American/Alaska Native, Native Hawaiian/Pacific Islander, two or more ethnicities, or a combination of the above. When requiring companies to have at least two diverse directors, the Nasdaq specifies that for most firms at least one of them has to self-identify as female, and at least one must be non-white or LGBTQ+. Non-US firms and small firms[10] are exceptions. Non-US firms can comply with the rule by having two female

[6] https://ir.theice.com/press/news-details/2019/Intercontinental-Exchange-Launches-NYSE-Board-Advisory-Council-to
default.aspx

[7] The SEC approval order can be found at https://www.sec.gov/rules/sro/nasdaq/2021/34-92590.pdf

[8] https://www.nasdaq.com/press-release/nasdaq-to-advance-diversity-through-new-proposed-listing-requirements-2020-12-01

[9] For firms listed on the Nasdaq Global Select Market and the Nasdaq Global Market, this time range is four years. For firms listed on the Nasdaq Capital Market, it is five years.

[10] Initially, small firms had the same requirements as large firms, but on February 26, 2021, Nasdaq filed an amendment to the initial diversity rule based on public reactions and comments to the rule. The most funda-

directors on their boards and small firms need only one "diverse" director to comply. Firms that are unwilling or unable to follow the newly proposed diversity targets must present a formal statement of explanation or face the threat of delisting. The rule also includes a provision to help certain listed firms identify and evaluate "board ready" diverse candidates by providing them with one year of complimentary access to board recruiting services. Additional details can be found in the formal description of the Nasdaq proposal.[11]

1.4. Acceleration of the racial justice movement

On May 25, 2020, in Minneapolis, Minnesota, Derek Chauvin and three other Minneapolis police officers tortured and extrajudicially executed George Floyd.[12] During the incident, a bystander filmed the murder and subsequently released the video. The video of George Floyd's killing shocked the world and prompted global protests of the abusive and excessive policing of Black people by law enforcement officers in the United States. Over the summer of 2020, mass Black Lives Matter (BLM) protests were held in every state in the U.S. with articulated demands for social justice that ranged from firing specific police officers to defunding entire police districts. Figure A.2 shows the enormity of the movement, displaying the number of demonstrations occuring each month in the U.S. split between those affiliated with the BLM movement and all others. BLM protests went from less than 1% of all protests in April of 2020, to nearly 90% of all protests in June of 2020, a month which totaled over BLM 6,700 protests. The data also indicate that during June and May of 2020, the median state had over 100 BLM demonstrations. California had the most with over 800 during this period and North Dakota had the fewest with 17.[13]

Over the course of 2020 and 2021, the social justice movement in the U.S. began to generate calls for increased equity and social justice beyond the realm of law enforcement. Societal pressure for businesses and business leaders to increase diversity efforts intensified. Corporations developed equity and inclusion programs, updated vision and mission statements, and pledged billions to racial equity causes.[14] Corporate governance practices also came under scrutiny as diversity became a strategic imperative.[15]

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mental part of the amendment refers to small companies. According to the amendment, firms that have not more than five directors on boards, are able to satisfy the rule with only one diverse director - on the basis of gender, gender identity, or race/ethnicity. Compared to the initial rule, the amendment relaxes the more stringent requirement of having at least two diverse directors on the board. The amendment includes several more regulatory aspects that are immaterial for our study. Complete Amendment to the Nasdaq rule text is available here: `https://listingcenter.nasdaq.com/assets/Board%20Diversity%20Disclosure%20Five%20Things.pdf`

[11] The complete text of the Nasdaq proposal is available here: `https://listingcenter.nasdaq.com/assets/RuleBook/Nasdaq/filings/SR-NASDAQ-2020-081.pdf`

[12] https://www.amnesty.org/en/latest/campaigns/2021/05/justice-for-george-floyd-a-year-of-global-activism-for-black-lives-and-against-police-violence/

[13] In February of 2021, the George Floyd Justice in Policing Act of 2021 was passed by the U.S. House of Representatives but it currently has not yet been voted upon by the U.S. Senate.

[14] https://www.nytimes.com/2021/04/20/us/george-floyd-protests-police-reform.html

[15] https://boardmember.com/will-social-justice-movements-change-governance-in-the-boardroom/

2. Data and sample construction

2.1. Data sources

The data for our study come from three main sources: the Center for Research on Security Prices database (CRSP, hereafter), S&P's Compustat North America database, and the Institutional Shareholder Services (ISS, hereafter) director diversity datafeed. CRSP is the source of data on stock returns, stock prices, stock listings, and share classifications. The Compustat quarterly data file is used to construct firm-level control variables that are based on income and balance sheet items. Industry classifications and headquarters locations are also obtained from Compustat.

The ISS director diversity datafeed includes information on over 230,000 directors working at over 28,000 public and private firms operating in 110 different countries around the world. The data begin in 2013 and are updated each day. The datafeed includes data on directors' affiliations (i.e. independent outsider, insider, etc.), start and end dates, committee assignments, equity and options holdings, compensation, voting outcomes, positions within firms, outside board activities, and importantly for our purposes, demographic information on race and ethnicity, gender, and age. Of the over 230,000 directors worldwide, race/ethnicity is identified for about 26,000 (just over 11%). About 24,000 of these directors sit on the boards of U.S.-based firms. In comparison, gender is identified for about 99% of the directors worldwide.[16] Degree and education institution information comes from the Capital IQ People Intelligence database and is identified for approximately 80% of new directors appointed between 2018 and the end of the sample.[17]

2.2. Sample construction

We begin by constructing a quarterly panel of share-class-level observations from the first quarter of 2013 to the third quarter of 2021. This time period is determined by the availability of the data on director race/ethnicity. Since the study focuses on board racial diversity in the United States, the initial sample includes ordinary common shares of firms incorporated (CRSP shrcd = 11) and headquartered in the U.S. We focus on firms that are listed on either the NYSE or the Nasdaq. We do not include the NYSE - American-listed firms since they tend to be small, regional firms. We identify all share classes in CRSP that meet these criteria at some point between

[16] Data on race and ethnicity is obtained through two main methods. The majority of these data are collected by ISS analysts who research directors. They identify race and ethnicity by searching news reports, reading biographies in annual filings, identifying internet sources for disclosures of race and ethnicity and manually inspecting photographs. ISS also sends surveys to companies asking them to disclose the racial/ethnic backgrounds of their executives, directors, and employees.

[17] Capital IQ and People Intelligence covers over 2.4 million individuals worldwide including executives, board members, and investment professionals who work at both private and public companies. The data are current through June of 2021. Matching algorithms based on name, birth year, and company are used to match directors in the ISS director database with individuals in the People Intelligence database.

December 31, 2012 and September 30, 2021. We then merge these share classes to Compustat North America using the CRSP/Compustat link file. Firms with multiple share classes are included only once in the firm-level analysis.

There are between 3,250 and 3,450 firms covered by CRSP and Compustat that are listed on the NYSE or Nasdaq and are incorporated and headquartered in the U.S., during sample period. Data on the racial/ethnic backgrounds of directors is available for most of these firms. Over the sample period, the coverage averages 94% of quarterly firm observations or over 3,100 firms per quarter. For the average board in the sample, information on racial/ethnic background (gender) is identified for over 92% (99%) of directors and is around 95% (100%) in the most recent quarter (see Panel B).

There are around 20,800 new board members elected with race/ethnicity data available during the sample period. Panel C of Figure A.1 shows the number of board appointments each year, which range from 2,000 to 2,500 in full years and are close to 2,000 so far through September 30, 2021. These appointments are merged to one quarter lagged firm characteristics, generating the main sample on which we conduct our tests of the determinants of racial diversity on boards.

2.3. Variable construction

ISS uses the following nine categories to define race/ethnicity: Black/African American, Asian (excluding Indian/South Asian), Caucasian/White, Hispanic/Latin American, Native American/Alaskan Native, Indian/South Asian, Middle-Eastern/North African, Native Hawaiian/Other Pacific Islander, and Other. We aggregate race/ethnicities to capture different aspects of diversity. First we define "minority" as any race that is not Caucasian/White. We further decompose this into: "URM", which includes underrepresented minority groups, and "NURM," which includes minority races that are not traditionally underrepresented. Race/ethnicities included in the "URM" category follow that used by a large university's diversity office[18]. Included races/ethnicities are Black/African American, Hispanic/Latin American, Native American/Alaskan Native, and Native Hawaiian/Other Pacific Islander. We include all individuals in these races/ethnicities regardless of citizenship status. The "NURM" subgroup includes Asian (excluding Indian/South Asian), Indian/South Asian, Middle-Eastern/North African, and Other.

We use these categories to define the race/ethnicity of new appointments and for categorizing the racial composition of boards. We calculate the proportion of the board that is white ("white (%)") as the number of directors who are Caucasian/White divided by the number of directors on the board with race/ethnicity identified. Gender of new appointments and board gender composition also are tabulated from the ISS database. We construct the proportion of the board that is male ("male (%)") as the number of male directors divided by the number of directors with gender identified.

[18] Cornell University's Office of Diversity and Inclusion (D&I)

Firm-level control variables lagged by one quarter include “board size” (number of board members in the ISS data at the end of the previous quarter), “ln(assets)” (the natural logarithm of the book value of assets (atq) at the end of the previous quarter), "ROA" (the return on assets ($niq/l.atq$) during the previous quarter), “leverage” (book leverage ratio ($(dlcq + dlttq)/atq$) at the end of the previous quarter), “cash to assets” (cash holdings to book value of assets ($cheq/atq$) at the end of the previous quarter), “R&D to assets” (R&D expense to book value of assets ($xrdq/l.atq$, where $xrdq$ is set to zero if missing) during the previous quarter), “market-to-book”(market value of the firm to book value of the firm ($(ltq + pstkq + cshoq \times prccq - txditcq)/atq$) at the end of the previous quarter).

Industries are identified using historical SIC codes found in the CRSP/Compustat database and are defined at the two-digit level. Firm headquarters location information is identified using historical header files from the CRSP/Compustat merged database. ZIP codes are merged to core-based statistical areas (CBSA), which includes both micropolitan and metropolitan areas, using the ZIP code to CBSA crosswalk file provided by the U.S. Census Bureau. In some instances, we define fixed effects as the interaction between CBSA and state, since CBSAs can span multiple states.

Characteristics of appointed directors come from a number of different sources. ISS includes data on birth year, from these data we construct the variable “age”, which is the director’s age at the time of appointment. “indep. dir.” is a dummy variable that indicates if ISS classifies the director as independent.[19] Educational attainment variables, “MBA”, “JD”, “PhD” are dummy variables that indicate each of these degrees. When no educational information is found, these variables are set to missing. Various director experience measures come from regulation S-K disclosures made by firms at the time of director appointments. ISS categorizes these skills into 16 different types of experience, which they call the “person skills matrix". These categories are very similar to those used in Adams et al. (2018), who analyze the impact of director skill sets on firm value.

Table 1 shows summary statistics for director appointments over the full sample period (1Q2013 to 3Q2021). During this period, over 30% of appointments went to women and over 18% of appointments went to minority directors. Decomposing minority appointments further, 7.5% where NURM directors and 10.7% were URM directors. During our sample period, the average board is 88.9% white and 84.4% male. The median firm in the sample has nine directors, a leverage ratio of 0.21, and a market-to-book ratio of 1.50. About 56% of the firms are listed on the Nasdaq and just under 19% are headquartered in California.

[19] An independent director is a member of the board of directors who does not have a material relationship with the company, is not part of its executive team, and is not involved in the day-to-day operations of the company.

3. What drives racial diversity (or lack of diversity) on boards?

One primary question asked in our study is "What drives racial diversity (or lack of diversity) on U.S. corporate boards?" To answer this we estimate linear probability models predicting the race of new director appointments using firm-level characteristics.[20] While we are generally interested in uncovering which types of firms choose racially diverse directors, we are particularly interested in how the racial composition of firms' boards is related to their propensity to appoint racially diverse directors. We therefore estimate the following model:

$$\text{minority}_{i,j,k,l,t} = \beta \times \text{white\%}_{j,t-1} + \mathbf{\Gamma}^{\intercal}\mathbf{x}_{j,t-1} + \gamma_l + \delta_{k,t} + \epsilon_{i,k,t}, \tag{1}$$

where $\text{minority}_{i,j,k,l,t}$ is an indicator variable that is one if director i who was appointed by firm j, in industry k, headquartered in location l, during quarter t, is non-white; $\text{white\%}_{j,t-1}$ is the proportion of the board that is white lagged one period; $\mathbf{x}_{j,t-1}$ is a vector of lagged firm characteristics; and γ_l and $\delta_{k,t}$ are fixed effects on the dimensions of location and industry by time.

A positive estimate of β is consistent with firms seeking director racial diversity, since it indicates that firms with higher levels of racial homogeneity are more likely to appoint racially diverse directors. A negative estimate, on the other hand, is consistent with a persistence in hiring white directors. This could be due to racial bias of the current board members or it could be a function of labor market frictions (homophily/search costs, labor supply). Disentangling these mechanisms is not possible with this specification, but in the next section we develop specifications to help shed light on the possible causes.

The challenge with interpreting β is that the choice of directors can be endogenously determined (Hermalin and Weisbach, 1998) and so it is likely that the current composition of the board is a reflection of the pool of available candidates that possess the necessary skills. This could lead to persistence in the race of director-firm matches, causing β to be negatively biased. Therefore, it is important to control for factors that affect the racial demographics of the candidate pool.[21] The literature documents that director labor markets are geographically segmented, showing that the supply of directors is often local (Knyazeva et al., 2013) and that some firms demand that their directors possess industry-specific skills.[22] Both of these factors could lead to persistent hiring practices along the dimension of race. We address these concerns by including both headquarters

[20] We focus on new appointments instead of net flow as in Gormley et al. (2021) since as we show in Figure 2 there is little variation through time in the percentage of minority directors retiring and retirement is dependent on being appointed in the first place.

[21] Since board racial composition is lagged, reverse causality is not an issue. We are primarily concerned with endogeneity due to omitted variables.

[22] For example, Dass et al. (2014) show that industries with large information asymmetries are more likely to appoint directors from related industries and Wang et al. (2015) show that having directors with industry expertise improves monitoring.

location (γ_l) and industry by time ($\delta_{k,t}$) fixed effects in the model. The inclusion of these fixed effects means that our estimate of β is a cross-sectional estimate of the relationship between the proportion of the board that is white and the propensity to appoint a minority director for firms within the same industry at the same point in time controlling for the persistence in demographics around firms' headquarters locations.

Firm-level characteristics that influence the racial background of director appointments also could be correlated with the racial composition of boards. For instance, larger firms may have greater geographic reach in attracting board members, making it more likely for them to have a more racially diverse board and also more likely that they appoint diverse directors. Therefore, we condition our estimates on lagged firm-level factors ($\mathbf{x}_{j,t-1}$) that have been shown to influence measures of board diversity.[23] Coefficient estimates on these other lagged firm-level characteristics are also informative about drivers of board racial diversity. For example, finding that larger firms are more likely to appoint minority directors could be evidence that search costs play a role in the director labor market, as larger firms will have greater resources to identify, attract, and retain minority directors.

Using Equation 1, we estimate the relationship between board racial composition and the propensity to appoint minority directors. Column 1 of Table 2 displays the results using the full sample of director appointments without controls or fixed effects. The estimate of β is -0.30, with a t-statistic of over 6, indicating that firms with a higher percentage of white board members are less likely to appoint minority directors to the board. This is consistent with racial bias or the importance of homophily-based networks in director appointments. In column 2, we estimate the full model, which includes industry by calendar quarter year fixed effects, CBSA-headquarters location fixed effects, and firm-level control variables. Consistent with our earlier discussion, the inclusion of these controls reduces the magnitude of our estimate of β, but the coefficient remains highly statistically significant with a t-statistic of over 3. A one standard deviation increase (0.140) in the proportion of the board that is white is associated with a 0.020 decrease in the probability of appointing a diverse director. Considering the unconditional probability of appointing a minority director in the sample is 0.181, this estimate is also economically meaningful. Said differently, one additional minority director on the median size board (9 seats) is associated with a 0.016 increase in the probability of appointing a minority director.

The regression results show that only two other firm-level characteristics predict diverse appointments: firm size and market-to-book. Both are positively correlated with appointing minority directors. The estimated magnitudes of the coefficients suggest that the racial composition of the board is of similar economic importance as these other two factors.[24] In Table 2, Panel A,

[23] For example, Bernile et al. (2018) find larger, profitable, growth firms, with greater investment in R&D tend to have more diverse boards based on their six factor diversity index.

[24] The coefficient estimates imply that a one standard deviation change in ln(assets) (2.211) is associated with a 0.035 increase in the probability of appointing a diverse director and a one standard deviation increase in market-to-book (1.967) is associated with a 0.018 increase in the propensity to appoint minority directors.

column 3, we interact the CBSA fixed effects with calendar quarter to control for time-variation in local demographics. The estimates remain similar.

In columns 4 and 5 of Table 2, we predict the likelihood of appointing NURM directors and URM directors, respectively. In these specifications, our board racial composition is based on the proportion of directors who are not in these groups. For example, we regress NURM on the proportion of directors who are either white or URM. The results are consistent with NURM facing racial bias, but not URM directors. The factors that predict appointments of these two groups are also different. NURM appointees are more likely at growth firms with high R&D. Firm size is not a significant determinant for these director appointments. For URM appointees, not only are size and growth important firm characteristics, but having more men on the board is associated with a lower probability of hiring directors from underrepresented groups.

For comparison, we estimate an analogous regression based on appointee gender. The results are strikingly different. During the 2013–2021 period, boards with a larger proportion of men on their boards were much more likely to appoint female directors. This is consistent with the average U.S. firm seeking gender diversity during the sample period. The estimated magnitudes are large, a one standard deviation increase in the proportion of men on the board (0.123) is associated with a 0.070 increase in the probability of appointing a female to the board.

Since independent directors are not insiders, there is likely less heterogeneity in the pools from which firms choose directors. In Panel B of Table 2, we repeat the analysis shown in Panel A with the sample of independent director appointments. The estimates are nearly identical to those using the full sample. Our estimate of β continues to be negative and statistically and economically meaningful over the sample period. Additionally, the same firm-level factors that where important in our earlier analysis are also important for independent director appointments; firm size, growth opportunities, and the percentage of men on the board.

We next investigate the stability of this relationship through time. Figure 3 displays estimates and 90% confidence intervals of β from Equation 1 for subsamples of appointments for each calendar year for minority, NURM, URM, and female appointments. The figure shows that the estimates of β for minority appointments are extremely stable and negative through 2019, begin to flip signs in 2020, and are positive and large in 2021. This indicates that there was a dramatic shift in how firms appoint directors. Prior to 2020, boards with few minorities were less likely to appoint minorities to their boards, but afterward they began seeking racially diverse directors. Panels B and C of Figure 3 show that this is driven by increased appointments of URM directors; β becomes large and positive for these appointments, but not for NURM appointments. Also displayed in Figure 3 is the stability of the positive estimate on β on the dimension of gender, consistent with firms seeking female directors throughout the entire sample period.

4. What caused the change in firms' director appointment behavior?

In the previous section, we documented persistence with regard to firms' lack of board racial diversity up until 2020. We now conduct tests to try understand what caused this change. To do so, we analyze board appointment data to assess the efficacy of state and exchange-led board diversity initiatives and the racial justice movement in changing firm behavior. Because these initiatives targeted different sources of the lack of diversity (homophily/search costs, racial bias), we also gain insights into the mechanisms driving lack of diversity.

Figure 4 presents an overview of the minority director appointment data. It shows the percentage of minority appointments each two-month period from January 2018 to the end of our sample. Minority director appointments stayed steady between 15% and 20% of all director appointments between January of 2018 and May of 2020, then rose dramatically to 40% by the beginning of 2021 (Panel A), mainly due to increases in the appointment of URM, primarily black directors (Panels B and C). We conduct our tests over this window. Table 3 shows summary statistics over this period, 1Q2018-3Q2021.

4.1. Estimating the impact of racial diversity initiatives

We estimate the effect of both the California law and the stock exchange-led initiatives using a triple difference setting. Specifically, we estimate regressions models of the following form:

$$\begin{aligned}\text{minority}_{i,j,t} = {} & \beta_{P,T,B}(\text{post}_t)(\text{treated}_{j,2017})(\text{noncompliant}_{j,2017}) + \\ & \beta_{P,T}(\text{post}_t)(\text{treated}_{j,2017}) + \beta_{P,B}(\text{post}_t)(\text{noncompliant}_{j,2017}) + \\ & \beta_P(\text{post}_t) + \gamma_j + \epsilon_{i,t}, \quad (2)\end{aligned}$$

where the "post" indicator variable is one for appointments occurring the month after the diversity initiative through the end of the estimation window. Here "treated" applies to firms that are in the jurisdiction of the diversity initiative. For example, in the case of the California board diversity law, "treated" firms are those headquartered in the state of California. Firms outside California are considered to be in the control group. Within California, however, only firms that do not comply with the diversity standards of the California rule stand to "benefit" from the rule. These are the "noncompliant" firms. In this setting, the estimate of $\beta_{P,T,B}$, captures the average treatment effect of the initiative using differences in the changes in the propensity to appoint minority directors between "noncompliant" and "compliant" firms around the initiative that are outside the jurisdiction of the initiative as a counterfactual. In the case of the California rule, the counterfactual is the change in the difference in the propensity to appoint minority directors between non-California-based firms whose board structures do not meet the California law standards and those that do. The "2017" subscripts indicate that we fix firm-level controls,

including board racial diversity measures (i.e. "noncompliant"), as of the end of the calendar year 2017.[25] The specification includes firm-level fixed effects (γ_j), so that our estimates capture within firm changes in behavior.[26]

Quantifying the impact of the racial justice movement is more difficult, since unlike the government and exchange-led initiatives the population of treated firms is not clearly defined. We hypothesize that this event was an exogenous shock to the demand for racially diverse, particularly black, directors for all firms, but that it was likely even stronger for firms that lack black directors on their boards. Using the following model, we consider firms without black directors as "treated" and estimate their change in propensity to appoint black directors around the murder of George Floyd relative to firms with black directors:

$$\begin{aligned}\text{black}_{i,j,t} = \beta_{P,T}(\text{post Floyd}_t \times \text{no black dir}_{j,2017}) + \beta_P(\text{Post Floyd}_t) \\ + \beta_1(\text{post Floyd}_t)(\text{CA HQ}_{j,2017}) + \beta_2(\text{post Floyd}_t)(\text{Nasdaq}_{j,2017}) + \gamma_j + \epsilon_{i,t}. \quad (3)\end{aligned}$$

The "post Floyd" indicator is one for appointments occurring from June 2020 through the end of the sample and is zero otherwise. The "no black dir" indicator variable is one if the firm had no black directors as of the end of 2017. We include firm-level fixed effects (γ_j), so that our estimate reflects differences within firms before and after the acceleration of the racial justice movement. To control for the California law and the proposed Nasdaq rule, we interact "post Floyd" with indicators for firms headquartered in California and listed on the Nasdaq (as of the end of 2017).

The average treatment effect is captured by $\beta_{P,T}$, estimating the change in the propensity to appoint black directors due to acceleration of the racial justice movement. A limitation of difference-in-difference models is that they underestimate the true effect when the control group is also influenced by the treatment. We believe this to be the case because the acceleration of the racial justice movement was extremely widespread (see Section 1.4). Therefore, we also are interested in the estimates of β_P, which captures the change in the average control firms' propensity to appoint black directors following the murder of George Floyd.

4.2. Impact of the racial justice movement

Since the racial justice movement had no direct mechanism to compel firms to increase diversity standards, we proffer that finding evidence of the racial justice movement affecting the board appointments is suggestive of the existence of racial bias in the appointment process.

[25] Board racial diversity is measured at the end of 2017, since measuring at some point inside the estimation window causes a bias. For example, if "no black dir" were measured in April 2020 for our racial justice tests, then by construction firms with no black dir $= 1$ would have no diverse appointments in the pre-Floyd period, causing an upward bias on $\beta_{P,T}$ in equation 3 below.

[26] Because the model includes firm-level fixed effects, the terms "noncompliant," "treated," and the interaction of the two are not included in the model.

Figure 5 shows the percentage of minority appointments over the event window split between firms with and without black directors. In general, firms without black directors appoint fewer minority directors prior to the murder of George Floyd, but consistent with the parallel trends assumption both groups of firms follow similar paths up to the time of the event. Table 3 indicates that 71% of firms making appointments have no black directors on their boards.

Table 4 displays regression results from estimating Equation 3. It includes two different specifications for each dependent variable. The first does not include controls or fixed effects, while the second includes the full model. The results indicate that minority appointments by firms without black directors increased substantially around the event (column 2) and appointments of black directors drives this result (column 8). The estimated treatment effects ($\beta_{P,T}$) on the appointment of NURM and URM, non-black directors are not statistically different from zero, but for black directors we estimate a 0.059 treatment effect that is significant at the 5% level. Prior to the acceleration of the racial justice movement, the probability of these firms appointing a black director was about 0.05. Therefore, our most conservative estimate of the effect of the racial justice movement is that it increased this probability by 120%.

There are two reasons why we believe this is a conservative estimate. First, the extraordinary reach of the racial justice movement means that control firms were also likely impacted by the event. Consistent with this, the estimate of β_P, which captures the change in black director appointment behavior of control firms, in column 8 is 0.17 with a t-statistic of over 6. This could be driven by a national trend in hiring minorities that is unrelated to the BLM movement, but that would imply that we find similar estimates of β_P when predicting the appointment of non-black minority directors. In point of fact, other initiatives that promoted minorities around this time included all non-white races, not just blacks (i.e. the California law and the Nasdaq rule). Yet, we find, when estimating the propensities to appoint NURM and URM, non-black directors (columns 4 and 10) the estimates of β_P are not statistically different from zero. We also try to quantify how much of the 0.17 probability increase can be attributed to the racial justice movement. The absence of time trend effects among appointments of directors of non-black minority races implies that as much as 100% could be attributed to the BLM movement and correspondingly it could be estimated that the racial justice movement led to a 0.23 (=0.059+0.171) increase or about a 460% increase from pre-Floyd levels in the propensity to appoint black directors by firms without black directors. For firms with black directors on the board, the increase was more modest. The probability of appointing black directors increased 0.17 or about 160% from pre-Floyd levels.

Second, we showed earlier that larger firms are more likely to appoint black directors, so our treated firms tend to be smaller than other sample firms. If larger firms were more responsive to the BLM movement, possibly due to greater search capacity, then our estimates will be downward biased. Figure A.3, which displays lack of racial diversity through time by size quartiles, illustrates this. The largest firms are much more likely to have black directors on their boards (Panel D)

and the greatest reduction in the percentage of firms that lack black directors in 2020 and 2021 is among these large firms. Panels B and C of Table 4 show our estimates when splitting the sample by median firm size. For the large firm sample, our estimate of $\beta_{P,T}$ is 0.096 with a t-statistic around 4 (column 8), but our estimate of $\beta_{P,T}$ for the small firm sample is insignificant. In both samples, our estimates of β_P are around 0.16, implying that all firms had a substantial increase in propensity to appoint black directors following the murder of George Floyd.

4.3. Impact of the California board diversity law

In section 1.1, we document two important dates in the development of the California diversity law, the introduction of the bill in February of 2019 and the signing of the bill in September of 2020. Compliance is compulsory only after the bill is signed, but it is possible that anticipation of the signing leads California firms to preemptively appoint minorities. Figure 6 shows the percentage of minority appointments for California- and non-California-based firms over the estimation window. There do not appear to be any pre-trend differences in behavior between California and non-California firms prior to either of the event dates. Separation in behavior seems to come after the signing of the bill. Therefore, we choose this as the event date for our main analysis. We construct "post CA law" to indicate the event date, which takes values of one for appointments occurring in months after September 2020. Treated firms are those that were headquartered in California at the end of 2017 ("CA HQ"). Within California, we define "noncompliant CA" as any firm that does not meet the long-term diversity targets of the California law outlined in Section 1.1. Table 3 indicates that about 84% of firms making appointments did not meet this requirement at the end of 2017. To control for the effects of the Nasdaq rule we include an interaction term between "post CA law" and "Nasdaq."

The triple difference test results are displayed in Panel A of Table 5. The results indicate that the California law has led to a significant increase in minority directors. The estimate of $\beta_{P,T,B}$ for the full model in column 2 is 0.16 and is significant at the 10% level. This effect is also economically meaningful. The estimates in column 1 indicate that prior to the signing of the law, the probability of appointing a minority director by noncompliant, California firms was 0.159 (=0.236-0.065+0.042). The treatment effect roughly doubles this initial propensity.

Estimates of $\beta_{P,T,B}$ in columns 4 and 6 show that URM, mainly black, directors experienced greater gains among noncompliant firms in California while NURM directors did not. In particular, the average treatment effect for black directors is 0.104 and significant at the 5% level. On the surface, this seems beneficial. However, further analysis reveals that this large effect is driven by the muted response of California-based firms to the overall increase in black director appointments during the period. The estimate of $\beta_{P,T}$ is -0.13 in column 8 with a t-statistic over 3. Our estimate of the increase in the propensity to appoint black directors of compliant firms outside of California over the event period is 0.162 (β_P), whereas the propensity to appoint

black directors of compliant firms in California increased by only 0.033 (0.162-0.129). This is illustrated more clearly in Panel B, which shows difference-in-difference estimates. NURM director appointments went up substantially in California after the signing of the law, but did not elsewhere in the country (column 4), while simultaneously black director appointments did not increase as much in California as the rest of the U.S (column 8). This is consistent with California-based firms substituting NURM directors for black directors, because they are given license by the state to do so.

4.4. Impact of the exchange-led initiatives

Next, we assess the impact of exchange-led initiatives on board racial diversity by estimating Equation 2 for the introduction of the NYSE Board Advisory Council and the Nasdaq board diversity rule. When testing the efficacy of the NYSE board advisory council in promoting racially diverse appointments, "post" in Equation 2 is a dummy variable that is one after May of 2019 since the advisory council began its work in June of 2019. We call this "post NYSE." Treated firms are those listed on the NYSE at the end of 2017. To ensure the results are not confounded by the Nasdaq rule, the "post" period ends in November 2020. To control for the California law, we include an interaction term between "CA HQ" and "post NYSE". We consider firms with no minority directors on their boards at the end of 2017 ("no minority dir") as "noncompliant" firms in Equation 2. 44.5% of appointing firms meet this criteria.

When evaluating the Nasdaq board diversity rule, "post" is a dummy variable that is one if the appointment is made in months after November of 2020 and is zero otherwise ("post Nasdaq"). Treated firms are those listed on the Nasdaq as of the end of 2017 ("Nasdaq"). When we evaluate this rule we use appointments from the beginning of 2018 through the end of the sample. This could be concerning in light of the NYSE initiative, however, we show below that the NYSE initiative had no meaningful effect on the propensity to appoint racially diverse directors to NYSE member firms. Noncompliant firms in the triple difference setup are firms that are noncompliant on the dimension of race according to the Nasdaq rule ("noncompliant Nasdaq"). These include firms with no minority directors, but have at least six board members. 40% firms meet this criteria.

Figure 7 shows the time series of the percentage of minority director appointments made by NYSE and Nasdaq firms over the event window. The NYSE has led the Nasdaq in the appointments of URM directors throughout the sample period (Panel C). Further, we can see that in the early part of the sample, racially diverse director appointments were more prevalent among NYSE-listed firms. However, by April of 2020, Panels B and C of Figure 7 show that the Nasdaq had narrowed the gap mainly by increasing appointments of NURM directors. In general, appointments by the two groups seem to follow similar trends prior to the Nasdaq announcement, at which time there is divergence in the types of minority directors the NYSE and Nasdaq appoint.

The results of the triple difference tests of the NYSE initiative are displayed in Table 6. The results indicate that the formation of the NYSE board advisory council had little effect on NYSE-listed firms' propensities to appoint racially diverse directors. In our full models (even numbered columns), only our estimates of β_P are statistically different from zero. This is consistent with the time trend that we documented earlier. We conclude that the NYSE Board Advisory Council did little to advance diversity at NYSE firms. Since this initiative mainly targeted homophily-based networks, this supports the view that homophily was not the root cause of the lack of racial diversity on U.S. corporate boards.

The results for the efficacy of the Nasdaq rule are displayed in Table 7. They indicate that the Nasdaq rule has yet to generate significant increases in racially diverse board appointments. $\beta_{P,T,B}$ is not statistically different from zero in any specification. Since the rule was just approved by the SEC on August 6, 2021, it could be too early to assess its effectiveness.

5. What effect does board racial diversity have on firms?

There is literature to suggest that board diversity is beneficial to firms (See Bernile et al. (2018), for example). Correspondingly, mandates or demand shocks leading to increased racial diversity may improve firm outcomes. However, a frequently raised concern with mandates is that there could be a limited supply of qualified directors. If there are supply constraints, then mandates (or movements) leading firms to appoint more minorities will lead to lower quality appointments, potentially eroding firm value. Additionally, there is mixed evidence of the effect of board gender diversity on firm value (See Knyazeva et al. (2021), for a summary of this literature).

We take two approaches to estimating the potential value impact of the mandates and movements that led to racially diverse director appointments. First, we test whether the qualifications and characteristics of diverse director appointments changed around the racial justice movement, the California board diversity law, and the Nasdaq board diversity rule.[27] Second, we run event studies around these events and test for abnormal stock returns of firms affected by these rules.

5.1. Characteristics and qualifications of diverse directors

Since quality is not directly observable, we run tests using observable director characteristics and experiences that are correlated with quality. Previous research has shown that director quality decreased following mandated gender diversity in Norway (Ahern and Dittmar, 2012). In a similar vein, we assess the depth of the talent pool of racially diverse directors in the U.S. by estimating changes in observable characteristics of racially diverse directors around mandates and social

[27] Since we have shown already that the NYSE board advisory council did not lead to greater diversity on corporate boards we do not conduct tests around this initiative.

movements. For the California law and the Nasdaq rule we estimate:

$$\begin{aligned}\text{characteristic}_{i,j,k,l,t} = \beta_{P,T,d}(\text{post}_t)(\text{treated}_{j,2017})(\text{minority}_{i,j,t}) + \beta_{P,T}(\text{post}_t)(\text{treated}_{j,2017}) + \\ \beta_{P,d}(\text{post}_t)(\text{minority}_{i,j,t}) + \beta_{T,d}(\text{treated}_{j,2017})(\text{minority}_{i,j,t}) + \beta_P(\text{post}_t) + \\ \beta_T(\text{treated}_{j,2017}) + \beta_d(\text{minority}_{i,j,t}) + + \mathbf{\Gamma}^{\intercal}\mathbf{x}_{j,2017} + \gamma_l + \delta_{k,t} + \epsilon_{i,k,t}, \quad (4)\end{aligned}$$

where the characteristic is a trait or experience of appointed director i by firm j at time t, that operates in industry k, and is headquartered in location l. "Post" and "treated" follow the earlier definitions. "Minority" is an indicator that is one if appointee i is not white. Therefore, $\beta_{P,T,d}$ captures the difference in a particular characteristic of minority appointees after the initiative relative to minority directors appointed before the initiative.

For the racial justice movement, we estimate regressions of the following form:

$$\begin{aligned}\text{characteristic}_{i,j,k,l,t} = \beta_{P,d}(\text{post}_t)(\text{black}_{i,j,t}) + \\ \beta_P(\text{post}_t) + \beta_d(\text{black}_{i,j,t}) + + \mathbf{\Gamma}^{\intercal}\mathbf{x}_{j,2017} + \gamma_l + \delta_{k,t} + \epsilon_{i,k,t}, \quad (5)\end{aligned}$$

where $\beta_{P,d}$ is the coefficient of interest. It captures the change in a particular characteristic of black directors appointed before and after the murder of George Floyd. Here we are interested in black directors since we showed earlier these were the director appointments most responsive to the event. In Equations 4 and 5, we include industry by time and location fixed effects as well as firm-level control variables, since few firms make minority appointments both before and after the initiatives.

The estimates of $\beta_{P,d}$ and $\beta_{P,T,d}$ are shown in Table 8. Panel A shows that black appointees after the murder of George Floyd differ very little from those appointed beforehand. They are on slightly fewer boards (-0.123) and are more likely to have experience in technology (0.07). Panels B and C shows the results for the California law and Nasdaq rule. The estimates of $\beta_{P,T,d}$ indicate that minority appointees after the signing of the California bill were more likely to have experience in the industry and were less likely to have experience in M&A. Minority Nasdaq appointees served on slightly more boards after the proposal, are more likely to have PhDs, and are more likely to have CEO experience. We conclude that there is no evidence that the demand shocks from these initiatives have driven firms to appoint less qualified directors – if anything they have superior qualifications.

5.2. Stock market reactions to racial diversity demand shocks

A second way to assess the impact of racial diversity on U.S. corporate boards is to measure stock market reactions to exogenous shocks to the racial compositions of boards. We estimate the abnormal stock market announcement returns using methodologies that are analogous to

those used in Section 4.1. If stock markets efficiently price information, then the abnormal stock price reaction differentials that we measure should capture the expected value effects attributed to increases in board racial diversity.

To conduct our tests for the California law and the Nasdaq rule we estimate:

$$\hat{\alpha}_{j,k,l,t=0} = \beta_B(\text{treated}_j)(\text{noncompliant}_j) + \beta_B\text{noncompliant}_j + \beta_T\text{treated}_j + \\ + \mathbf{\Gamma}^\intercal \mathbf{x}_j + \gamma_l + \delta_k + \epsilon_{i,k,t}, \quad (6)$$

and for the racial justice movement we estimate:

$$\hat{\alpha}_{j,k,l,t=0} = \beta_T(\text{no black dir}_j) + \mathbf{\Gamma}^\intercal \mathbf{x}_j + \gamma_l + \delta_k + \epsilon_{i,k,t}, \quad (7)$$

where $\hat{\alpha}_{j,k,l,t=0}$ is the estimated abnormal return of the stock of firm j, in industry k, located in location l, on the announcement day of the mandate ($t = 0$). "noncompliant" is an indicator variable that is one if the firm's board is not in compliance with the new mandate as of the end of the quarter just before the announcement. Firms are "treated" if the announced mandate applies to them, otherwise they are in the control group. The regressions also control for a number of firm-level variables ($\mathbf{x}_j$) measured at the quarter end prior to the announcement of the initiative. The full model also includes location (γ_l) and industry (δ_k) fixed effects to control for differential returns on these dimensions during the announcement day. The coefficient of interest in equation 6 is $\beta_{T,B}$. It captures the differential response of firms with boards that do not meet the announced diversity requirements and that are subject to them. In Equation 7, we are interested in β_T, which captures the abnormal return of firms without any black directors.

We estimate abnormal returns (α_j) on the event date as the actual return minus the predicted return under various asset pricing models, where our baseline model is the CAPM. Similar to Greene et al. (2020), factor loadings for the asset pricing models are estimated using daily returns over one year lagged by 20 trading days prior to the event and we drop firms with less than 30 daily returns in the estimation window.

5.2.1. Stock market reaction to the murder of George Floyd

George Floyd was murdered on Sunday, May 25, so the event date is set to the Monday, May 26, the first trading day after his murder. We estimate Equation 7, to asses the stock market reaction of firms most affected by the racial justice movement. Table 9 displays the results. Without controls, firms that did not have black directors underperformed those with black directors by about 1%. However, these firms differ on many dimensions, namely size. Including controls into

the specification, pushes these differences to zero.[28] Focusing on longer term returns, Figure 8 shows that firms with no black directors underperform those with black directors over the next 20 trading days (Panel A), but once we remove stocks that have low prices to reduce potential biases arising from low-price and illiquid stocks (Harris, 1990), these return differentials are indistinguishable from zero (Panel B).

5.2.2. Stock price reaction to the California board diversity bill

The California law was first introduced in the California Legislature on February 21, 2019 as Assembly Bill No. 979. We therefore choose this to be the event date of our study. In the context of Equation 6, "noncompliant" firms are all firms that do not meet the long-term board diversity requirements (see Section 1.1) outlined by the original bill as of December 31, 2018. As in Section 4.3, we create the variable "noncompliant CA" to indicate these firms. Similarly, the "treated" variable is "CA HQ," which is one if the firm is headquartered in the state of California. In this setting, we are comparing the abnormal announcement returns of noncompliant firms to compliant firms in California versus the abnormal returns of these two groups of firms outside of California. This is analogous to the triple difference setting estimated earlier.

Our estimates are displayed in Table 10. In every model, $\beta_{N,T}$ is significantly positively estimated. Our baseline estimate in column 4 indicates that the stock prices of noncompliant California-based firms saw, on average, abnormal increases of 67 basis points on the day of the bill introduction.

Panels C and D of Figure 8 show that these abnormal returns were temporary, suggesting a behavioral reaction by investors to the news. The cumulative abnormal returns of non-compliant California firms peaked about eight days after the announcement at roughly 3%, but by day 17 they were indistinguishable from zero. This is true when including all firms in the sample and when firms with nominal share price less than five dollars are excluded.

5.2.3. Stock market reaction to the Nasdaq board diversity rule

The announcement of the proposed Nasdaq board diversity rule occurred on December 1, 2020. At the time of the announcement, the rule required that most firms comply with the rule by appointing two "diverse" directors, with at least one of them self-identifying as female, and at least one as minority or LGBTQ+. We require firms to have one female and one minority director in order to be compliant with the rule. We construct two measures to capture these dimensions of compliance; "noncompliant Nasdaq race" and "noncompliant Nasdaq gender." Because the initial Nasdaq rule did not make an accommodation based on board size, these measures capture

[28] It should be noted that this was a time of immense volatility in markets. You'll notice that the constant in column 1 is 2.56%, meaning the control group (those with black directors) had significantly positively stock market reactions. This may seem strange, but the average market-adjusted return on that day was around 1.8%.

firms with no minorities or women on their boards, respectively. At the time of the announcment about half of firms listed on the Nasdaq were noncompliant with the race requirement and about 18% were noncompliant with the gender requirement. We jointly estimate the effects of noncompliance on both the dimensions. The "treated" variable in this case is "Nasdaq", a dummy variable indicating that the firm is listed on the Nasdaq.

Our estimates of Equation 6 are shown in Table 11. In column 4 of Table 11, we estimate that Nasdaq firms that were noncompliant on the dimension of race experienced abnormal announcement returns of -48 basis points, but that Nasdaq firms that were noncompliant on the dimension of gender, did not experience significantly different announcement returns. Similar to the announcement effect in California, Panels E and F of Figure 8 show that the stock market response of Nasdaq firms that were noncompliant on the dimension of race was also temporary. Cumulative abnormal returns do not stay significantly below zero beyond twelve trading days.

5.2.4. Assumptions and robustness

Our analysis relies on several assumptions. One assumption is that the treatment should be randomly assigned. For example, if California non-compliant firms are systematically different from non-California, non-compliant firms in ways that could affect stock returns, then there could be differences between these firms that lead to systematically different stock market reactions on the event dates. Tables A.1, A.3, and A.5 in the Appendix show summary statistics for each event sample and results of tests for potential differences in the treated and control groups. In general, the assumption of no differences between treated and control firms for the Nasdaq and California initiatives hold. However, firms with no black directors are very different from other firms in the social justice event sample. Firms with no black directors have fewer board members, are smaller, have worse performance, are lower levered, hold more cash, and invest more in R&D. This shows the importance of including control variables in our models.

Another important assumption is that there should not be differences between the return trends of the treated and control groups prior to the event date. Figures A.4, A.5 and A.6 show the abnormal daily returns of treated firms during the 30 day window around the event. For both the murder of George Floyd and the California rule announcement, there is no evidence that returns of the treated group significantly differed in the 15 trading days prior to the event. This is consistent with the absence of pre-trends in the data. For the Nasdaq rule, the no pre-trend assumption is more tenuous. The Nasdaq rule announcement came during a tumultuous time, with President Donald Trump challenging the legitimacy of the 2020 presidential election. Racial tensions were high and on any given day there were reports of both racist and anti-racist protests introducing a number of potentially confounding, unobservable factors and events that could influence returns. Indeed, Figure A.6 shows that noncompliant Nasdaq firms experienced abnormally low returns six days prior to the announcement date.

As a robustness check, we use different measures of noncompliance for each of the studies and find similar results. We also add nominal price filters (as shown earlier in Figure 8) to try to reduce noise. Including these filters strengthens the negative abnormal returns that we document on the day of the Nasdaq announcement, but reduces the significance of the returns for the other two events.

Our analyses do enable us to better understand the trends and drivers of board racial diversity as well as the efficacy of various initiatives to improve board racial diversity. However, when consolidating the evidence from our event studies, we are unable to identify consistent market effects related to board racial diversity initiatives. The passage of time should allow us to conduct a more thorough investigation of the performance effects of these demand shocks, allowing us to focus on accounting performance among other measures.

6. Conclusion

Using a comprehensive sample of U.S. firms, we document a dramatic change in how U.S. firms approach racial diversity on their boards. Prior to 2020, firms that lacked racial diversity on their boards persisted. However, during the course of 2020, this behavior changed – U.S. firms began seeking racial diversity on their boards.

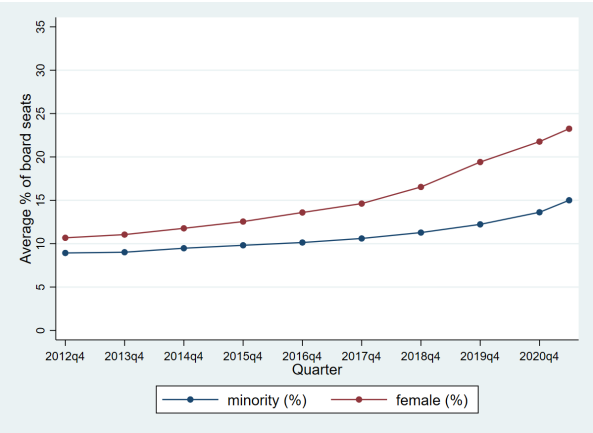
What caused this shift? We investigate the role of government mandates and stock exchange-led initiatives constructed to achieve greater racial diversity on U.S. corporate boards. Our analysis shows that none of these policies designed to either mandate racial diversity or relieve information asymmetries in director searches have been as effective as the social pressure and awareness that resulted from the acceleration of the racial justice movement.

We conservatively estimate that the racial justice movement increased appointments of black directors by 120%. The NYSE Board Advisory Council, which aided NYSE-listed firms in identifying diverse candidates generated no measurable effect, suggesting that homophily may not have been the only reason boards lacking racial diversity have persisted for so long. Initial results from the Nasdaq rule are inconclusive, but mandated diversity by the state of California has so far led to an abnormal increase in the minority directors from races that are not traditionally underrepresented at the expense of black directors. Effectively, the law gave firms license to substitute minorities from non-underrepresented groups for black directors. This highlights a key difference in mandating race versus gender diversity – the objectives of policy-makers can lead to different outcomes since the groups included as "diverse" are at the policy-makers' discretion. These groups may be defined differently depending on the motives of the institutions implementing the board racial diversity mandates.

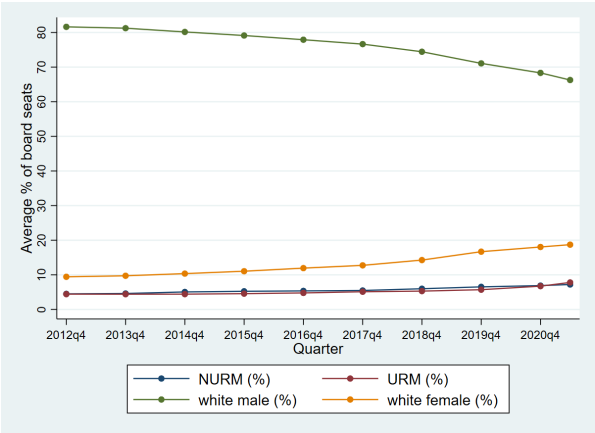
Whether mandated racial diversity on U.S. corporate boards is beneficial to firms depends on the metric for success (business case, ESG, social justice) and the motives for implementation. Our analysis of stock price reactions to the murder of George Floyd, the California law, and

the Nasdaq rule provide inconclusive results with regard to the business case argument. We acknowledge the limitations of our event studies in estimating these value effects as they rely on assumptions that markets quickly and accurately anticipate the value impact of adding diverse directors to firms that lack racial diversity. Future research is needed to test the long-term firm value impact of adding racially diverse directors to U.S. corporate boards.

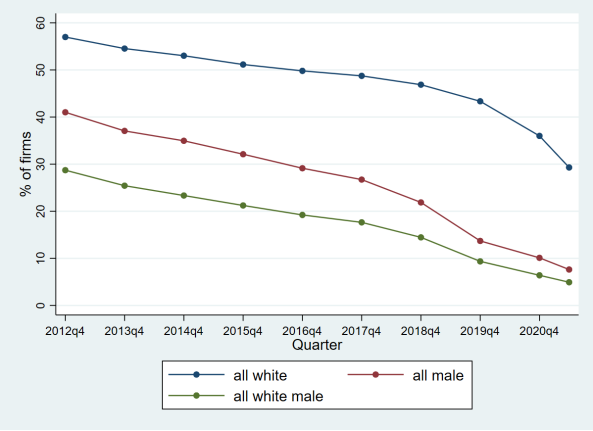
Given the initiatives that we study targeted different drivers of minority underrepresentation on boards (homophily/search costs, labor supply, racial bias), we also obtain insights into the potential causes of lack of board racial diversity. Since the NYSE Board Advisory Council had little effect on board diversity, there is limited support for frictions due to homophily-based networks, information asymmetries, or search costs being the primary cause. Moreover, there is little support for a limited labor supply mechanism, as the demand shocks from the initiatives did not cause firms to appoint less qualified directors. Considering we are able to link the racial justice movement to the largest most significant change in firm behavior, there is strong evidence consistent with racial bias driving the lack of board racial diversity.



(a) race/ethnicity and gender



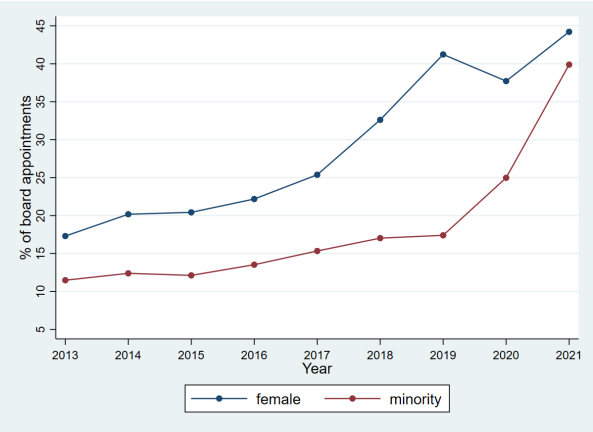
(b) race/ethnicity and gender decomposed



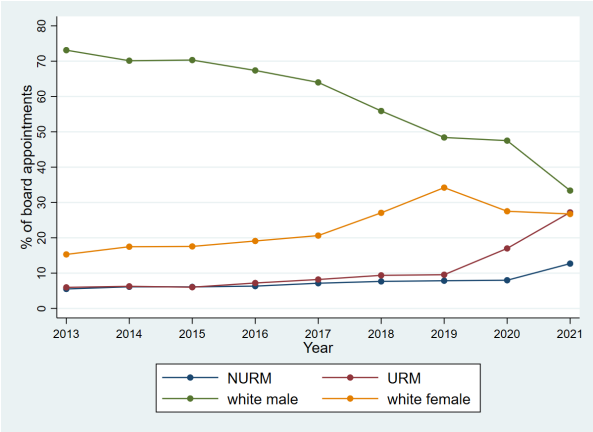
(c) Lack of racial/ethnic and/or gender diversity

Fig. 1: Board composition by race and gender through time

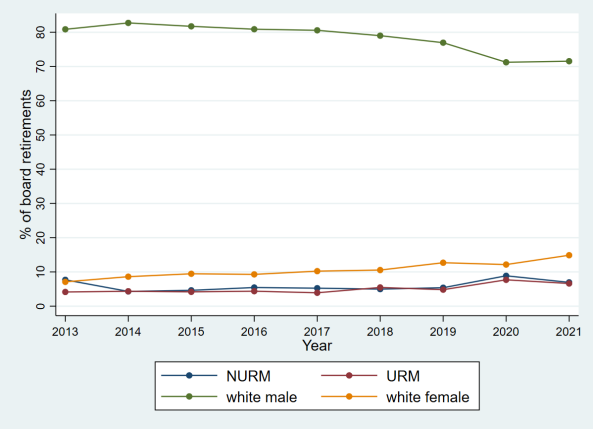
The figure shows time series trends in the composition of boards along the dimensions of race/ethnicity and gender for the sample of roughly 3,100 firms per year listed on the NYSE or Nasdaq headquartered and incorporated in the U.S. The average board composition is displayed at the end of the calendar year in all years other than 2021, where it is displayed as of the end of the 2nd quarter. Information on the sample construction and variable definitions is found in Sections 2.2 and 2.3 of the text. Panel (a) shows the average percentage of board seats of sample firms by year that are held by minorities or women. Panel (b) decomposes this among white males, white females, NURM (non-underrepresented minorities), and URM (underrepresented minorities) directors. Panel (c) displays the percentage of sample firms each year that has a lack of board diversity along the dimensions of race/ethnicity and gender; all white, all male, or all white male.



(a) Appointments by race and gender



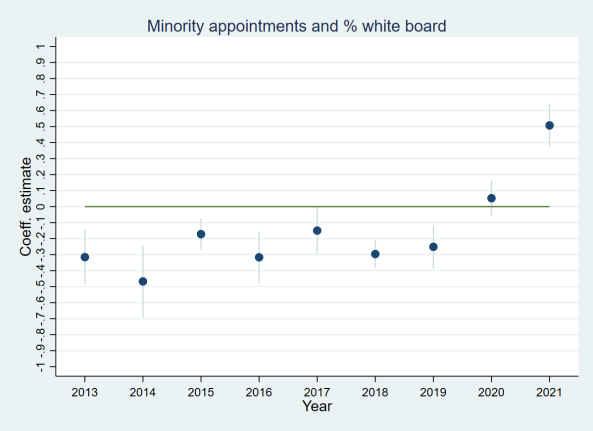
(b) Appointments by race and gender decomposed



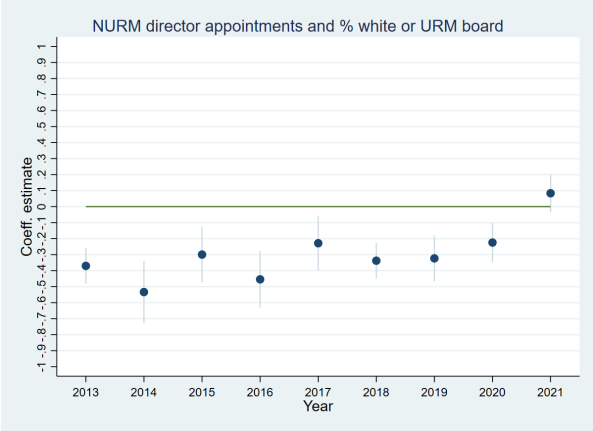
(c) Retirements by race and gender decomposed

Fig. 2: Director appointments and retirements by race and gender through time

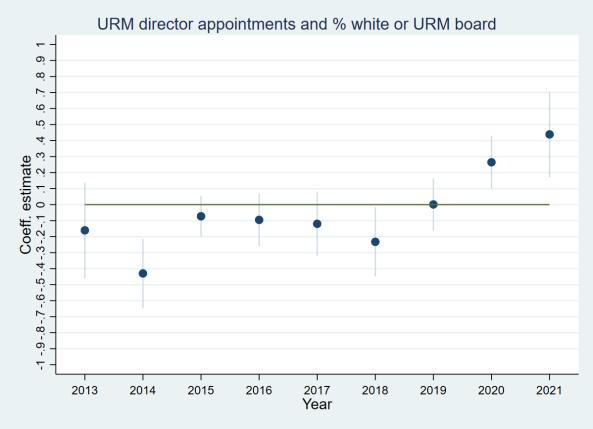
The figure shows time series trends in new board appointments and retirements along the dimensions of race and gender for the sample of roughly 3,100 firms per year listed on the NYSE or Nasdaq headquartered and incorporated in the U.S. The percentage of board appointments/retirements are for the full calendar year in all years other than 2021, where it includes appointments up to the end of the third quarter. Information on the sample construction and variable definitions is found in Sections 2.2 and 2.3 of the text. Panel (a) shows the average percentage of new board appointments by sample firms each year to minorities and women. Panel (b) decomposes this among white males, white females, non-white, NURM, and URM directors. Panel (c) shows director retirements among these same groups.



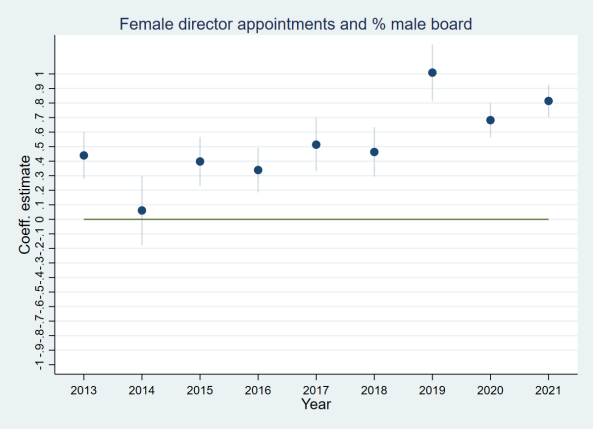
(a) Minority appointments



(b) NURM appointments



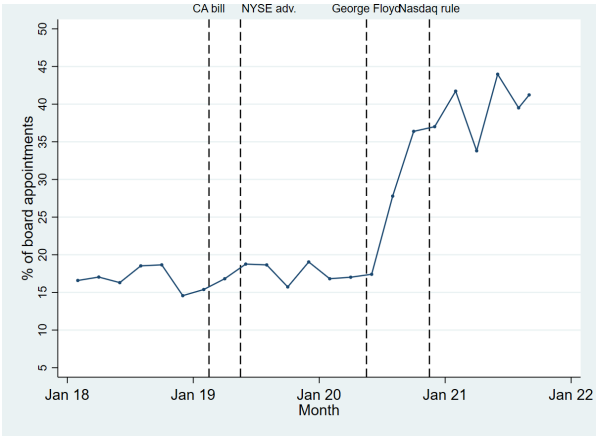
(c) URM appointments



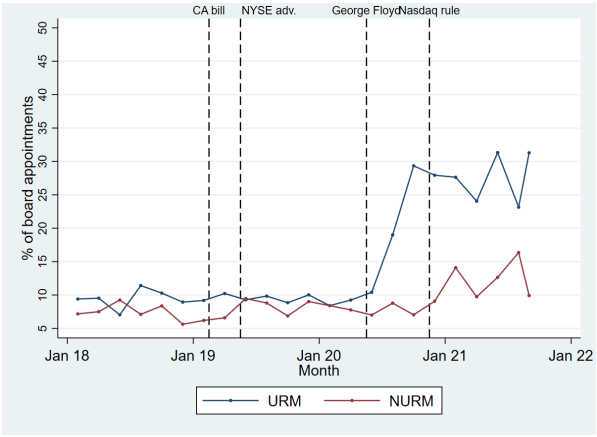
(d) female appointments

Fig. 3: Minority director appointments and board racial composition through time

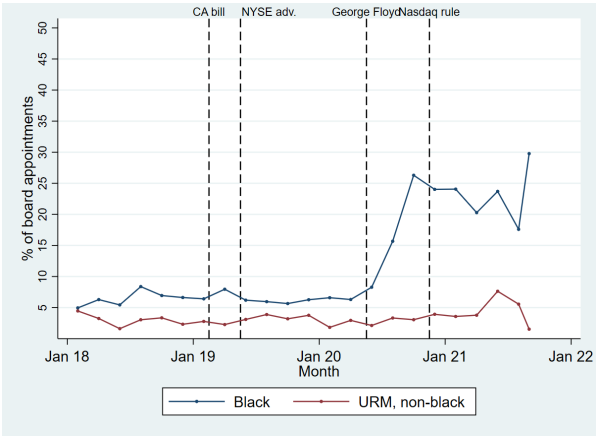
The Figure shows estimates and 90% confidence intervals of β from equation 1 for subsamples of appointments for each calendar year for minority (a), NURM (b), URM (c), and female (d) appointments. In each case β is the coefficient on lagged proportion of the board that is not a member of the appointees' race (gender in panel d). The specific model estimated is the same as that in column 2 of Panel A of Table 2. Confidence intervals are computed using robust standard errors clustered by industry.



(a) Minority appointments



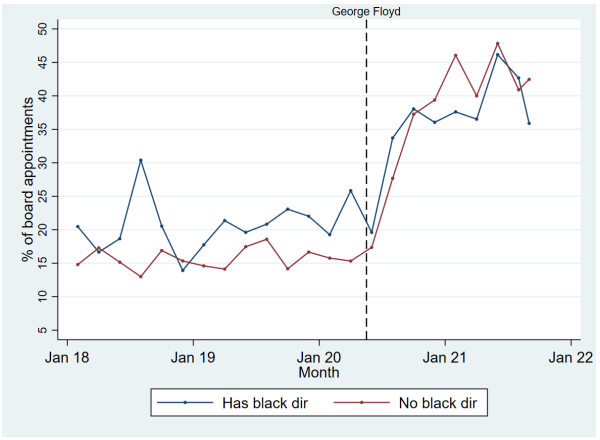
(b) Minority appointments decomposed



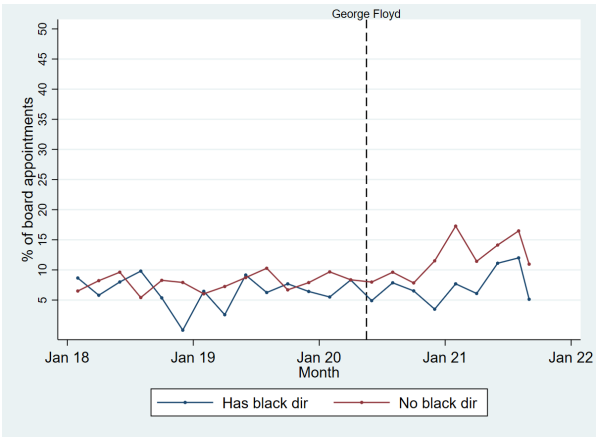
(c) URM appointments decomposed

Fig. 4: Minority director appointments and recent diversity initiatives and events

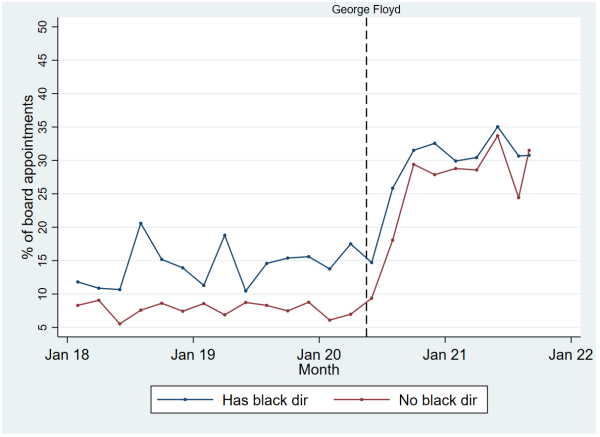
The figure displays the average percentage of racially diverse board appointments made during each two month period for the sample of firms included in our difference in difference analysis, which is described in Panel B of Table 1. Panel a shows these percentages for minority directors. In Panel b, minority appointments are split between directors belonging to URM races and NURM races. In Panel c, URM appointments are split between those who are black and those who are not. Dotted vertical lines indicate the timing of various board diversity initiatives and the racial justice movement. Specifically, "CA bill" denotes the introduction of the California racial diversity bill in the California legislature, "NYSE adv." indicates the forming of the NYSE board advisory council, "George Floyd" indicates the acceleration of the racial justice movement, and "Nasdaq rule" indicates the announcement of the Nasdaq board diversity rule proposal.



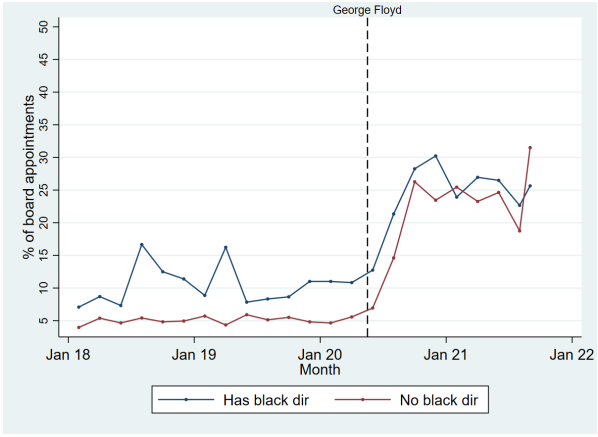
(a) Minority appointments



(b) NURM appointments



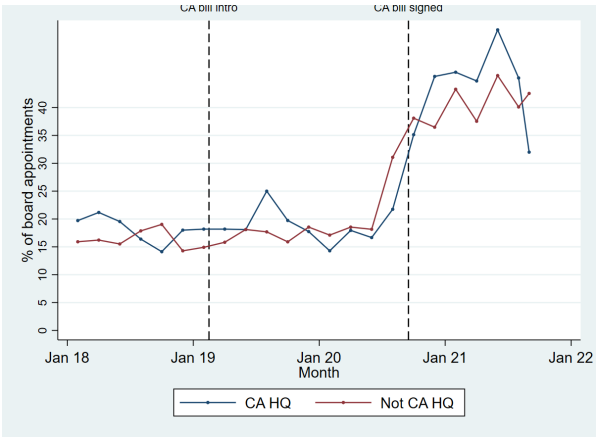
(c) URM appointments



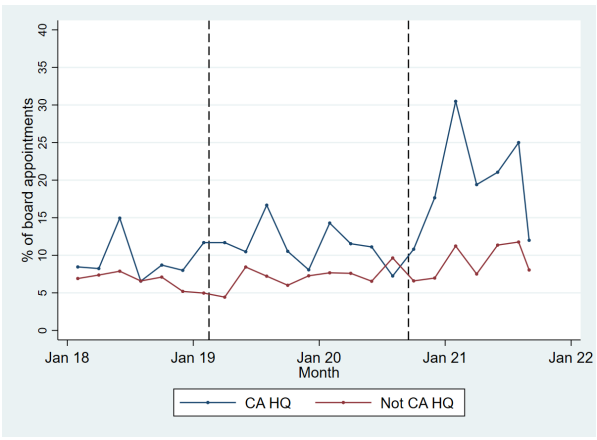
(d) Black appointments

Fig. 5: The racial justice movement and minority director appointments

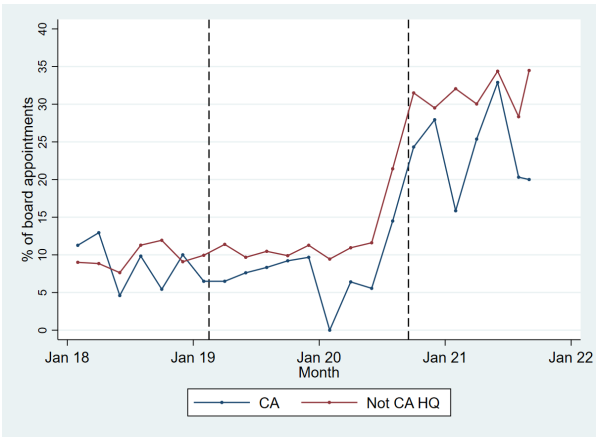
The figure displays the average percentage of racially diverse board appointments made by firms during each two month period split by firms that had a black director on their board at the end of 2017 and those that did not. Firms included in the analysis are those included in our difference in difference analysis, which is described in Panel B of Table 1. The Panels shows these averages for different types of minority directors. Specifically, Panels a, b, c, and d shows these percentages for minority, NURM, URM, and black directors, respectively. Dotted vertical lines indicate the timing of the murder of George Floyd.



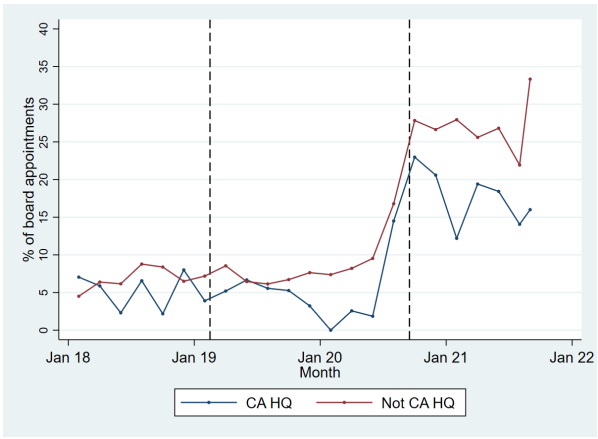
(a) Minority appointments



(b) NURM appointments



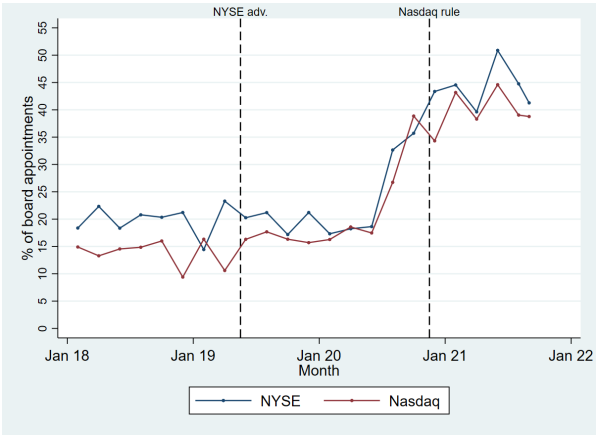
(c) URM appointments



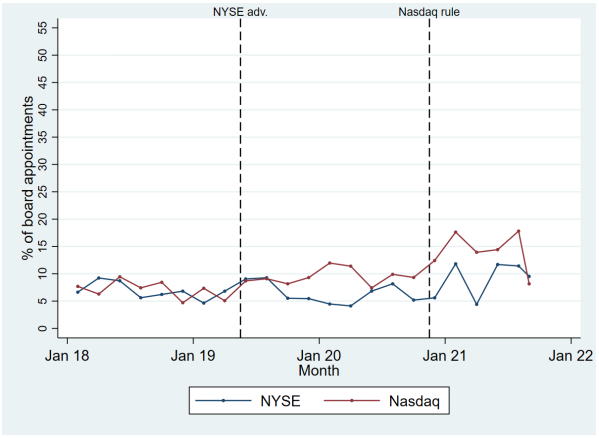
(d) Black appointments

Fig. 6: Minority director appointments and the California diversity law

The figure displays the average percentage of racially diverse board appointments made by firms during each two month period split by California-based and non-California based firms included in our difference in difference analysis, which is described in Panel B of Table 1. The Panels shows these averages for different types of minority directors. Specifically, Panels a, b, c, and d shows these percentages for minority, NURM, URM, and black directors, respectively. Dotted vertical lines indicate the timing of important developments in the California law. Specifically, "CA bill intro" denotes the introduction of the California racial diversity bill in the California legislature and "CA bill signed" denotes when the bill was signed into law.



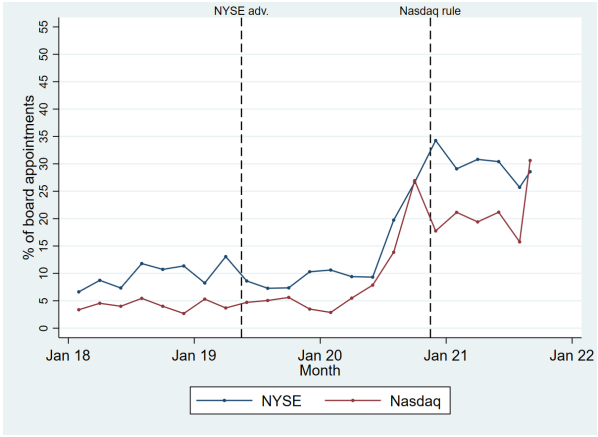
(a) Minority appointments



(b) NURM appointments



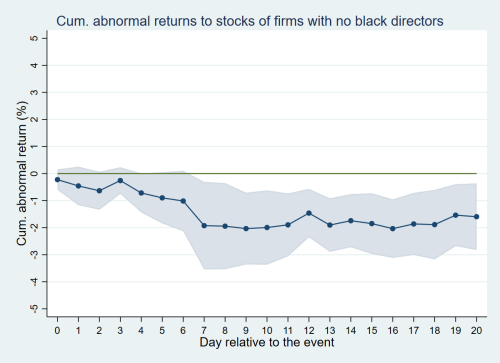
(c) URM appointments



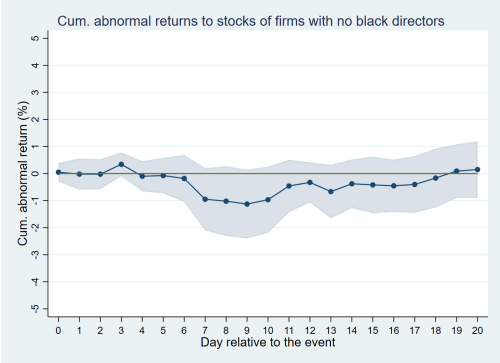
(d) Black appointments

Fig. 7: Minority director appointments and recent exchange initiatives

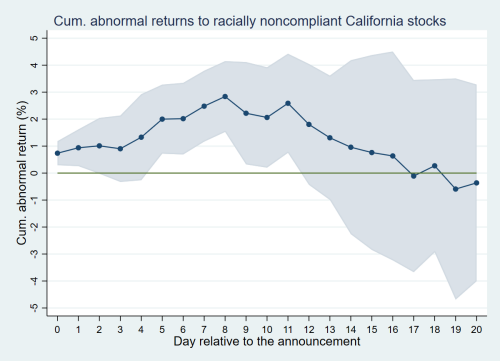
The figure displays the average percentage of racially diverse board appointments made by sample firms during each two month period for firms listed on the NYSE and the Nasdaq that are included in our difference in difference analysis, which is described in Panel B of Table 1. The Panels shows these averages for different types of minority directors. Specifically, Panels a, b, c, and d shows these percentages for minority, NURM, URM, and black directors, respectively. Dotted vertical lines indicate the timing of important exchange-led board diversity initiatives. Specifically, "NYSE adv." denotes formation of the NYSE board advisory council and "Nasdaq rule" indicates the announcement of the Nasdaq board diversity rule proposal.



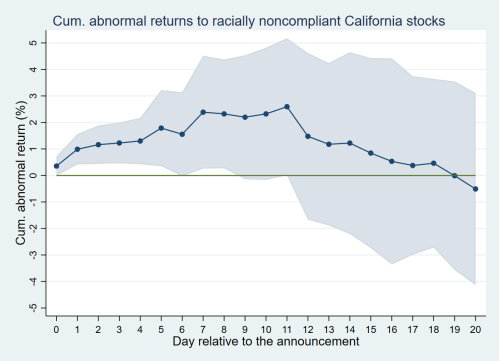
(a) Murder of George Floyd (all firms)



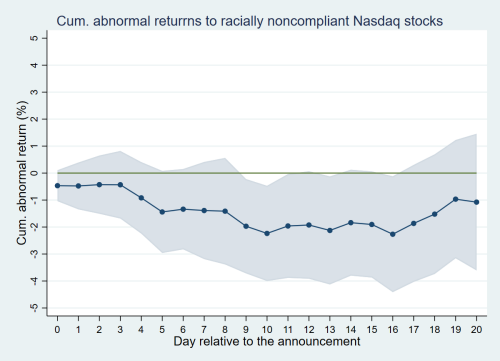
(b) Murder of George Floyd (price $>$ \$5)



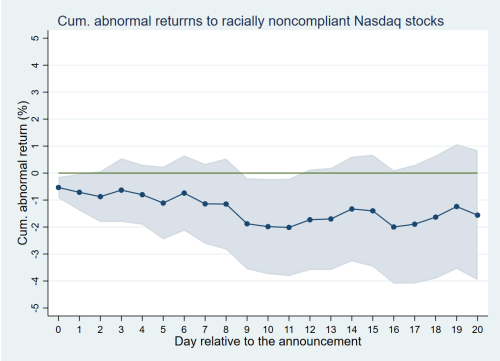
(c) California bill announcement (all firms)



(d) California bill announcement (price $>$ \$5)



(e) Nasdaq rule proposal - race (all firms)



(f) Nasdaq rule proposal - race (price $>$ \$5)

Fig. 8: Abnormal returns around board diversity initiatives

The figure shows the estimated average cumulative abnormal stock returns of firms affected by board diversity initiatives ($\beta_{T,B}$ in equation 6) to the announcement of the initiatives each trading day relative to the announcement. Panels a and b show the reaction of "no black dir" firms to the murder of George Floyd (May 26, 2020). Panels c and d show the reaction of "noncompliant CA" California-based firms to the introduction of California Assembly Bill No. 979 (Feb. 21, 2019). Panels e and f show the reactions of "noncompliant Nasdaq race" Nasdaq-listed firms to the announcement of the Nasdaq board diversity rule proposal (Dec. 1, 2020). Panels a, c, and e include all sample firms, while those in b, d, and f include firms with nominal price greater than \$5. The figure plots the estimates of $\beta_{T,B}$ in equation 6 and their 95% confidence intervals for these events. Regression models include industry and state fixed effects and control variables for board size, ln(market cap), ROA, leverage, cash to assets, R&D to assets, and market-to-book. All control variables and board compliance measures are constructed using variables at the quarter-end just prior to the event. Abnormal returns are calculated using the CAPM. Confidence intervals are based on robust standard errors clustered by industry, where industry is measured by two-digit SIC codes.

Table 1: Summary statistics

The table displays summary statistics for new board appointment of firms listed on the NYSE or Nasdaq headquartered and incorporated in the U.S. It shows summary statistics for appointments occurring over the full sample from 1Q2013 through 3Q2021. Information on the sample construction and variable definitions is found in Sections 2.2 and 2.3 of the text.

	Mean	Median	Std	5th	95th	N
minority	0.181	0.000	0.385	0.000	1.000	20,825
NURM	0.075	0.000	0.263	0.000	1.000	20,825
URM	0.107	0.000	0.309	0.000	1.000	20,825
female	0.302	0.000	0.459	0.000	1.000	20,822
white (%)	0.889	0.909	0.140	0.636	1.000	20,825
male (%)	0.844	0.857	0.123	0.625	1.000	20,825
board size	8.831	9.000	2.578	5.000	13.000	20,825
ln(assets)	7.296	7.328	2.211	3.620	11.024	20,825
ROA	-0.019	0.003	0.081	-0.165	0.044	20,825
leverage	0.259	0.213	0.244	0.000	0.716	20,825
cash to assets	0.220	0.106	0.260	0.006	0.855	20,825
R&D to assets	0.017	0.000	0.039	0.000	0.094	20,825
market-to-book	2.212	1.497	1.967	0.879	6.093	20,825
CA HQ	0.187	0.000	0.390	0.000	1.000	20,825
Nasdaq	0.565	1.000	0.496	0.000	1.000	20,825

Table 2: Diverse director appointments and board racial composition

The table displays regression results from linear probability models predicting the racial background of board appointees. Panel A of the table uses the full sample of director appointments described in Panel A of Table 1. Panel B includes only appointments of independent directors. Column 2 in Panels A and B are estimates of Equation 1 in the text. Other estimated models are variations on this regression model, differing by the included control variables, fixed effects, and the dependent variable. The dependent variables are indicator variables that take a value of one if the director appointee's racial background or gender fits in the particular category. Industry fixed effects are defined by 2-digit SIC codes and are interacted with the calendar year quarter in which the appointment occurred. CBSA fixed effects are based on the Core-based Statstical Area in which the appointing firm is headquartered. Fixed effects are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: All director appointments

	minority			NURM	URM	female
	(1)	(2)	(3)	(4)	(5)	(6)
white (%)	-0.301***	-0.145***	-0.156***			
	(-6.39)	(-3.14)	(-3.03)			
white or URM (%)				-0.302***		
				(-6.50)		
white or NURM (%)					0.000	
					(0.01)	
male (%)		-0.049*	-0.037	0.035**	-0.107***	0.567***
		(-1.77)	(-1.41)	(2.01)	(-4.68)	(12.60)
board size		0.002	0.001	0.000	0.002*	-0.003**
		(0.90)	(0.65)	(0.15)	(1.94)	(-2.12)
ln(assets)		0.016***	0.014***	0.002	0.015***	0.033***
		(4.66)	(3.68)	(0.92)	(7.20)	(12.71)
ROA		-0.003	0.013	-0.010	0.002	0.280***
		(-0.07)	(0.30)	(-0.29)	(0.08)	(5.00)
leverage		-0.004	0.007	-0.006	0.005	-0.036***
		(-0.44)	(0.65)	(-0.65)	(0.46)	(-2.82)
cash to assets		0.004	-0.001	0.004	-0.002	0.007
		(0.21)	(-0.04)	(0.27)	(-0.17)	(0.30)
R&D to assets		-0.010	-0.042	0.065	-0.094**	0.186***
		(-0.11)	(-0.39)	(0.86)	(-2.14)	(2.78)
market-to-book		0.009***	0.009***	0.003***	0.005***	0.013***
		(10.76)	(5.96)	(3.53)	(4.92)	(4.42)
Constant	0.449***					
	(10.84)					
Indus. by qtr FE	No	Yes	No	Yes	Yes	Yes
CBSA FE	No	Yes	No	Yes	Yes	Yes
Indus. FE	No	No	Yes	No	No	No
CBSA by qtr FE	No	No	Yes	No	No	No
Adj-R-squared	0.01	0.08	0.07	0.04	0.10	0.08
N	20,755	20,398	19,074	20,398	20,398	21,775

Panel B: Independent director appointments

	minority			NURM	URM	female
	(1)	(2)	(3)	(4)	(5)	(6)
white (%)	-0.321***	-0.157***	-0.190***			
	(-5.53)	(-2.89)	(-3.12)			
white or URM (%)				-0.287***		
				(-5.53)		
white or NURM (%)					-0.074	
					(-1.12)	
male (%)		-0.075**	-0.046	0.005	-0.094***	0.568***
		(-2.41)	(-1.38)	(0.28)	(-4.07)	(10.18)
board size		0.002	0.000	0.001	0.002	0.000
		(0.87)	(0.04)	(0.37)	(1.29)	(0.12)
ln(assets)		0.018***	0.015***	0.002	0.016***	0.038***
		(5.71)	(4.31)	(0.88)	(6.55)	(12.41)
ROA		-0.031	-0.053	-0.051	0.017	0.256**
		(-0.51)	(-0.68)	(-1.10)	(0.54)	(2.60)
leverage		0.006	0.024*	-0.000	0.009	-0.004
		(0.55)	(1.84)	(-0.03)	(0.77)	(-0.23)
cash to assets		0.001	-0.018	-0.001	0.001	0.009
		(0.08)	(-0.96)	(-0.03)	(0.07)	(0.41)
R&D to assets		-0.078	-0.084	-0.067	-0.028	0.224*
		(-0.91)	(-0.76)	(-1.16)	(-0.47)	(1.97)
market-to-book		0.009***	0.008***	0.004***	0.005***	0.010**
		(5.58)	(3.27)	(3.06)	(3.45)	(2.29)
Constant	0.461***					
	(8.87)					
Indus. by qtr FE	No	Yes	No	Yes	Yes	Yes
CBSA FE	No	Yes	No	Yes	Yes	Yes
Indus. FE	No	No	Yes	No	No	No
CBSA by qtr FE	No	No	Yes	No	No	No
Adj-R-squared	0.01	0.09	0.08	0.03	0.11	0.10
N	12,721	12,282	11,381	12,282	12,282	13,146

Table 3: Summary statistics (1Q2018-3Q2021)

The table displays summary statistics for new board appointment of firms listed on the NYSE or Nasdaq headquartered and incorporated in the U.S. for appointments occurring by sample firms from 1Q2018 through 3Q2021. This sample only includes firms that existed at the end of 2017 and firm-level variables are measured as of this date. Information on the sample construction and variable definitions is found in Sections 2.2 and 2.3 of the text.

	Mean	Median	Std	5th	95th	N
minority	0.240	0.000	0.427	0.000	1.000	8,587
NURM	0.086	0.000	0.281	0.000	1.000	8,587
URM	0.153	0.000	0.360	0.000	1.000	8,587
black	0.118	0.000	0.323	0.000	1.000	8,587
URM, non-black	0.035	0.000	0.184	0.000	0.000	8,587
no black dir	0.712	1.000	0.453	0.000	1.000	8,587
no minority dir	0.445	0.000	0.497	0.000	1.000	8,587
noncompliant CA	0.843	1.000	0.364	0.000	1.000	8,587
noncompliant Nasdaq	0.398	0.000	0.490	0.000	1.000	8,587
CA HQ	0.188	0.000	0.391	0.000	1.000	8,587
Nasdaq	0.550	1.000	0.497	0.000	1.000	8,587
age	56.379	57.250	8.148	42.000	68.500	8,417
num. boards	1.596	1.000	0.893	1.000	3.000	8,573
MBA	0.409	0.000	0.492	0.000	1.000	6,674
JD	0.082	0.000	0.275	0.000	1.000	6,674
PhD	0.063	0.000	0.243	0.000	1.000	6,674
skills	6.881	7.000	2.636	3.000	11.000	4,039
leadership exp.	0.890	1.000	0.313	0.000	1.000	4,039
ceo exp.	0.496	0.000	0.500	0.000	1.000	4,039
cfo exp.	0.171	0.000	0.376	0.000	1.000	4,039
international exp.	0.393	0.000	0.488	0.000	1.000	4,039
industry exp.	0.587	1.000	0.492	0.000	1.000	4,039
financial exp.	0.669	1.000	0.471	0.000	1.000	4,039
tech exp.	0.454	0.000	0.498	0.000	1.000	4,039
government exp.	0.103	0.000	0.303	0.000	1.000	4,039
strategy exp.	0.490	0.000	0.500	0.000	1.000	4,039
operations exp.	0.530	1.000	0.499	0.000	1.000	4,039
m&a exp.	0.223	0.000	0.417	0.000	1.000	4,039

Table 4: The impact of the racial justice movement on minority director appointments

The table displays regression results from linear probability models predicting the race/ethnicity of director appointments. The sample includes all director appointments from the first quarter of 2018 through the third quarter of 2021 of NYSE and Nasdaq-listed firms operating and incorporated in the United States that existed at the end of 2017 and have data available on the racial diversity of its board. The sample is summarized in Table 3. The Table provides estimates of the difference in difference equation, equation 3, estimating the impact of the racial justice movement on minority director appointments. "noncompliant Nasdaq" firms are those that did not comply with the Nasdaq's diversity targets as of the end of 2017. Firm-level fixed effects are included where indicated. Regressions in even columns also include controls for other confounding events. For example, even columns include "post Floyd" interacted with "Nasdaq" and also with "CA HQ" to remove the effects of the California law and the Nasdaq rule. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: All firms

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post Floyd × no black dir	0.066***	0.090***	0.038***	0.023	0.028	0.066**	0.023	0.059**	0.005	0.007
	(3.14)	(2.77)	(3.14)	(1.40)	(1.27)	(2.31)	(1.21)	(2.50)	(0.52)	(0.55)
post Floyd	0.163***	0.187***	0.007	0.003	0.156***	0.185***	0.143***	0.171***	0.013	0.013
	(9.04)	(6.70)	(0.64)	(0.17)	(7.78)	(6.37)	(8.44)	(6.68)	(1.52)	(1.27)
no black dir	-0.051***		0.012*		-0.064***		-0.053***		-0.011**	
	(-5.00)		(1.67)		(-7.71)		(-6.53)		(-2.13)	
Constant	0.209***		0.067***		0.142***		0.105***		0.037***	
	(21.91)		(9.60)		(16.03)		(13.99)		(8.18)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.05	0.06	0.01	0.05	0.06	0.05	0.06	0.05	0.00	0.00
N	8,578	8,073	8,578	8,073	8,578	8,073	8,578	8,073	8,578	8,073

Panel B: Appointments by above median size firms

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post Floyd × no black dir	0.107***	0.125***	0.021	0.009	0.086***	0.116***	0.069***	0.096***	0.017	0.020
	(4.47)	(3.84)	(1.33)	(0.50)	(3.82)	(4.13)	(3.70)	(3.99)	(1.25)	(1.18)
post Floyd	0.165***	0.174***	0.007	0.004	0.158***	0.170***	0.144***	0.160***	0.015	0.010
	(8.26)	(6.08)	(0.59)	(0.23)	(7.49)	(5.72)	(8.31)	(5.94)	(1.54)	(0.91)
no black dir	-0.032***		0.012		-0.045***		-0.035***		-0.010*	
	(-2.75)		(1.33)		(-4.46)		(-3.99)		(-1.71)	
Constant	0.212***		0.064***		0.148***		0.109***		0.039***	
	(20.18)		(8.81)		(15.70)		(14.67)		(7.95)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.06	0.05	0.00	0.06	0.06	0.05	0.06	0.04	0.00	-0.01
N	4,968	4,753	4,968	4,753	4,968	4,753	4,968	4,753	4,968	4,753

Panel C: Appointments by below median size firms

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post Floyd × no black dir	0.056	0.050	0.048	0.023	0.008	0.027	0.001	0.024	0.007	0.003
	(0.93)	(0.65)	(1.51)	(0.58)	(0.16)	(0.44)	(0.01)	(0.39)	(0.35)	(0.11)
post Floyd	0.137**	0.207**	0.010	0.046	0.127**	0.161**	0.127**	0.161**	0.000	-0.000
	(2.05)	(2.64)	(0.28)	(0.88)	(2.56)	(2.54)	(2.51)	(2.56)	(0.01)	(-0.00)
no black dir	-0.046		-0.004		-0.042*		-0.043**		0.000	
	(-1.51)		(-0.16)		(-1.97)		(-2.14)		(0.02)	
Constant	0.184***		0.085***		0.099***		0.075***		0.024*	
	(6.47)		(3.43)		(4.48)		(4.07)		(1.89)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.05	0.06	0.01	0.04	0.04	0.05	0.05	0.05	-0.00	0.03
N	3,610	3,296	3,610	3,296	3,610	3,296	3,610	3,296	3,610	3,296

Table 5: The impact of the California board diversity law on minority director appointments

The table displays regression results from linear probability models predicting the race/ethnicity of director appointments. The sample includes all director appointments from the first quarter of 2018 through the third quarter of 2021 of NYSE and Nasdaq-listed firms operating and incorporated in the United States that existed at the end of 2017 and have data available on the racial diversity of its board. The sample is summarized in Table 3. Panels A provide estimates of the triple difference equation, equation 2, estimating the impact of the California board diversity law. Panel B shows estimates for a diff-in-diff regression equation analogous to Equation 3. "noncompliant CA" firms are those with board structure that did not comply with the long-term targets of the California rule as of the end of 2017. Firm-level fixed effects are included where indicated. Regressions in even columns also include controls for other confounding events. For example, even columns include "post" interacted with "Nasdaq"to remove the effects of the Nasdaq rule. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Triple difference

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post CA law × CA HQ × noncompliant CA	0.106	0.160*	0.047	0.062	0.059	0.098*	0.067	0.104**	-0.008	-0.006
	(1.60)	(1.99)	(1.28)	(1.01)	(1.33)	(1.86)	(1.35)	(2.38)	(-0.19)	(-0.12)
post CA law × noncompliant CA	0.085*	0.094**	0.060***	0.029	0.025	0.065	0.015	0.065*	0.010	0.000
	(1.99)	(2.02)	(3.57)	(1.09)	(0.67)	(1.65)	(0.46)	(1.73)	(0.64)	(0.00)
post CA law × CA HQ	-0.035	-0.060	0.056**	0.055	-0.091**	-0.115***	-0.118***	-0.129***	0.027	0.014
	(-0.67)	(-0.78)	(2.17)	(0.94)	(-2.33)	(-3.11)	(-2.70)	(-3.61)	(0.64)	(0.31)
post CA law	0.157***	0.178***	-0.030*	-0.008	0.187***	0.186***	0.176***	0.162***	0.011	0.025
	(4.30)	(4.00)	(-1.73)	(-0.39)	(5.33)	(4.31)	(5.77)	(4.11)	(0.73)	(1.09)
CA HQ × noncompliant CA	-0.052		-0.059**		0.008		0.005		0.003	
	(-1.30)		(-2.31)		(0.34)		(0.26)		(0.22)	
CA HQ	0.042		0.078***		-0.036*		-0.033**		-0.003	
	(1.09)		(2.77)		(-1.86)		(-2.53)		(-0.28)	
noncompliant CA	-0.065***		-0.030**		-0.035**		-0.020**		-0.015*	
	(-4.33)		(-2.37)		(-2.46)		(-2.11)		(-1.67)	
Constant	0.236***		0.096***		0.140***		0.099***		0.042***	
	(14.83)		(7.62)		(7.98)		(8.41)		(4.83)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.06	0.06	0.02	0.06	0.06	0.06	0.06	0.04	0.00	0.00
N	8,578	8,049	8,578	8,049	8,578	8,049	8,578	8,049	8,578	8,049

Panel B: Diff-in-diff

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post CA law × CA HQ	0.046	0.069*	0.090***	0.105***	-0.043*	-0.037	-0.063***	-0.046**	0.019	0.009
	(1.53)	(1.76)	(4.14)	(4.20)	(-1.85)	(-1.32)	(-3.97)	(-2.22)	(1.34)	(0.56)
post CA law	0.230***	0.253***	0.022**	0.015	0.209***	0.238***	0.189***	0.214***	0.020***	0.025**
	(19.73)	(10.85)	(2.18)	(1.06)	(16.24)	(9.60)	(15.07)	(9.47)	(3.64)	(2.64)
CA HQ	0.006		0.033**		-0.028***		-0.028***		0.000	
	(0.27)		(2.18)		(-3.09)		(-3.06)		(0.01)	
Constant	0.181***		0.071***		0.111***		0.081***		0.029***	
	(17.19)		(10.28)		(11.91)		(10.42)		(11.98)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.06	0.06	0.01	0.06	0.06	0.05	0.06	0.04	0.00	0.00
N	8,578	8,049	8,578	8,049	8,578	8,049	8,578	8,049	8,578	8,049

Table 6: The impact of the NYSE Board Advisory Council on minority director appointments

The table displays regression results from linear probability models predicting the race/ethnicity of director appointments. The sample includes all director appointments from the first quarter of 2018 through November of 2020 of NYSE and Nasdaq-listed firms operating and incorporated in the United States that existed at the end of 2017 and have data available on the racial diversity of its board. The sample is summarized in Table 3. The Table provides estimates of difference-in-difference equation 2, estimating the impact of the introduction of the NYSE board advisory council on the propensity to appoint racially diverse directors. "no minority dir" is a dummy variable indicating if the firm had no minority directors at the end of 2017. Firm-level fixed effects are included where indicated. Regressions in even columns also include controls for other confounding events. For example, even columns include "post NYSE" interacted with 'CA HQ" to remove the effects of the California law. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post NYSE × NYSE × no minority dir	-0.016	-0.027	-0.013	-0.036	-0.003	0.009	0.009	0.014	-0.013	-0.006
	(-0.38)	(-0.51)	(-0.53)	(-1.21)	(-0.08)	(0.16)	(0.24)	(0.29)	(-0.92)	(-0.28)
post NYSE × no minority dir	0.027	0.043	0.016	0.024	0.011	0.019	0.010	0.014	0.001	0.005
	(1.36)	(1.39)	(0.98)	(1.18)	(0.43)	(0.61)	(0.39)	(0.46)	(0.14)	(0.48)
post NYSE × NYSE	-0.029	-0.022	-0.029**	-0.016	-0.000	-0.006	-0.012	-0.023	0.012	0.017
	(-1.06)	(-0.56)	(-2.13)	(-1.00)	(-0.01)	(-0.17)	(-0.46)	(-0.71)	(1.04)	(1.10)
post NYSE	0.057***	0.067**	0.015	0.011	0.042**	0.056**	0.043**	0.053**	-0.000	0.003
	(3.68)	(2.40)	(1.24)	(0.87)	(2.20)	(2.10)	(2.55)	(2.47)	(-0.05)	(0.35)
NYSE × no minority dir	0.018		0.047**		-0.029		-0.030		0.001	
	(0.60)		(2.32)		(-1.12)		(-1.39)		(0.05)	
NYSE	0.038**		-0.027**		0.065***		0.060***		0.005	
	(2.39)		(-2.18)		(5.19)		(5.87)		(0.74)	
no minority dir	-0.067***		-0.058***		-0.009		-0.002		-0.007	
	(-4.70)		(-6.86)		(-0.82)		(-0.22)		(-1.04)	
Constant	0.176***		0.104***		0.072***		0.043***		0.029***	
	(17.56)		(11.86)		(10.66)		(8.37)		(6.08)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.01	0.02	0.01	0.05	0.01	0.00	0.01	-0.00	0.00	-0.01
N	6,852	6,175	6,852	6,175	6,852	6,175	6,852	6,175	6,852	6,175

Table 7: The impact of the Nasdaq board diversity rule on minority director appointments

The table displays regression results from linear probability models predicting the race/ethnicity of director appointments. The sample includes all director appointments from the first quarter of 2018 through the third quarter of 2021 of NYSE and Nasdaq-listed firms operating and incorporated in the United States that existed at the end of 2017 and have data available on the racial diversity of its board. The sample is summarized in Table 3. The Table provides estimates of the triple difference equation, equation 2, estimating the impact of the Nasdaq board diversity rule on the propensity to appoint racially diverse directors. "noncompliant Nasdaq" firms are those with board structure that did not comply with the Nasdaq rule as of the end of 2017. Firm-level fixed effects are included where indicated. Regressions in even columns also include controls for other confounding events. For example, even columns include "post Nasdaq" interacted with 'CA HQ" to remove the effects of the California law. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

	Minority		NURM		URM		Black		URM, non-black	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
post Nasdaq × Nasdaq × noncompliant Nasdaq	-0.013	-0.045	0.016	-0.025	-0.029	-0.020	-0.026	-0.026	-0.003	0.006
	(-0.24)	(-0.71)	(0.41)	(-0.51)	(-0.52)	(-0.30)	(-0.47)	(-0.42)	(-0.14)	(0.26)
post Nasdaq × noncompliant Nasdaq	0.119***	0.137***	0.030	0.036	0.089**	0.101*	0.078*	0.094*	0.011	0.007
	(3.25)	(2.91)	(1.21)	(1.22)	(2.04)	(1.83)	(1.91)	(1.77)	(0.56)	(0.34)
post Nasdaq × Nasdaq	-0.020	-0.031	0.028	0.023	-0.048	-0.054	-0.061*	-0.062	0.013	0.008
	(-0.63)	(-0.78)	(1.21)	(0.82)	(-1.56)	(-1.54)	(-1.98)	(-1.64)	(1.02)	(0.46)
post Nasdaq	0.202***	0.211***	0.020	0.011	0.182***	0.200***	0.168***	0.180***	0.015	0.020*
	(8.01)	(7.04)	(1.08)	(0.53)	(7.42)	(6.04)	(7.76)	(6.02)	(1.51)	(1.77)
Nasdaq × noncompliant Nasdaq	0.012		-0.032**		0.043**		0.035**		0.008	
	(0.55)		(-2.02)		(2.40)		(2.53)		(0.99)	
Nasdaq	-0.037**		0.034***		-0.071***		-0.058***		-0.013**	
	(-2.33)		(3.47)		(-4.86)		(-5.23)		(-2.20)	
noncompliant Nasdaq	-0.043**		-0.009		-0.034**		-0.023*		-0.011	
	(-2.56)		(-0.77)		(-2.43)		(-1.97)		(-1.54)	
Constant	0.227***		0.069***		0.157***		0.118***		0.039***	
	(23.26)		(11.77)		(15.84)		(13.65)		(10.48)	
Firm FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Adj-R-squared	0.05	0.05	0.01	0.06	0.05	0.04	0.05	0.03	0.00	0.00
N	8,579	8,049	8,579	8,049	8,579	8,049	8,579	8,049	8,579	8,049

Table 8: Changes in qualifications of minority directors around minority director demand shocks

The table displays regression results from ordinary least squares regressions predicting characteristics and qualifications of appointed directors. The sample follows that described in Table 4 and summary statistics of the director characteristics and qualifications are found in Table 3. Panel A provides estimates of $\beta_{P,d}$ from equation 5, which is an estimate of the change in characteristic of black directors after the acceleration of the racial justice movement. Panels B and C provide estimates of $\beta_{P,T,d}$ from equation 4, which is an estimate of the change in the characteristics of minority directors at treated firms after the California law (Panel B) or the Nasdaq rule (Panel C). All regressions include firm-level control variables and industry and CBSA by state fixed effects. Firm-level control variables are measured at the of 2017 and include: white (%), male (%), board size, ln(assets), ROA, leverage, cash to assets, R&D to assets, and market-to-book. Also included are controls for other confounding events. For example, models in Panel A include "post Floyd" interacted with "Nasdaq" and also with "CA HQ" to remove the effects of the California law and the Nasdaq rule. Panel B includes an interaction term between "post CA bill" and "Nasdaq" and Panel C includes an interaction between "post Nasdaq" and "CA HQ." T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Racial justice movement

	post Floyd × black	post Floyd	black	N	Adj-R-squared
age	0.006	-0.353	-0.037	8,345	0.028
	(0.01)	(-1.08)	(-0.06)		
boards	-0.123**	-0.029	0.084*	8,503	0.072
	(-2.26)	(-0.73)	(1.68)		
mba	-0.008	0.006	0.033	6,605	0.016
	(-0.24)	(0.27)	(1.22)		
jd	0.010	-0.010	0.091***	6,605	0.015
	(0.44)	(-0.71)	(5.91)		
phd	0.015	-0.014	-0.010	6,605	0.016
	(0.97)	(-1.61)	(-0.97)		
skills	-0.185	-0.807***	-0.199	4,012	0.200
	(-0.82)	(-5.04)	(-1.29)		
ceo	-0.060	-0.013	-0.168***	4,012	0.047
	(-1.03)	(-0.54)	(-4.26)		
cfo	-0.020	0.007	-0.056***	4,012	0.000
	(-0.52)	(0.26)	(-2.58)		
international	-0.042	-0.051**	-0.034	4,012	0.128
	(-0.74)	(-2.19)	(-1.07)		
industry	-0.034	-0.043	-0.138***	4,012	0.084
	(-0.81)	(-1.59)	(-4.44)		
financial	-0.037	-0.023	-0.058**	4,012	0.074
	(-0.91)	(-0.88)	(-1.98)		
tech	0.073*	-0.104***	-0.056*	4,012	0.113
	(1.73)	(-3.70)	(-1.78)		
government	-0.021	0.009	0.094***	4,012	0.043
	(-0.60)	(0.58)	(3.60)		
strategy	-0.032	-0.041	0.015	4,012	0.085
	(-0.61)	(-1.51)	(0.47)		
operations	0.029	-0.069***	-0.062**	4,012	0.054
	(0.73)	(-3.15)	(-2.01)		
mergers	-0.067	-0.018	0.031	4,012	0.066
	(-1.60)	(-0.67)	(0.98)		

Panel B: California board diversity law

	post CA law × CA HQ × minority	N	Adj-R-squared
age	-0.722 (-0.59)	8,345	0.039
boards	0.178 (1.47)	8,503	0.074
mba	0.036 (0.53)	6,605	0.018
jd	0.060 (1.56)	6,605	0.006
phd	0.047 (0.91)	6,605	0.018
skills	-0.137 (-0.25)	4,012	0.194
ceo	0.028 (0.24)	4,012	0.044
cfo	0.040 (0.58)	4,012	0.008
international	0.045 (0.49)	4,012	0.128
industry	0.162** (2.14)	4,012	0.083
financial	-0.080 (-0.82)	4,012	0.078
tech	-0.022 (-0.19)	4,012	0.111
government	-0.030 (-0.39)	4,012	0.039
strategy	0.037 (0.42)	4,012	0.085
operations	-0.094 (-0.61)	4,012	0.056
mergers	-0.107* (-1.69)	4,012	0.066

Panel B: Nasdaq board diversity rule

	post Nasdaq × Nasdaq × minority	N	Adj-R-squared
age	0.777 (0.80)	8,345	0.039
boards	0.243** (2.26)	8,503	0.074
mba	0.054 (0.80)	6,605	0.017
jd	-0.043 (-1.01)	6,605	0.007
phd	0.087* (1.90)	6,605	0.019
skills	0.591 (1.30)	4,012	0.193
ceo	0.249** (2.35)	4,012	0.044
cfo	0.051 (0.81)	4,012	0.008
international	-0.085 (-1.07)	4,012	0.129
industry	0.120 (1.47)	4,012	0.081
financial	0.114 (1.26)	4,012	0.077
tech	0.055 (0.67)	4,012	0.110
government	0.107 (1.59)	4,012	0.040
strategy	-0.038 (-0.35)	4,012	0.084
operations	-0.109 (-1.07)	4,012	0.055
mergers	0.095 (1.27)	4,012	0.066

Table 9: Announcement returns to George Floyd's murder

The table displays OLS estimates from cross sectional regressions of abnormal stock market returns on the first trading day after the murder of George Floyd on board racial composition (May 26, 2020). The sample includes all common stocks (CRSP share classes 11, 12, and 31) listed on the NYSE and NASDAQ with nominal share price above $5. "No black dir" indicates whether the firm has no black directors on the board as of 3/31/2020. The dependent variable is the abnormal stock return adjusted using the CAPM. Dependent variables are winsorized at the 0.5 and 99.5 percentiles to remove the effects of outliers. Estimating of the factor loadings to create these measures is dicussed in Section 5.2 of the text. Control variables are defined in Section 2.3. Industry fixed effects, defined by 2-digit SIC codes, and state fixed effects, are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

	CAPM-adj.				Raw ret.	FF3-adj.	FF4-adj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
no black dir	-1.009***	-0.612***	-0.246	-0.203	-0.170	0.165	0.204
	(-3.42)	(-2.76)	(-1.33)	(-1.10)	(-0.89)	(0.97)	(1.18)
board size			0.176***	0.180***	0.179***	0.066	0.053
			(3.70)	(3.61)	(3.63)	(1.45)	(1.26)
ln(market cap)			-0.105	-0.097	0.003	0.063	0.045
			(-1.05)	(-0.95)	(0.03)	(0.90)	(0.70)
ROA			-4.032**	-4.002**	-3.392*	-2.353	-2.003
			(-2.42)	(-2.31)	(-1.94)	(-1.26)	(-1.07)
leverage			1.112**	1.095**	1.336***	0.085	-0.117
			(2.27)	(2.22)	(2.66)	(0.28)	(-0.37)
cash to assets			-2.988***	-2.619***	-2.416***	-0.363	-0.804
			(-8.65)	(-6.98)	(-5.48)	(-0.63)	(-1.53)
R&D to assets			-1.965	-1.075	-0.473	1.896	0.847
			(-0.85)	(-0.44)	(-0.19)	(0.65)	(0.30)
market-to-book			-0.420***	-0.412***	-0.411***	-0.089*	-0.025
			(-7.53)	(-7.49)	(-7.40)	(-1.75)	(-0.50)
Constant	2.559***	2.272***	2.207***	1.976***	2.349***	-0.664	-0.395
	(5.29)	(14.04)	(4.25)	(3.97)	(4.72)	(-1.29)	(-0.74)
Indus. FE	No	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	.0082	.11	.18	.18	.18	.054	.08
N	3,260	3,256	3,256	3,256	3,256	3,256	3,256

Table 10: Announcement returns to the California board diversity law

The table displays OLS estimates from cross sectional regressions of abnormal stock market returns on the day when California Assembly Bill No. 979 (the California board diversity bill) was first read (February 21, 2019) on the degree to which firms comply with the rule and are subject to the rule. The sample is outlined in Table A.3. Compliance with the rule is reflected in Panels A and B by the indicator variable "noncompliant CA" which indicates if the firm needs to add at least one minority director to become compliant with the rule. The dependent variable in columns 1 through 3 is the abnormal stock return adjusted using the CAPM. In columns 5, 6, and 7, the dependent variables are raw stock returns, abnormal stock returns adjusted using the Fama-French 3 factor model, and abnormal stock returns adjusted using the Fama-French 3 factor model plus the momentum factor. Dependent variables are winsorized at the 0.5 and 99.5 percentiles to remove the effects of outliers. Estimating of the factor loadings to create these measures is discussed in Section 5.2 of the text. Control variables are defined in Section 2.3. Industry fixed effects, defined by 2-digit SIC codes, and headquarter state fixed effects are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

	CAPM-adj.				Raw ret.	FF3-adj.	FF4-adj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
noncompliant CA × CA HQ	0.510**	0.671***	0.664***	0.666***	0.673***	0.651***	0.643***
	(2.39)	(3.51)	(3.60)	(3.49)	(3.42)	(3.54)	(3.52)
noncompliant CA	-0.200	-0.267*	-0.217	-0.239	-0.229	-0.269	-0.262
	(-1.35)	(-1.93)	(-1.37)	(-1.52)	(-1.47)	(-1.65)	(-1.62)
CA HQ	-0.706***	-0.693***	-0.596***				
	(-3.17)	(-3.59)	(-3.08)				
board size			-0.010	-0.004	-0.011	-0.019	-0.020
			(-0.54)	(-0.18)	(-0.54)	(-0.90)	(-0.93)
ln(market cap)			0.172***	0.154***	0.185***	0.201***	0.202***
			(4.57)	(4.43)	(4.81)	(6.55)	(6.54)
ROA			-1.552**	-1.630**	-1.016	-1.307*	-1.258*
			(-2.09)	(-2.33)	(-1.45)	(-1.84)	(-1.76)
leverage			0.020	-0.005	-0.027	-0.041	-0.057
			(0.09)	(-0.02)	(-0.11)	(-0.19)	(-0.25)
cash to assets			-0.470	-0.570*	-0.519	-0.394	-0.391
			(-1.35)	(-1.67)	(-1.57)	(-1.23)	(-1.22)
R&D to assets			-3.956**	-4.227**	-3.896**	-4.647**	-4.597**
			(-2.10)	(-2.32)	(-2.12)	(-2.53)	(-2.51)
market-to-book			-0.053	-0.038	-0.005	0.022	0.024
			(-1.46)	(-1.07)	(-0.14)	(0.58)	(0.64)
Constant	0.243						
	(1.63)						
Indus. FE	No	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes	Yes
Controls	0.00	0.02	0.03	0.03	0.04	0.03	0.03
Adj-R-squared	3,123	3,118	3,118	3,117	3,117	3,117	3,117

Table 11: Announcement returns to the NASDAQ board diversity rule

The table displays OLS estimates from cross sectional regressions of abnormal stock market returns on the announcement day of the NASDAQ board diversity rule proposal (December 1, 2020) on the degree to which firms comply with the rule and are subject to the rule. The sample includes all common stocks of firms incorporated in the U.S. (CRSP share class 11) and headquartered in the U.S., outside of California that are listed on the NYSE and NASDAQ. All NASDAQ-listed firms are covered by the rule, therefore the indicator variable, "NASDAQ" is one if the firm is listed on the NASDAQ. Compliance with the rule is indicated in Panel A by the indicator variables "Add non-white dir." and "Add female dir." which indicate if the firm would become compliant with the rule if it added a non-white or female directors to the board, respectively. Board composition is measured as of 9/30/2020. The dependent variable in columns 1 through 4 is the abnormal stock return adjusted using the CAPM. In columns 5–7, the dependent variables are raw stock returns, abnormal stock returns adjusted using the Fama-French 3 factor model, and abnormal stock returns adjusted using the Fama-French 3 factor model plus the momentum factor. Dependent variables are winsorized at the 0.5 and 99.5 percentiles to remove the effects of outliers. Estimating of the factor loadings to create these measures is discussed in Section 5.2 of the text. Control variables are defined in Section 2.3. Industry fixed effects, defined by 2-digit SIC codes, and state fixed effects are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

	CAPM-adj.				Raw ret.	FF3-adj.	FF4-adj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
noncompliant Nasdaq race × Nasdaq	-0.069	-0.407*	-0.487*	-0.482*	-0.558**	-0.544**	-0.543**
	(-0.25)	(-1.76)	(-1.93)	(-1.83)	(-2.07)	(-2.02)	(-2.00)
noncompliant Nasdaq gender × Nasdaq	0.055	0.391	0.422	0.514	0.542	0.464	0.471
	(0.07)	(0.47)	(0.53)	(0.66)	(0.70)	(0.58)	(0.59)
noncompliant Nasdaq race	0.050	0.359*	0.528**	0.521**	0.558***	0.595***	0.603***
	(0.22)	(1.95)	(2.65)	(2.53)	(2.66)	(2.88)	(2.92)
noncompliant Nasdaq gender	-0.798	-0.963	-0.603	-0.608	-0.766	-0.640	-0.649
	(-1.12)	(-1.24)	(-0.78)	(-0.81)	(-1.02)	(-0.83)	(-0.84)
Nasdaq	-0.442***	-0.235	0.010	0.040	0.030	0.172	0.182
	(-2.69)	(-1.60)	(0.06)	(0.23)	(0.15)	(0.95)	(1.01)
board size			0.107**	0.105**	0.102**	0.094**	0.093**
			(2.46)	(2.40)	(2.35)	(2.27)	(2.25)
ln(market cap)			0.029	0.040	0.082	0.034	0.037
			(0.55)	(0.73)	(1.37)	(0.66)	(0.73)
ROA			0.127	-0.069	0.174	0.254	0.469
			(0.14)	(-0.07)	(0.16)	(0.27)	(0.50)
leverage			-0.201	-0.087	0.147	-0.099	-0.139
			(-0.76)	(-0.32)	(0.51)	(-0.34)	(-0.48)
cash to assets			-1.189**	-1.148*	-1.033*	-0.761	-0.769
			(-2.22)	(-1.91)	(-1.84)	(-1.39)	(-1.38)
R&D to assets			2.491	2.584	2.478	3.651	3.542
			(0.52)	(0.51)	(0.47)	(0.75)	(0.72)
market-to-book			-0.091**	-0.092**	-0.081**	-0.068*	-0.062
			(-2.52)	(-2.40)	(-2.01)	(-1.77)	(-1.65)
Constant	0.084						
	(0.63)						
Indus. FE	No	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes	Yes
Adj-R-squared	0.01	0.04	0.06	0.06	0.06	0.04	0.04
N	2,513	2,509	2,504	2,504	2,504	2,504	2,504

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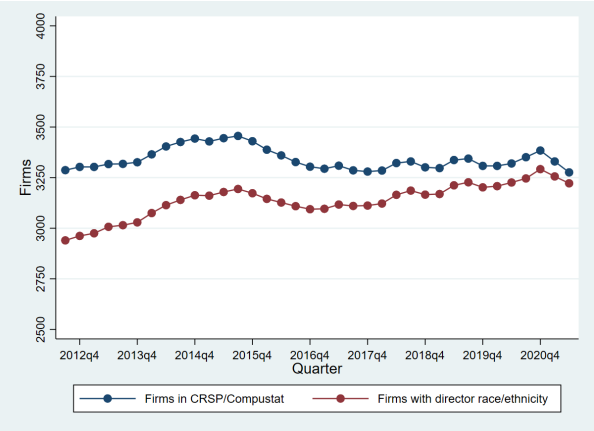
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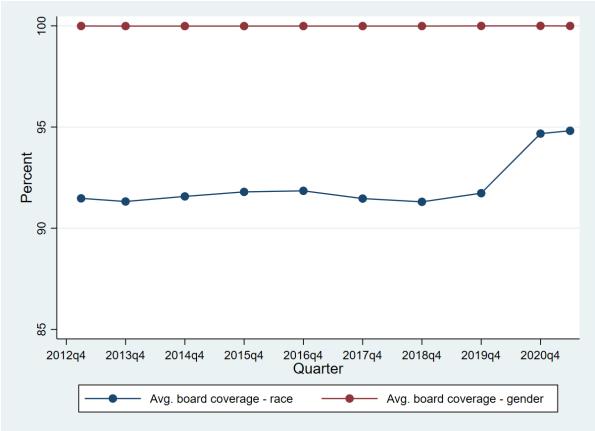
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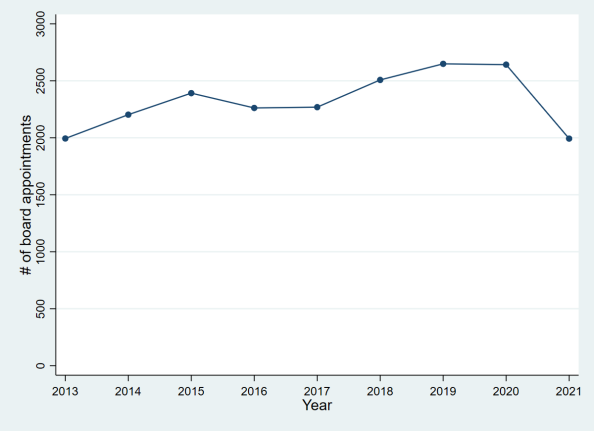
Appendix



(a) CRSP/Compustat firms



(b) Coverage of race/ethnicity and gender



(c) Number of board appointments

Fig. A.1: Firm board composition and sample construction

The figures above illustrate the sample construction used in the study. Panel (a) displays the population of firms in each quarter covered by CRSP/Compustat that are incorporated and headquartered in the U.S. and traded on either the NYSE or NASDAQ exchanges and the number of firms each quarter for which at least one director's race/ethnicity is identified in the ISS data. Panel (b) displays the average percentage of a firm's board with non-missing gender and race data during the last quarter of each year conditional on having at least one board member covered. Panel (c) shows the number of board appointments each year in the sample with non-missing race/ethnicity data. Board appointment data are through 6/30/2021.

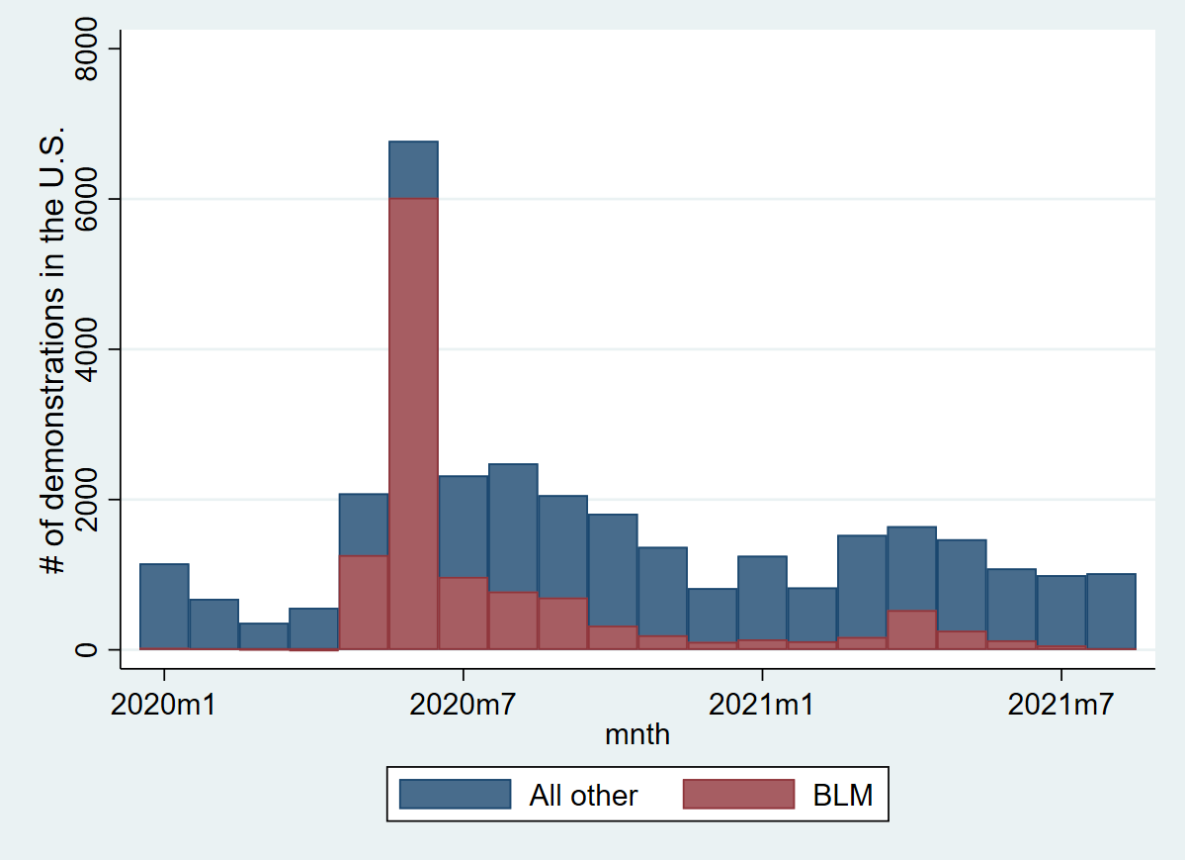
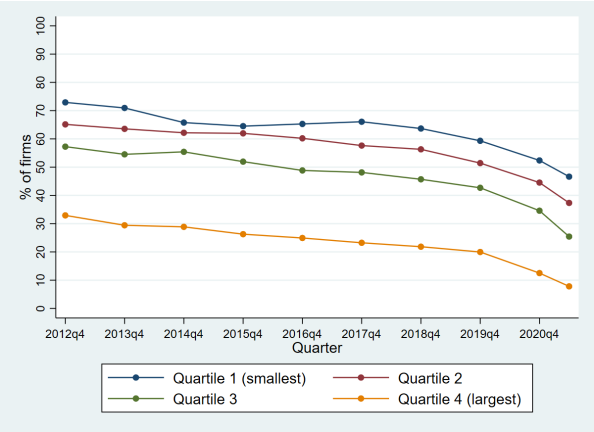
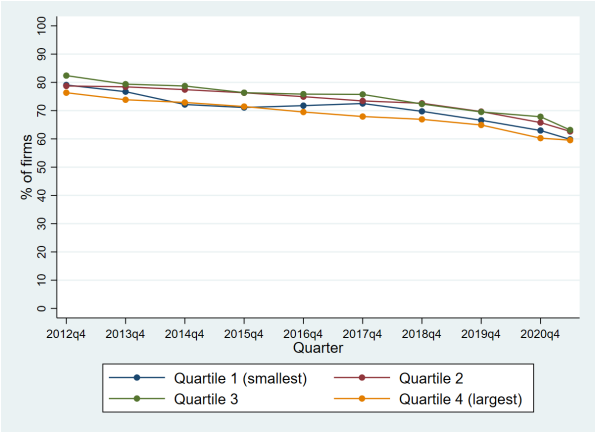


Fig. A.2: Black Lives Matter Demonstrations in the U.S.

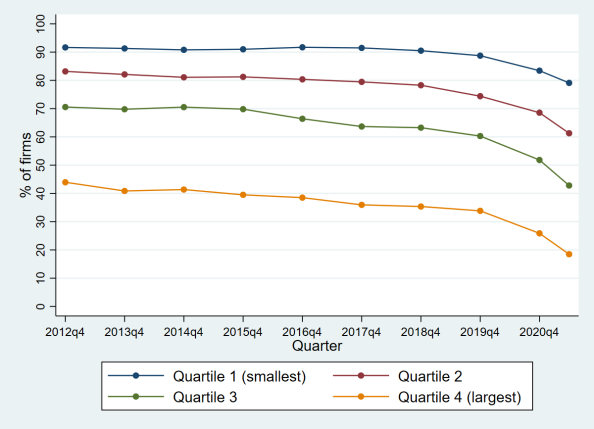
The figure shows the total number of demonstrations in the U.S. each month from January of 2020 through August of 2021 split between those affiliated with the Black Lives Matter movement and all other protests. Data on demonstrations are from the Armed Conflict Location & Event Data Project (ACLED); `www.acleddata.com`.



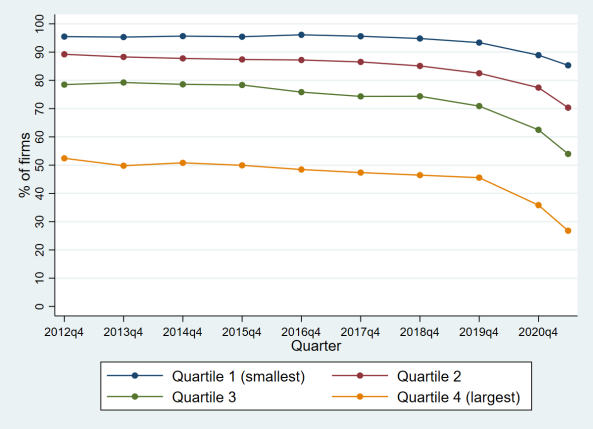
(a) No minority directors



(b) No NURM directors



(c) No URM directors



(d) No black directors

Fig. A.3: Lack of board racial diversity by firm size through time

The Figure shows the percentage of firms in each size quartile each year that do not have any directors directors who are minorities (a), NURMs (b), URMs (c), and African Americans (d).

Table A.1: Sample summary for the event study around George Floyd's murder

The table displays summary statistics for the sample of firms included in the George Floyd event study. The sample includes all common stocks of firms incorporated in the U.S. (CRSP share class 11) and headquartered in the U.S. outside of California that are listed on the NYSE and NASDAQ with non-missing control variables. Firm characteristics are measured as of 3/31/2020. Return and abnormal returns are shown for the event date ($t = 0$), May 26, 2020, which is the first trading day after George Floyd was murdered. Firms most affected by the event are reflected in Panel B by the indicator variable "no black dir" which indicates if the firm has no black directors on its board. Panel B displays OLS estimates from cross sectional regressions of firm characteristics no black dir. Variables are defined in Section 2.3. Industry fixed effects, defined by 2-digit SIC codes, and state fixed effects are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Summary statistics

	Mean	Median	Std	5th	95th	N
no black dir	0.730	1.000	0.444	0.000	1.000	3,279
board size	8.798	9.000	2.568	5.000	13.000	3,282
ln(market cap)	6.397	6.331	2.262	2.739	10.231	3,282
ROA	-0.037	0.000	0.104	-0.233	0.039	3,279
leverage	0.294	0.247	0.260	0.003	0.767	3,282
cash to assets	0.229	0.112	0.263	0.009	0.859	3,282
R&D to assets	0.020	0.000	0.047	0.000	0.108	3,282
market-to-book	1.978	1.223	1.951	0.696	5.740	3,282
Raw return (% day 0)	2.943	2.705	4.901	-4.403	10.971	3,282
CAPM-adjusted abnormal return (% day 0)	1.802	1.593	4.854	-5.633	9.731	3,282
FF3-adjusted abormal return (% day 0)	0.311	0.270	4.573	-6.993	7.214	3,282
FF4-adjusted abormal return (% day 0)	0.313	0.388	4.645	-7.479	7.340	3,282

Panel B: Differences in characteristics of treatment and control groups

	(1) board size	(2) ln(market cap)	(3) ROA	(4) leverage	(5) cash to assets	(6) R&D to assets	(7) market-to-book
no black dir	-1.883***	-1.679***	-0.017***	-0.052***	0.049***	0.006***	0.016
	(-11.93)	(-10.58)	(-2.92)	(-4.94)	(3.88)	(2.76)	(0.30)
Constant	10.178***	7.630***	-0.024***	0.333***	0.192***	0.016***	1.967***
	(88.26)	(65.82)	(-5.76)	(43.23)	(20.59)	(9.63)	(51.36)
Indus. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	0.27	0.20	0.13	0.18	0.32	0.20	0.11
N	3,259	3,259	3,256	3,259	3,259	3,259	3,259

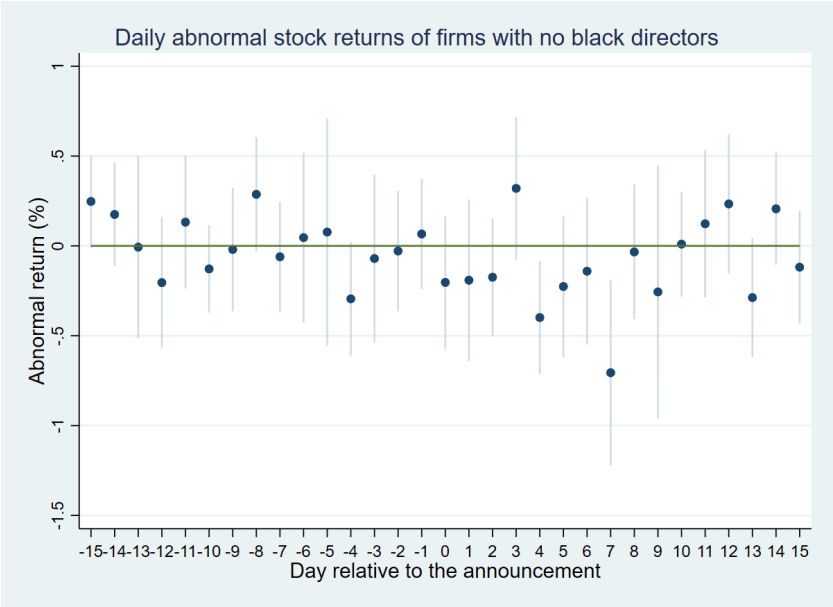


Fig. A.4: Abnormal daily returns of firms without black directors around George Floyd's murder

The figures show the estimated average abnormal daily returns each day relative to the first trading day after the murder of George Floyd (May 26, 2020) of firms without black directors. The figure plots the coefficient estimates and their 95% confidence intervals on "no black director" from cross sectional regressions of abnormal returns on day t following the model and sample used in the regressions estimated in Table 9, column 4. Abnormal returns are calculated using the CAPM. Confidence intervals are based on robust standard errors clustered by industry, where industry is measured by two-digit SIC codes.

Table A.2: Announcement returns to George Floyd's murder - robustness

The table displays OLS estimates from cross sectional regressions of abnormal stock market returns on the first trading day after the murder of George Floyd on various measures of the share of black directors on board (May 26, 2020). The models estimated follow those in Table 9. Regressions in Panel A, use the model from column 4 of Table 9, but restrict the sample based on nominal price filters as indicated. Panels B and C use alternative measures of the share of black directors; "black (%)" and "black (#)," respectively, which indicate how many black directors a firm has on board, scaled by board size and raw number, respectively. The dependent variable is the abnormal stock return adjusted using the CAPM on the event day. TIndustry fixed effects, defined by 2-digit SIC codes, and state fixed effects, are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Price filter

	(1) P>1	(2) P>2	(3) P>3	(4) P>4	(5) P>5
no black dir	-0.198	-0.209	-0.035	0.032	0.054
	(-1.02)	(-1.14)	(-0.20)	(0.18)	(0.32)
Indus. FE	No	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes
Adj-R-squared	0.20	0.22	0.24	0.25	0.26
N	3,072	2,885	2,720	2,613	2,517

Panel B: % of black directors

	CAPM-adj.				Raw ret.	FF3-adj.	FF4-adj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
black (%)	4.709***	2.948**	1.613*	1.393	1.185	-0.369	-0.780
	(3.69)	(2.32)	(1.72)	(1.39)	(1.13)	(-0.39)	(-0.81)
Constant	1.649***	1.716***	1.917***	1.738***	2.151***	-0.447	-0.136
	(4.34)	(36.72)	(3.68)	(3.48)	(4.22)	(-1.02)	(-0.31)
Indus. FE	No	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes	Yes
Controls	0.00	0.10	0.18	0.18	0.18	0.05	0.08
Adj-R-squared	3,260	3,256	3,256	3,256	3,256	3,256	3,256

Panel C: # of black directors

	CAPM-adj.				Raw ret.	FF3-adj.	FF4-adj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
black (#)	0.629***	0.378***	0.172	0.151	0.117	-0.007	-0.053
	(3.32)	(2.70)	(1.54)	(1.31)	(0.96)	(-0.07)	(-0.54)
Constant	1.598***	1.689***	1.952***	1.768***	2.165***	-0.429	-0.140
	(4.26)	(34.23)	(3.93)	(3.69)	(4.44)	(-0.99)	(-0.32)
Indus. FE	No	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	.0073	.11	.18	.18	.18	.053	.08
N	3,263	3,259	3,259	3,259	3,259	3,259	3,259

Table A.3: Sample summary for the California diversity rule event study

The table displays summary statistics for the sample of firms included in the California diversity rule event study. The sample includes all common stocks of firms incorporated in the U.S. (CRSP share class 11) and headquartered in the U.S., that are listed on the NYSE and NASDAQ with non-missing control variables. Firm characteristics are measured as of 12/31/2018. Return and abnormal returns are shown for the event date ($t = 0$), February 21, 2019, which is when California Assembly Bill No. 979 was first read. All California-headquartered firms are covered by the rule, therefore the indicator variable, "CA HQ" is one if the firm is headquartered in California. Compliance with the rule is reflected in Panel B by the indicator variable "Add non-white dir." which indicates if the firm needs to add at least one non-white director to become compliant with the rule. Panel B displays OLS estimates from cross sectional regressions of firm characteristics on Add non-white dir. interacted with CA HQ. Variables are defined in Section 2.3. Industry fixed effects, defined by 2-digit SIC codes, are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Summary statistics

	Mean	Median	Std	5th	95th	N
noncompliant CA	0.882	1.000	0.323	0.000	1.000	3,131
noncompliant CA - CA HQ	0.816	1.000	0.388	0.000	1.000	565
noncompliant CA - non-CA HQ	0.896	1.000	0.305	0.000	1.000	2,566
CA HQ	0.180	0.000	0.385	0.000	1.000	3,131
board size	8.748	9.000	2.529	5.000	13.000	3,131
ln(market cap)	6.722	6.754	2.141	3.068	10.360	3,131
ROA	-0.022	0.004	0.103	-0.212	0.050	3,131
leverage	0.241	0.184	0.244	0.000	0.698	3,131
cash to assets	0.221	0.093	0.271	0.006	0.885	3,131
R&D to assets	0.021	0.000	0.047	0.000	0.110	3,131
market-to-book	2.083	1.362	1.906	0.791	5.685	3,131
Raw return (% day 0)	0.166	0.287	2.787	-4.225	3.801	3,131
CAPM-adjusted abnormal return (% day 0)	0.014	0.114	2.781	-4.244	3.697	3,131
FF3-adjusted abormal return (% day 0)	-0.277	-0.116	2.766	-4.631	3.342	3,131
FF4-adjusted abormal return (% day 0)	-0.281	-0.117	2.769	-4.648	3.319	3,131

Panel B: Differences in characteristics of treatment and control groups

	(1) board size	(2) ln(market cap)	(3) ROA	(4) leverage	(5) cash to assets	(6) R&D to assets	(7) market-to-book
noncompliant CA × CA HQ	0.199	0.216	-0.025	0.031	0.007	0.013***	0.259
	(0.58)	(0.82)	(-1.64)	(1.19)	(0.25)	(2.67)	(1.47)
noncompliant CA	-0.191	-0.464**	0.012*	-0.005	-0.023	-0.008*	-0.066
	(-0.70)	(-2.40)	(1.72)	(-0.40)	(-1.37)	(-1.85)	(-0.34)
Indus. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	.18	.12	.11	.13	.33	.2	.12
N	3,117	3,117	3,117	3,117	3,117	3,117	3,117

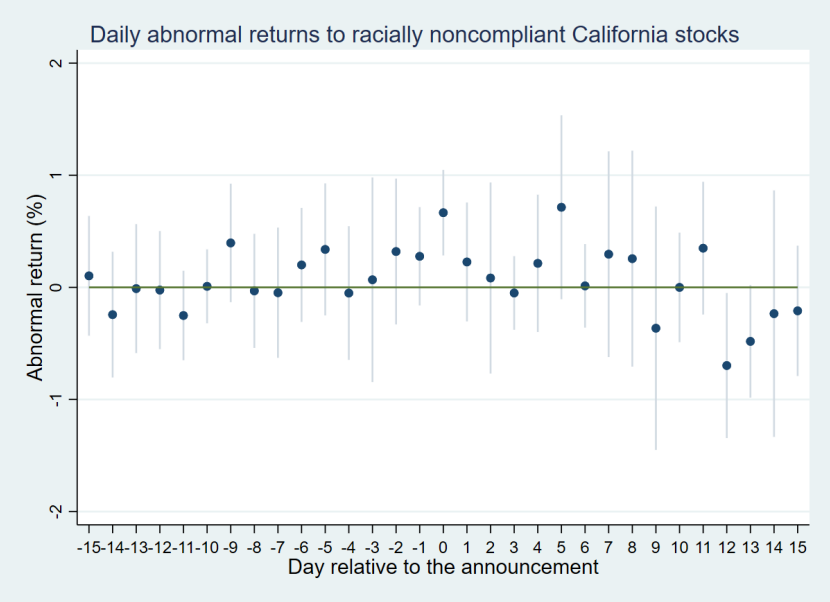


Fig. A.5: Abnormal daily returns of noncompliant California-based firms around the the California board diversity bill

The figure shows the estimated average abnormal daily returns each day relative to the date when the California Assembly Bill No. 979 was first read (Feb. 21, 2019) of California-headquartered firms that do not meet the requirements on the dimension of race. The figure plots the coefficient estimates and their 95% confidence intervals on "Add non-white dir. $\times$ CA HQ" from cross sectional regressions of abnormal returns on day t following the model and sample used in the regressions estimated in Table 10, Panel A, column 4. Abnormal returns are calculated using the CAPM model. Confidence intervals are based on robust standard errors clustered by industry, where industry is measured by two-digit SIC codes.

Table A.4: Announcement returns to the California board diversity bill - Robustness

Panel A of the table examines the robustness of the announcement return regressions estimated in Table 10 to filtering the sample based on different levels of nominal share price. Specifications follow those in column 4 of Panel A of Table 10. Columns 1 through 5 include price filters of $1, $2, $3, and $4, and $5, respectively. In Panel B, compliance with the rule is reflected by the variable "Gap" which reflects the number of minority directors that a firm needs to add to the board in order to become compliant with the bill. The model specifications include industry and state fixed effects and the control variables included in Table 10. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Price filter

	(1) P>1	(2) P>2	(3) P>3	(4) P>4	(5) P>5
noncompliant CA × CA HQ	0.560**	0.302	0.352	0.379	0.319*
	(2.21)	(1.25)	(1.17)	(1.36)	(1.88)
noncompliant CA	-0.210	-0.183	-0.195	-0.237	-0.121
	(-1.34)	(-1.08)	(-1.09)	(-1.30)	(-0.97)
Indus. FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	.032	.029	.026	.032	.036
N	3,017	2,884	2,767	2,662	2,577

Panel B: Alternative continuous specification

	CAPM-adj.				Raw ret.	FF3-adj.	FF4-adj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
noncompliance gap × CA HQ	0.001	0.096	0.107	0.110	0.110	0.088	0.084
	(0.01)	(0.77)	(0.82)	(0.82)	(0.82)	(0.67)	(0.65)
noncompliance gap	0.042	-0.002	0.018	-0.000	0.006	-0.008	-0.006
	(0.84)	(-0.03)	(0.31)	(-0.01)	(0.11)	(-0.13)	(-0.09)
CA HQ	-0.311	-0.307	-0.227				
	(-1.33)	(-1.57)	(-1.01)				
Constant	-0.002						
	(-0.02)						
Indus. FE	No	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	No	Yes	Yes	Yes	Yes
Controls	No	No	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	.0012	.015	.032	.032	.035	.029	.029
N	3,025	3,020	3,020	3,019	3,019	3,019	3,019

Table A.5: Sample summary for the Nasdaq board diversity rule event study

The table displays summary statistics for the sample of firms included in the Nasdaq diversity rule event study. The sample includes all common stocks of firms incorporated in the U.S. (CRSP share class 11) and headquartered in the U.S. outside of California that are listed on the NYSE and NASDAQ with non-missing control variables. Firm characteristics are measured as of 9/30/2020. Return and abnormal returns are shown for the event date ($t = 0$), December 1, 2020, which is when the Nasdaq diversity rule proposal was first announced. All Nasdaq-listed firms are covered by the rule, therefore the indicator variable, "Nasdaq" is one if the firm is listed on the Nasdaq. Compliance with the rule is reflected in Panel B by the indicator variable "noncompliant Nasdaq race" which indicates if adding at least one non-white director to the board would make the firm compliant with the rule. Panel B displays OLS estimates from cross sectional regressions of firm characteristics on noncompliant Nasdaq race interacted with Nasdaq. Variables are defined in Section 2.3. Industry fixed effects, defined by 2-digit SIC codes, and state fixed effects are included where indicated. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $\leq 1\%$ are indicated by *, **, and ***, respectively.

Panel A: Summary statistics

	Mean	Median	Std	5th	95th	N
noncompliant Nasdaq race	0.403	0.000	0.491	0.000	1.000	2,526
noncompliant Nasdaq race - NASDAQ	0.494	0.000	0.500	0.000	1.000	1,535
noncompliant Nasdaq race - NYSE	0.261	0.000	0.440	0.000	1.000	991
noncompliant Nasdaq gender	0.125	0.000	0.331	0.000	1.000	2,526
noncompliant Nasdaq gender - NASDAQ	0.183	0.000	0.387	0.000	1.000	1,535
noncompliant Nasdaq gender - NYSE	0.036	0.000	0.187	0.000	0.000	991
Nasdaq	0.608	1.000	0.488	0.000	1.000	2,526
board size	8.876	9.000	2.571	5.000	13.000	2,526
ln(market cap)	6.761	6.682	2.153	3.306	10.420	2,526
ROA	-0.016	0.003	0.081	-0.167	0.048	2,521
leverage	0.288	0.251	0.250	0.005	0.755	2,526
cash to assets	0.218	0.114	0.252	0.009	0.854	2,526
R&D to assets	0.015	0.000	0.038	0.000	0.095	2,526
market-to-book	2.084	1.293	2.128	0.798	5.858	2,526
Raw return (% day 0)	0.735	0.794	3.381	-4.824	5.319	2,526
CAPM-adjusted abnormal return (% day 0)	-0.280	-0.140	3.365	-5.792	4.131	2,526
FF3-adjusted abormal return (% day 0)	-0.256	-0.186	3.309	-5.693	4.184	2,526
FF4-adjusted abormal return (% day 0)	-0.271	-0.198	3.314	-5.646	4.145	2,526

Panel B: Differences in characteristics of treatment and control groups

	(1) board size	(2) ln(market cap)	(3) ROA	(4) leverage	(5) cash to assets	(6) R&D to assets	(7) market-to-book
noncompliant Nasdaq race × Nasdaq	0.248	0.324	-0.002	0.048***	-0.022	-0.006***	-0.008
	(0.91)	(1.34)	(-0.30)	(2.72)	(-1.39)	(-2.67)	(-0.06)
noncompliant Nasdaq gender × Nasdaq	0.447	0.384	-0.038**	0.005	0.074**	0.013**	0.031
	(0.97)	(0.93)	(-2.01)	(0.09)	(2.08)	(2.27)	(0.06)
noncompliant Nasdaq race	-1.330***	-1.236***	0.004	-0.066***	0.009	-0.001	-0.209*
	(-6.82)	(-8.33)	(1.17)	(-4.23)	(0.68)	(-0.48)	(-1.99)
noncompliant Nasdaq gender	-2.390***	-1.886***	-0.006	-0.047	0.035	0.003	0.286
	(-5.53)	(-5.31)	(-0.36)	(-0.98)	(0.99)	(1.13)	(0.72)
Nasdaq	-1.127***	-1.477***	-0.011**	-0.098***	0.067**	0.010**	0.240*
	(-5.95)	(-7.70)	(-2.03)	(-8.26)	(2.49)	(2.64)	(1.67)
Indus. FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	0.37	0.37	0.17	0.25	0.31	0.23	0.10
N	2,509	2,509	2,504	2,509	2,509	2,509	2,509

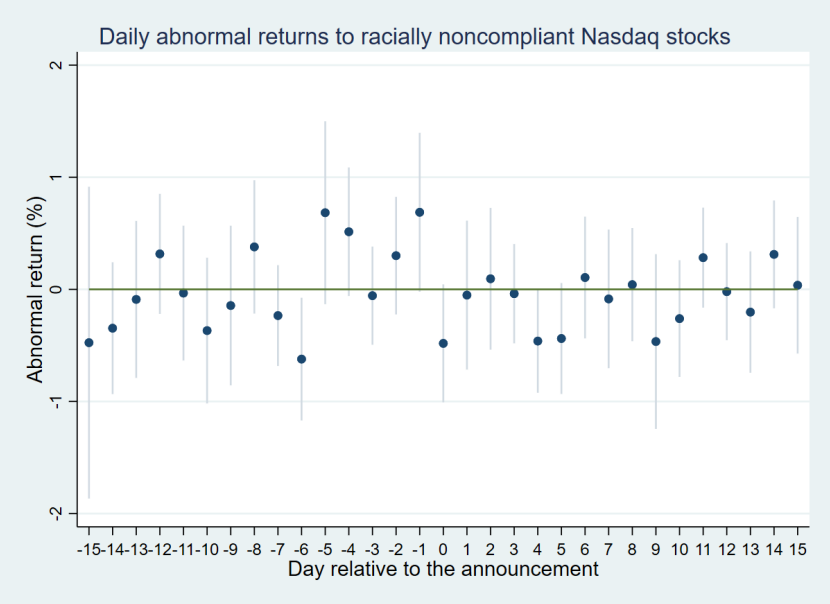


Fig. A.6: Abnormal daily returns of noncompliant Nasdaq firms around the announcement of the Nasdaq board diversity rule

The figures show the estimated average abnormal daily returns each day relative to the announcement of the NASDAQ board diversity rule (Dec. 1, 2020) of NASDAQ firms that do not meet the requirements on the dimensions of race. The figure plots the coefficient estimates and their 95% confidence intervals on "noncompliant Nasdaq race $\times$ Nasdaq" from cross sectional regressions of abnormal returns on day t following the model and sample used in the regressions estimated in Table 11, column 4. Abnormal returns are calculated using the CAPM. Confidence intervals are based on robust standard errors clustered by industry, where industry is measured by two-digit SIC codes.

Table A.6: Announcement returns to the Nasdaq board diversity rule - robustness

The table examines the robustness of the announcement return regressions estimated in Table 11 to filtering the sample based on different levels of nominal share price. Specifications follow those in column 4 of Panel A of Table 11. Columns 1 through 5 include price filters of $1, $2, $3, and $4, and $5, respectively. The model specifications include industry and state fixed effects and the control variables included in Table 11. T-statics are displayed in parentheses below the coefficient estimates and are based on robust standard errors clustered by industry. Significance levels of 10%, 5%, and $leq1\%$ are indicated by *, **, and ***, respectively.

	(1) P>1	(2) P>2	(3) P>3	(4) P>4	(5) P>5
noncompliant Nasdaq race × Nasdaq	-0.535**	-0.634**	-0.575**	-0.500**	-0.531***
	(-2.17)	(-2.52)	(-2.31)	(-2.44)	(-2.74)
noncompliant Nasdaq gender × Nasdaq	0.647	1.364*	1.306*	1.710**	1.675**
	(0.80)	(1.75)	(1.68)	(2.14)	(2.04)
noncompliant Nasdaq race	0.559***	0.501**	0.419**	0.389**	0.395**
	(2.71)	(2.43)	(2.03)	(2.12)	(2.32)
noncompliant Nasdaq gender	-0.570	-0.825	-0.848	-1.406*	-1.442*
	(-0.74)	(-1.11)	(-1.12)	(-1.80)	(-1.84)
Nasdaq	0.079	0.108	0.131	0.131	0.155
	(0.44)	(0.57)	(0.79)	(0.96)	(1.06)
Indus. FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Adj-R-squared	0.07	0.08	0.09	0.09	0.10
N	2,455	2,345	2,261	2,180	2,101