Board Diversity in Private Vs. Public Firms

Johan Cassel[a], James P. Weston[b], Emmanuel Yimfor[c]

[a] *Vanderbilt University*
[b] *Jones Graduate School of Business, Rice University, Houston, TX 77005, U.S.A.*
[c] *Columbia University*

November 27, 2023

Abstract

We test whether differences in ownership structure influence race and gender diversity in corporate boards. We find that privately-owned, venture-backed companies appoint a lower proportion of minorities and women to their boards compared to publicly traded firms. After the George Floyd Social Justice Movements of 2020, the racial diversity gap in appointments widened significantly from 7 to 30 percentage points, as private firms responded less to social and media pressure to diversify. The lack of diversity in venture-capital (VC) backed private firms is persistent and remains following firms' IPO, leading to a diversity gap between VC- and non-VC-backed public firms. We show real effects of board diversity, as companies with Black directors are more likely to hire Black employees, an effect absent for Hispanic and female directors. Our study, which uses image recognition techniques combined with extensive manual review to build the first large database of board diversity in VC-backed private firms, highlights the influence of both venture capitalists and public shareholders on board composition and its implications on employee composition.

JEL: G30, G34, J71, L26, M13, M14

Keywords: Board of Directors, Diversity, Minorities, Private Firms.

* We thank Will Gornall, Mike Ewens, Sabrina Howell, Erik Mayer, David Robinson, Heather Tookes, Thomas Boudreau, Laura Veldkamp, Antoinette Schoar, and Berk Sensoy for useful comments and suggestions. All remaining errors are our own.
Email addresses: johan.cassel@vanderbilt.edu (Johan Cassel), westonj@rice.edu (James P. Weston), eay2121@gsb.columbia.edu (Emmanuel Yimfor)

Board Diversity in Private Vs. Public Firms

Abstract

We test whether differences in ownership structure influence race and gender diversity in corporate boards. We find that privately-owned, venture-backed companies appoint a lower proportion of minorities and women to their boards compared to publicly traded firms. After the George Floyd Social Justice Movements of 2020, the racial diversity gap in appointments widened significantly from 7 to 30 percentage points, as private firms responded less to social and media pressure to diversify. The lack of diversity in venture-capital (VC) backed private firms is persistent and remains following firms' IPO, leading to a diversity gap between VC- and non-VC-backed public firms. We show real effects of board diversity, as companies with Black directors are more likely to hire Black employees, an effect absent for Hispanic and female directors. Our study, which uses image recognition techniques combined with extensive manual review to build the first large database of board diversity in VC-backed private firms, highlights the influence of both venture capitalists and public shareholders on board composition and its implications on employee composition.

JEL: G30, G34, J71, L26, M13, M14

I. Introduction

In the nexus of ownership and control, corporate boards play a central role representing shareholder interests. While many economic models consider boards as a uniform body, empirical research underscores the important value of board diversity in driving differences in monitoring behavior and firm outcomes (Adams and Ferreira, 2009; Ahern and Dittmar, 2012). Board diversity, broadly defined, may include differences in director skills, education, industry experience, along with demographics such as age, gender, and race. However, much of this research has focused on the demographic composition of public company boards, where membership and director characteristics are reported and easily observed. Given their economic significance (Asker et al., 2015), private firms offer an interesting setting to study the dynamics and challenges of board diversity, especially given their limited disclosure, visibility, and concentrated ownership structure compared with public firms.

Previous work on private-firm boards centers on the dynamics between founders and investors as a startup firm matures (Ewens and Malenko, 2022). In contrast, our paper focuses on three objectives: (1) We offer the first comprehensive description of board diversity within venture-backed privately-held companies and draw comparisons with publicly traded firms. (2) We leverage the large sociological shift triggered by the 2020 George Floyd (GF) Social Justice Movement to test whether listing status has a causal effect on how firms respond to calls for more diverse representation. We also present evidence that helps identify the potential mechanisms driving the differences in response between public and private firms. (3) We test whether and to what extent the initial endowment of board diversity persists after a firm goes public.

Our sample comprises directors appointed to private firms backed by venture capital (VC), a subset of private firms with an outsized role in innovation, job creation, and economic growth. These firms provide a closer counterfactual to public firms than do other private firms, as VCs typically select firms with the potential to go

public. Further, using GF as a natural experiment, we test whether listing status influences the response to increased calls for diverse representation. Our identifying assumption is that, were it not for the GF event, trends in board composition would have remained similar for public and private firms. There are a number of recent studies that show an increase in board diversity in response to GF for public firms (Balakrishnan et al., 2023). Like those studies, we assume that changes in board diversity are driven by the event, rather than concurrent events, such as the Covid-19 pandemic which began in early 2020.

To the best of our knowledge, our study is the first to assemble gender and race classifications on directors of venture-backed private firms between 2000 and 2021. We use PitchBook to assemble our dataset of $\sim$ 150,000 directors of private firms.[1] While PitchBook's coverage is not complete, we assume that it is not a direct function of race. The assumption seems reasonable given that PitchBook does not gather race or gender information in the first place.[2] To classify race, we rely on machine learning algorithms that use a combination of image processing and name prediction algorithms, and conduct extensive manual review of the initial algorithmic classifications.[3] For public firms, we rely on BoardEx for board data and gather race from ISS.

Private firms have far less racial diversity than their public counterparts. For example, in 2019, 9.6% of new board appointments in public firms were minorities, compared to 2.9% in private firms.[4] Post GF, this gap has widened substantially. By

[1] Acknowledging the limitations identified in Ewens and Malenko (2022) that PitchBook coverage of director start dates is incomplete, we supplement PitchBook by extracting start and end dates from directors' public LinkedIn profiles.

[2] To assuage concerns that PitchBook coverage is poor, we validate our data by matching startups in our sample to LinkedIn, extracting all directors from employees of that firm. We find that PitchBook covers about 95% of the directors listed on LinkedIn.

[3] See Appendix B.1 for more details on our image-classification process. Our out-of-sample cross-validation tests confirm that our classification algorithms perform quite well.

[4] For the purpose of this study, our focus is on Black and Hispanic directors, whom we refer to as minority directors. In our sample, Asian directors account for 12% of director appointments. Thus, Asian directors are overrepresented compared to their U.S. population share which stands at 6% according to 2021 Census data. By contrast, the representation of Black and Hispanic directors is much lower than their respective population shares of 14% and 19%.

2021, minorities represent 34.3% of new board members in public firms, versus 4.7% in private firms. Specifically, the increase is concentrated among Black directors. Gender diversity trends, by contrast, are similar for public and private firms. Our results shed light on broader market dynamics affecting corporate diversity, highlighting the distinct trends in minority-director representation for private firms.

Of course, public firms are subject to more formal reporting, oversight, public scrutiny, and specific diversity mandates which may lead us to expect this diversity gap. However, they also face short-term pressure from analysts and shareholders. Hart and Zingales (2017) propose a model where diffuse ownership in public firms can drive public executives to drift from a moral compass of personal responsibility. Indeed, Bernstein and Sheen (2016) and Cohn et al. (2021) find that health records and workplace safety improve when public firms are acquired by private equity investors. On the other hand, private firms, facing less scrutiny, may find it easier to adopt socially desirable actions. However, they might also be more adept at avoiding media and public calls for more racial diversity, facilitated by ownership often being concentrated among a few investors and firm founders. Adding complexity to this narrative, Lowry (2022) shows that private firms' governance structures are increasingly resembling those of public firms. This challenges the assumption of an inherent difference in private firms' approach to board diversity.

Moreover, organizational inertia may imply that governance structures established during the private phase linger long after a firm goes public. For example, Barry et al. (1990); Hochberg (2012), Celikyurt et al. (2014), and Iliev and Lowry (2020) show that venture capitalists maintain board influence well beyond a firm's IPO. We also find that board diversity remains notably persistent among firms that transition from private to public, as VC-backed firms are less inclined to appoint racially diverse directors following their IPOs, especially when these firms had no diverse directors while private. These findings suggest that understanding why board diversity is lower in private firms is crucial for understanding variation in board diversity among public

firms.

While board diversity during a firm's private phase may have implications post-IPO, pinning down a precise mechanism is hard. There could be a number of competing root causes such as differences in shareholder monitoring, the financial motivations of management and incumbent shareholders, the level of media and public scrutiny, discriminatory practices during the director recruitment process, or institutional constraints in the organization of private-firm boards. While a comprehensive exploration of all these channels is beyond the scope of this paper, we present evidence suggesting that institutional constraints contribute to the diversity gap between public and private firms.

As an example of institutional constraints, we find that over half of all directors appointed to private-firm boards are VC partners (investor directors), a group with low racial diversity (Cassel et al., 2022; Gompers and Wang, 2017; Lerner et al., 2021). The lack of racial diversity among these investor directors can act as a bottleneck for board diversity in portfolio companies. Considering that diverse partners might be instrumental in recruiting other diverse board members, the impact is magnified. Given that VCs often recruit from their network — and prior work has shown that a VC's network is likely composed of individuals of similar demographics as the VC (Ewens and Townsend, 2020; Gompers et al., 2017) — the limited diversity can be self-perpetuating. Consistent with this notion, we find a smaller diversity gap among firms backed by minority-owned VC firms.

Our analysis of the GF shock further supports the role of institutional constraints. We see a 4 percentage point (pp) increase in racial diversity among executive and independent directors post-GF, compared to 1pp for investor directors. This contrast in response underscores the critical role that investor directors play in shaping overall board diversity, given that they comprise 50% of all private-firm directors.

One plausible interpretation of our findings is that VC investors fear that the GF movement would cause firms to compromise value by hiring unqualified diverse direc-

tors. In contrast, public firms may succumb to the pressures and demands of public investors. To test this hypothesis, we compare the qualifications of directors appointed before and after GF. Racial minorities appointed prior to the movement have better observable characteristics: in comparison to their non-minority counterparts, they have stronger educational backgrounds and are more likely to have entrepreneurial experience. Following GF, the qualification of directors—regardless of ethnicity—is more uniform. This evidence is consistent with the idea that while minorities faced steeper barriers before the movement, the playing field has become more equitable post-GF.[5]

We also show that, while firms backed by minority-owned VCs appoint more minority directors, these VCs are not driving the post-GF increase in minority director appointments. One reason could be the limited supply of minority partners. The promotion to partner level within venture capital groups is a lengthy process, potentially making these groups slower to react to the social pressures spurred by GF. Additionally, existing minority partners are already serving on multiple boards, limiting their capacity to take on more roles. In line with this reasoning, we show that the post-GF increase in diverse board appointments is concentrated among executive and independent directors, rather than investor directors, who are typically partners in the VC firm.

Given the highly politicized nature of the GF movement, one might expect that local political sentiment where the firm is located influences firms' reactions. To test this, we classify U.S. states based on their Republican/Democrat vote share in the 2016 presidential election. Perhaps surprisingly, our analysis shows no significant geographic variation in firms' responsiveness to the GF movement. This holds whether we consider the location of the firm's headquarters, that of its venture capital investors,

[5] Of course, we cannot dismiss the possibility that diverse directors differ from non-diverse directors in other, unobserved ways. We assume that any unobserved characteristics positively correlate with the observed ones.

or of the limited partners that invested in these venture capital funds.

Our findings raise a natural question: what are the implications of less diverse boards? While understanding the precise mechanisms behind this lack of diversity and its consequences is crucial, it is beyond the scope of this paper. Our primary goal is to lay a foundational understanding of the current racial diversity landscape of private boards. By presenting a comprehensive overview, we aim to set the stage for further research that delves deeper into the underlying causes and broader implications. However, we do present two suggestive pieces of evidence of the implications of diverse boards.

First, we find that firms with a higher fraction of Black directors are more likely to hire Black employees. Interestingly, we do not observe this correlation for Hispanic and female directors.[6] Second, the limited diversity observed on the boards of venture-backed firms likely exacerbates racial wealth disparities, given the value of director-held shares of firms going public which we estimate to be approximately $20 million.

Our paper makes a number of contributions. The existing literature on public firm boards has investigated a number of questions related to the composition and implications of board diversity.

On the composition of boards, Agarwal et al. (2016) highlight the role of networking, while Field et al. (2020) show that while there has been a general uptrend in the appointment of female and minority directors, there are persistent disparities within boards as diverse directors are less likely to ascend to leadership roles. The findings on the recurrent theme of diversity and performance is mixed. Adams and Ferreira (2009) show that while gender-diverse boards are more diligent in monitoring, this doesn't necessarily translate to better financial outcomes. On the other hand, both Kim and Starks (2016) and Bernile et al. (2018) advocate for the benefits of diversity. They argue that women directors bring unique expertise, leading to enhanced firm

[6] By contrast, Cai et al. (2022) show that gender and racial board diversity in public firms does not have a large effect on DEI outcomes.

value and reduced risk. On the other hand, Ahern and Dittmar (2012) caution against mandated gender diversity. Their findings suggest that, in the rush to meet quotas, firms might opt for less experienced female directors, inadvertently impacting performance. On the influence of institutional investors, Gow et al. (2020) show that while large shareholders do not oppose diversity-enhancing initiatives, their voting behavior does not robustly champion such efforts either. However, Gormley et al. (2023) underscore the power of large institutional investors in shaping board diversity. They find that these investors' influence increases gender diversity on boards and that the female directors appointed are not of lower quality.

We contribute to this literature by documenting diversity among private firms' boards, relating public firm board diversity to private firm diversity, showing that board diversity increases in response to social movements, but more so for public than private firms, and that an exogenous increase in demand for Black directors do not lead to the appointment of underqualified Black directors to private boards. Due to the recency of the GF movement, and the infrequent valuation observations for private firms, the question of whether the increased diversity in private boards impacts performance is an interesting topic for future research.

We also contribute to the nascent literature on private firm boards. Ewens and Malenko (2022) show that control of the board shifts from the entrepreneur to the VC as the startup raises more funding, and that independent directors play a mediating role. Ewens and Sosyura (2023) exploit director deaths to show that losing an investor director leads to a decrease in firm value. Montag (2021) shows that directors provide expertise to help startups grow, especially when the directors have prior startup experience. We contribute to this literature by providing the first evidence on the level and evolution of racial and gender diversity of private-firm boards, showing how they respond to public pressure to increase racial diversity. Additionally, we show the characteristics of racially diverse directors appointed to private-firm boards and how those characteristics change in response to an exogenous increase in demand for

diverse directors.

Also closely related to our paper is the literature on how public firms change the composition of their board of directors in response to the George Floyd racial movement (Bogan et al., 2021; Pajuste et al., 2022; Balakrishnan et al., 2023). Balakrishnan et al. (2023) develop a text-based measure of racial diversity exposure by using text from transcripts of earnings calls, investor or analyst days, and conference calls. They show that firms with the greatest exposure to diversity issues are most likely to appoint Black directors, and that firms do not broaden their search for Black directors with different skills after George Floyd's murder or choose directors with low skills. We contribute to this line of work by showing that the reaction among private firms was much lower than among public firms, and that this likely reflects institutional limitations arising from few minority partners in venture capital groups. Consistent with their findings in public firms, we do not find evidence that minority directors appointed to private firms following GF have worse observable characteristics than non-minorities also appointed following GF.

II. Sample Construction

Our goal is to study diversity on the boards of both private and publicly listed companies. To our knowledge, we are the first to assess diversity in private firm boards. We gather our list of directors in private firms from PitchBook, and use LinkedIn to extract profile pictures and resume information. To classify ethnicity of directors, we combine algorithmic approaches with extensive manual review. For publicly listed firms, we use BoardEx to extract members of the board of directors, and we rely on ISS for the demographic information of these board members. In subsequent sections, we first discuss the sample construction and summary statistics for public firm directors. This is followed by a similar discussion for private firm directors, and, finally, our data on minority ownership of venture capital firms.

A. *Board of Directors in Public Firms*

For public firms we rely on BoardEx, which maintains a comprehensive dataset on directors on public boards. We combine the BoardEx datasets on director committees and individual directors' employment spells at specific boards. We aggregate board director positions at the firm level, resulting in a firm-year panel dataset containing the roster of directors for each firm as of their annual report date.

We complement BoardEx with ISS to extract the race of directors. Throughout the paper, we focus on Black and Hispanic directors, which correspond to the ISS classifications "Black/African American" or "Hispanic/Latin American". Appendix A details how we merge ISS to BoardEx.

A.1. Identifying Previously Venture-backed Public Firms

Part of our analysis examines whether board diversity in public firms varies depending on whether the firm received VC financing before going public. We rely on the work of Gornall and Strebulaev (2021) classifying whether public firms received VC-backing prior to going public, and are grateful to the authors for sharing these classifications.

A.2. Sample of Public Firms

Our initial dataset from BoardEx comprises 770,963 board-year-director observations, representing 10,493 unique firms and 82,893 individual directors. From these 82,893 directors, we match 16,501 directors to the ISS dataset of directors with information on race. These matched directors sit on the board of 7,757 different companies (There are 2,736 firms for which we could not match any directors to the database of directors in ISS with ethnicity information). In total, out of the original BoardEx observations, we have ethnicity data on 172,286 board-year-director observations.

Table 1, Panels A and B, present summary statistics for director appointments in the matched BoardEx-ISS sample. Panel A presents statistics for all public boards, and Panel B presents statistics for VC-backed public boards. We see a clear increase

over time in the number of female directors appointed to public and VC-backed public boards, with a larger increase in female directors appointed to VC-backed public boards. Regarding racial diversity, we see a substantial jump in the fraction of black directors appointed to public and VC-backed public boards post GF. However, these univariate statistics also show that the percentage point increase is smaller for VC-backed public firms compared to their non-VC-backed counterparts, a result we will further investigate in multivariate analyses below. Similarly, we see a smaller increase in the proportion of Hispanic directors although, as for black directors, the tendency to appoint Hispanic directors increases post GF.

[INSERT TABLE 1 ABOUT HERE.]

As our focus is understanding board diversity, it is crucial that we have good coverage of race of directors appointed those boards. The second row of Table 1, Panel A, presents the fraction of individual director appointments for which we observe the race of the director. The coverage of directors' race is quite poor in the early part of the sample, and vastly improves after 2012. Indeed, ISS data collection really began in 2013, and of the 16,501 directors with ethnicity data, 16,489 of them were appointed between 2013 to 2021.

To mitigate this limitation of the data, we restrict our sample to years between 2013 and 2021. After imposing that filter, we have 125,434 board-year-director triplets with ethnicity data, out of a total of 344,728 board-year-director triplets in that time period.

Our main analysis focuses on the diversity among new director appointments.[7] We include firm-years with at least one director appointment for which we observe race. We further require that the company is publicly traded and can be merged to Compustat. Our final sample of public firms contains 11,742 firm-years.

[7] We infer the year of an appointment as the first fiscal year a director is listed as a board member for the firm. This requires that we observe subsequent years, and we can therefore not assign any appointments in the first fiscal year that the company appears in BoardEx.

By focusing on appointments, we are analysing diversity in the "flow" of directors. This choice restricts the analysis to firm-years where the firm was actively in the market for a new director, removing firm-years with no new director appointments. However, we replicate the main analysis using an alternative "stock" measure of board diversity: the fraction of diverse directors on the board. In this "stock" sample, we include all firm-years where we can observe the race of at least one director, giving us a sample of 29,087 firm-years in the period 2013 to 2021. Our results are qualitatively similar in the "flow" and "stock" samples.

To the extent that firms are more likely to disclose the ethnicity of a minority when appointing a director (especially following GF), it is possible that ISS is more likely to observe the race of minority appointments. If this is the case, our analysis is likely biased upwards, with true diversity being lower than what we can observe.

B. Boards of Directors in Private Firms

While no existing dataset offers a comprehensive coverage of boards for the universe of private companies, we rely on PitchBook to identify board member appointments in private firms. Specifically, we extract the years in which directors are initially appointed and when their appointments conclude. To augment this data, we also collect LinkedIn URLs for these board members. These URLs are initially extracted from PitchBook; any missing URLs are supplemented through extensive manual searches.

We use the LinkedIn profiles of these directors for three purposes. First, we collect resume data on education and work history. Second, we fill gaps in the start and end dates of directorial roles, supplementing missing data from PitchBook with information from LinkedIn profiles. This effort increases our coverage of start dates for director appointments from 69.5% to 81.9%. Third, as PitchBook does not provide the race of directors, we use LinkedIn profile pictures and biographical data to classify directors' race, a method detailed in the following subsection.

Using the start and end dates identified for each director, we construct a firm-year panel with the set of directors on the board at any given time. Consistent with the public dataset discussed in the previous section, we focus on firm-years where at least one director appointment is identified and the director's race is known.

A natural concern arises regarding the limitations of using PitchBook data, particularly concerning the idiosyncrasies of its data-gathering process. Coverage for director appointments is understandably lower for private firms compared to public ones, where such data is readily available. In terms of racial data coverage, we can make direct comparisons for the director appointments we do observe. Table 1, Panel C, documents our initial sample, comprising 81,681 director appointments across 51,931 firm-years. Of these, we successfully identify the race for 69,902 appointments, and 46,648 firm-years feature at least one appointment where the director's race is known.

In comparison to our public firm sample, which relies on ISS data, our private firms dataset exhibits greater racial coverage, especially in the sample's early years. This gap narrows in recent years, but remains higher for private firms. To facilitate comparison with our public firm sample, we restrict our analysis to director appointments between 2013 and 2021. This results in a final sample that includes 32,107 firm-years, each with at least one director appointment for which the race is known, totaling 47,648 such appointments.

While we do not assume PitchBook provides complete coverage of private firm boards, we operate under the assumption that its coverage is not a function of race. This assumption permits us to learn about the relative prevalence of minorities among director appointments in private firms, even if we do not observe all directors. The fact that PitchBook does not gather race strengtens the plausibility of the assumption.

To further validate our sample of private firm directors, we match those firms to Form D and then to LinkedIn. For each company, we search for directors among all employees, current and former, associated with the company in LinkedIn. To identify

a director we examine their job titles for keywords.[8] The initial match to Form D allows us to also verify director coverage using the directors listed on Form D. As is clear from Table 3, PitchBook covers approximately 95% of the directors listed on LinkedIn.

B.1. Classifying Race of Directors of Private Firms

PitchBook includes gender data but lacks information on race, making the racial classification of directors in private firms a key contribution of this study. While name-based estimations of race are commonly employed and may be suitable for some minority groups, they are less effective for others. Cook et al. (2022) show that using names alone yields many false negatives for Black individuals, while incorporating image processing significantly improves accuracy.

We adopt a hybrid approach that combines both image and name-based algorithmic methods. This automated process is further refined through human review of the predicted racial classifications. Despite extensive efforts to minimize errors, we recognize the inherent subjectivity in these classifications. Overall, we process 131,178 unique directors appointed to boards between 2000 and 2021.[9] For brevity, we outline our approach here and defer a detailed description to Appendix B.

To enhance the accuracy of our algorithmic race classifications, we hire three UpWorkers for image review. We select UpWorkers who self-identify as Hispanic, Black, and Asian American, as we hypothesize that they may more accurately identify individuals of their own ethnic groups (Ma et al., 2021). To facilitate the review, we provide them with both the profile picture and the director's name.

To reduce errors, the UpWorkers conduct two full reviews for each director, with a third review of those proposed as minorities. Lastly, two of the authors independently

[8] For details on the process, please contact the authors.

[9] This number exceeds the count in our private firms sample as the PitchBook dataset includes directors appointed while the firm is publicly traded. We leverage this overlap in sample to validate our approach, by comparing our classifications with those of ISS. We discuss the results of this validation exercise in Appendix B.1.

verify all director classifications.

B.2. Summary Statistics of Private Firm Boards

Table 1, Panel C, provides an overview of board diversity in our private firm sample. We observe that the upward trend in female director appointments mirrors that of public firms, albeit starting from a lower level. The 2020-2021 levels for private firms correspond to the 2012-2015 levels in public firms, indicating a lag in gender diversity among directors in private firms.

While there is a post-GF increase in the appointment of Black directors, it is an order of magnitude smaller for private firms compared to public ones. This discrepancy is indicative of a difference in how private and public firms respond to the push for diversity in the wake of GF.

However, these observed differences could reflect variations in firm composition. For instance, it is possible that VC-backed firms are predominantly located in areas with fewer minority directors. Our subsequent multivariate analyses will examine whether these patterns hold when controlling for potential confounders.

B.3. Type of Minority Director Appointments in Private Firms

In Table 2, we explore the variations in minority director appointments based on director types, following the classification by Ewens and Malenko (2022). This classification identifies three primary types of directors: Insiders, who are company executives; Outsiders, usually independent directors unaffiliated with the company or its investors; and Investor-directors, who typically secure board seats as part of their investment (Amornsiripanitch et al., 2019; Gompers et al., 2020).

Panel A documents the total count of newly appointed directors in specific roles that are Black, Hispanic, and Female, while Panel B presents the proportions. Our data indicates that diverse directors are less common among investor-directors. This observation aligns with existing literature highlighting a lack of racial minorities and women in the private equity industry (Cassel et al., 2022; Gompers and Wang, 2017;

Lerner et al., 2021).

[INSERT TABLE 2 ABOUT HERE.]

C. Minority Status of Venture Firm

One of the hypotheses we test in this paper is to what extent the VC firm influences diverse director appointments. To that end, we incorporate a measure of whether the VC firm is minority-owned. Specifically, we focus on the private equity, growth capital, and venture capital investors in the firm, and count the number of investors that are minority-owned. To classify the private capital group as minority-owned we rely on the classification of Cassel et al. (2022), which defines a private capital group as minority-owned if at least 50% of the founders or the most senior partners of the group are either Hispanic or Black.[10]

III. Results

Table 1 reveals that public firms are not only more inclined than private firms to appoint diverse board members on average, but also exhibit a greater increase in such appointments following the George Floyd (GF) movement. In this section, we first examine whether these univariate results are robust to multivariate analyses, and then investigate why there are fewer diverse board members among private firms. To this end, we explore heterogeneity in firm and investor type, as well as political affiliations of the firms' stakeholders based on their location.

While the literature has largely focused on publicly traded firms, private firms are interesting to study as the majority of firms are private, and private firms account for about two-thirds of firm investments (Asker et al., 2015). Even if we primarily care

[10] The list of the 166 minority-owned private capital groups identified in that study is available at https://eyimfor.com/docs/MinorityGroupList.xlsx.

about diversity in public firm boards, that itself may be impacted by the diversity of the board when the firm was private. Indeed, in section III.B below, we show that firms that receive VC-backing prior to going public have less racial diversity among their board of directors compared to other publicly traded firms.

To underscore the long-lasting impact of board diversity during a firm's private phase, Figure 2 reveals a remarkable persistence in board diversity after a firm goes public. Specifically, public firms that have at least one minority director at the time of their IPO maintain significantly higher levels of board diversity. Furthermore, there is no sign of convergence within the first five years post-IPO.

[INSERT FIGURE 2 ABOUT HERE.]

A. Board Diversity in Public and Private Firms

To formally compare the prevalence of diverse director appointments between public firms and private firms, we use OLS to estimate:

$$\begin{aligned} \textit{Board Diversity}_{it} = \alpha_1 + \quad & \beta_1 \textit{Post GF} \times \textit{I(Public)} \\ & + \beta_2 \textit{Public} + \gamma_s + \eta_t + \epsilon_{it}, \end{aligned} \tag{1}$$

where $\textit{Board Diversity}_{it}$ is the fraction of board members appointed to firm i in year t that are Black, Hispanic, Minority (either Black or Hispanic), or Female. γ_s and η_t are state (50 dummies) and year (9 dummies) fixed effects. Year fixed effects absorb time-series variation in the fraction of diverse director appointments, while state fixed effects remove state-specific cross-sectional differences, such as the supply of diverse directors in a given state. *I(Public)* is an indicator for public firms. We cluster standard errors at the firm level.

We are primarily interested in β_1 and β_2. β_2 captures any differences in the propensity of public and private firms to appoint minority directors prior to GF. β_1 captures

the differences-in-differences estimate of the effect of GF on diverse director appointments. It captures the extent to which the average public firm responds differently to GF in its likelihood of appointing diverse directors, relative to the average private firm.

Table 4 presents the results from estimating equation (1). Across all columns, the coefficient on public firms reflects underscores that public boards are markedly more likely to appoint diverse directors. Pre-GF, the fraction of racial minorities appointed as board members is 5.6 percentage points higher for public firms than for private firms. Public firms also have an 18.6 percentage points higher likelihood of appointing female directors than private firms do.

We observe a differential response following GF. Strikingly, the diversity gap for racial minorities widens from 5.6 percentage points pre-GF to 19.7 percentage points post-GF. Unsurprisingly, Black directors exhibit the largest relative change following the movement (Column 1), followed by Hispanic (Column 2) and Female directors (Column 4). The increased propensity to appoint Black directors drives the increase in racial minority appointments in Column (3).

[INSERT TABLE 4 ABOUT HERE.]

To illustrate the timing of these effects, Figure 1 shows the time-series variation in Black, Hispanic, and Female director appointments for both public and private firms. Our data suggest that racial diversity in director appointments largely followed parallel trends prior to 2020, when minority director appointments surged among public firms, with a significantly smaller increase among private firms. In 2019, minorities constituted 9.6% of new director appointments in public firms, compared to 2.9% in private firms. By 2021, this proportion stands at 34.3% for public firms, versus 4.7% among private firms.

We can contrast these stark differences with shifts in female director appointments following the "Me Too" movement in 2017, and California's gender quota, which was

passed in 2018. Although public firms adjusted more rapidly, private firms had mostly caught up by 2021.

[INSERT FIGURE 1 ABOUT HERE.]

A clear limitation of our study stems from the opaque nature of private firms: many firm characteristics that may influence the propensity to appoint diverse firm directors are unobservable. For example, Balakrishnan et al. (2023) show that firm-specific characteristics are related to firms' exposure to racial diversity issues, and firms with greater exposure to racial issues are more likely to appoint Black directors following GF. This poses an empirical challenge given the lack of publicly available financials for private firms. However, to the extent that any such cross-sectional differences are relatively stable over time, we can account for unobserved differences across firms using firm fixed effects.

Table A2 and Figure A1 show that the observed differences in the propensity to appoint diverse directors between public and private firms are robust to the inclusion of firm fixed-effects. In fact, the difference between public and private firms' response to the George Floyd movement is larger when we control for firm fixed effects. The figure highlights the absence of pre-trends for racial minorities. The robustness of our results to the inclusion of firm fixed effects alleviates concerns that our findings are driven by a change in the composition of firms following the movement or to any time-invariant firm-specific factors. Interestingly, we see a different pattern for female directors. While Table 4 shows that public firms are more prone to appoint female directors in 2020 and 2021, that difference is not statistically significant when we explore within-firm variation.

We replicate the analysis using the level of board diversity instead of the fraction of newly appointed directors that are diverse. Results are presented in Tables A3 and A4, and Figures A2 and A3. Qualitatively, the patterns observed for this "stock" measure align with our "flow" analysis.

A natural follow-up question arises: why do such stark differences in diversity exist between public and private firms. We begin by scrutinizing one clear distinction—the type of ownership. Since our sample of private firms comprises those that have received VC financing, we initially explore whether public firms with prior VC backing differ from other public firms, before turning our focus to understanding the factors contributing to the low levels of board diversity among private firms.

B. Board Diversity among VC-backed Public Firms

In this section, we test the hypothesis that the diversity of a public firm's board of directors is related to whether the firm was VC-backed before its public offering. The influence of VC backing on board diversity is plausible, given existing evidence of the enduring influence of VCs on firms after they have gone public (Hochberg, 2012; Celikyurt et al., 2014; Iliev and Lowry, 2020).

Our empirical specification uses panel data on board appointments at public firms. A unit of observation is a firm-year during which the firm was publicly trading and at least one board member was appointed whose race is known. The sample consists of 11,742 firm-years, comprising 4,117 unique firms. For firm i in year t, we use OLS to estimate:

$$Board\ Diversity_{it} = \alpha_1 + \beta_1\, VC\ Backed_i + \lambda_j + \eta_t + \epsilon_{it}, \tag{2}$$

where the setup is similar to previous specifications. $VC\ Backed_i$ is an indicator variable for whether a firm was backed by a venture capital firm at the time of its IPO, according to the classification of Gornall and Strebulaev (2021). β_1 is the coefficient of interest, capturing the relative difference in the prevalence of minority director appointments between VC-backed and non-VC-backed firms. We cluster standard errors at the firm level.

[INSERT TABLE 5 ABOUT HERE.]

Panel A of Table 5 presents the results from estimating (2). Across all columns, we see that VC-backed firms are less likely to appoint Black and Hispanic directors, but just as likely to appoint female directors. Given the unconditional mean minority appointment rate is 11.5%, Column (3) suggests that VC-backed firms are 19.8% less likely to appoint a Black or Hispanic director, relative to non-VC backed firms located in the same state. We hypothesize that the scarcity of minorities in venture capital (Gompers and Wang, 2017; Lerner et al., 2021) is a contributing factor to this result. In subsequent sections, we examine whether having backing from diversely-owned VCs increases board diversity.[11]

C. Board Diversity Following George Floyd - Impact of Stakeholder Pressure

It is possible that the reaction of firms to societal pressures for increased diversity varies depending on the level of stakeholder pressure they face. In this section, we investigate whether firms' responses to the GF movement differ based on the political affiliations of states where the firms' stakeholders—such as investors, customers, employees, and suppliers—are likely located. To categorize the political leanings of these states, we use voting patterns from the 2016 presidential election, which predates the GF movement.

Our hypothesis is that the political leaning of stakeholders influences the firm's decisions to appoint minority directors in the aftermath of GF. To test this, we incorporate firm fixed effects in our estimation to explore within-firm variation.

We initially examine whether a firm's location influences its response to GF. We

[11] Specifically, we employ the classification of minority-owned VC firms by Cassel et al. (2022). Given that most minority-owned venture capital firms are small, almost no public firms have prior minority-VC backing. We therefore defer examining this hypothesis to our analysis of private firms.

hypothesize that firms headquartered in Republican states will have a more muted response to the movement in terms of the increase in diverse director appointments. These states have been vocal opponents of ESG initiatives. Notably, every state that has either passed or is considering anti-ESG legislation voted for the Republican presidential candidate in 2016. Anecdotal evidence also suggests that firms respond to stakeholder pressure to appoint minority directors (Needleman, 2020).

Table 6 presents our estimates. Panel A displays results for public firms, while Panel B focuses on private firms. In Panel A, Column (1) shows that the likelihood that a newly appointed director is Black is almost 16 percentage points higher following the GF movement. We note that this does not vary based on whether the firm is located in a Republican state. Column (2) reveals that the increase in Hispanic director appointments is larger for firms in Republican states, although this difference is only statistically significant at the 10% level. As in previous analysis, the increase of minority directors, evident in Column (3), is almost entirely driven by the increase in Black directors. In Column (4), we also see that female appointments increase following GF, an effect that does not vary based on whether the firm is headquartered in a Republican state.

[INSERT TABLE 6 ABOUT HERE.]

We see similar patterns among private firms in Panel B. While the propensity to appoint Black and Female directors increased in 2020 and 2021, this does not vary between firms headquartered in Republican states, and those that are not. There is no effect for Hispanic directors among private firms. It is worth noting that the within-firm change in female appointments is as large in private firms as it is in public firms, whereas the increase in racial minority appointments is substantially smaller.

Recall that our regressions include firm-fixed effects, which removes any firm-specific, time-invariant, factors that may be related to the propensity of a firm to appoint diverse directors. Consequently, our estimates provide a within-firm assess-

ment of how the GF movement impacts the propensity to appoint diverse board members.

C.1. Impact of Pressure from Venture Capital Investors and their Limited Partners

Firms must account for the preferences of multiple stakeholders. Up to this point, we have assumed that the political leanings of the state where the firm is headquartered serve as a reasonable proxy for these preferences. While this may be a reasonable proxy for the views of employees, it may not accurately capture the preferences of all stakeholders.

For private firms, we can further tease out variation among stakeholders. Specifically, we focus on a particular set of stakeholders: the venture capital firms investing in these companies. As they are themselves intermediaries, we also consider the limited partners (LPs) investing in funds raised by these firms. While dispersed ownership in public firms presents a challenge for this type of analysis, the large stake held by venture capital funds makes it a natural setting.

Considering the influence that VC investors have on director appointments (Ewens and Malenko, 2022), we hypothesize that the political leanings of states where either the VC firms are headquartered, or where their investors are located, will have an impact on firms' responses to the GF movement.

We explore this in Table 7. Panel A focuses on the fraction of a firm's venture capital investors that are located in republican-leaning states, while Panel B looks at the fraction of the LPs in those venture capital funds that are based in Republican-leaning states. Across both panels, we do not find evidence that a firm's reaction to GF is influenced by the political leaning of the states in which the VCs invested in the firm are located, or that of the LPs invested in those VC funds. However, firms backed by VCs with a higher proportion of LPs in Republican states have a lower likelihood of appointing racial minorities, particularly Hispanics.

[INSERT TABLE 7 ABOUT HERE.]

D. Heterogeneity by Company Stage, Director type, and Investor type

D.1. Heterogeneity by Company Stage

While our firm fixed-effects absorb time-invariant, firm-specific factors that might confound the effects of GF on direct appointments, they also mask potential heterogeneity in firms' responses. Ewens and Malenko (2022) show that investor-director board appointments typically occur following a funding round. Thus, in Figure 3, we investigate whether the proportion of Black and Female directors varies by maturity of the company. Specifically, we ask whether any post-GF changes are more pronounced for late-stage firms, which often have larger boards and may have formalized recruitment processes and diversity initiatives.

[INSERT FIGURE 3 ABOUT HERE.]

We see that the proportion of Black or Female directors increases markedly following the GF movement, at all stages of funding. We note that there is a tendency for boards to be more diverse in earlier stages than in later stages.

D.2. Heterogeneity by Director Type

We next use our within-firm specification to investigate how the increase in diverse director appointments is distributed among various types of directors. This analysis aims to shed light on the evolution of diversity across these director categories, and whether the post-GF increase in diversity is concentrated among specific director roles. Table 8 presents results from within-firm OLS estimations capturing the increase in diversity following GF. We estimate this separately for executive directors (Panel A), independent directors (Panel B), and investor directors (Panel C).

[INSERT TABLE 8 ABOUT HERE.]

The table clearly shows that the post-GF increase in diverse director appointments is primarily among independent and executive directors, rather than investor-directors. Economically, this increase is about three times larger for Black executive

and independent directors compared to investor directors. A similar pattern is evident for female directors, where the increase among executive and independent directors is about twice that observed for investor directors. These results are consistent with the notion that institutional factors, such as low diversity among venture capital partners (Gompers and Wang, 2017; Lerner et al., 2021), may contribute to the underrepresentation of minority directors among investor directors.

To the extent that the hiring process of new partners is slow, venture capital firms may struggle to improve diversity in the short term even if they want to respond to societal pressure. Consequently, they may be unable to increase the appointment of diverse investor directors following GF, especially if existing diverse partners do not have the capacity to join additional boards.

D.3. Heterogeneity by Investor Type

In the previous section, we speculated that one of the barriers to increasing diversity in private boards is the lack of diverse partners among venture capital firms, which leads to fewer minorities being appointed as investor-directors following funding rounds. In addition to the lack of diverse partners, the network of partners from underrepresented groups may itself be more diverse, leading to a multiplier effect where those groups are more likely to be appointed to other director roles when the partner is diverse. In this section, we test the hypothesis that startups funded by minority-owned venture capital firms (which are more likely to have diverse partners) have more diverse boards and respond differently to GF.

We use the list of minority-owned firms from Cassel et al. (2022), measuring the fraction of such firms invested in a startup at the time of a director appointment to predict diverse director appointments. Results are presented in Table 9.

[INSERT TABLE 9 ABOUT HERE.]

We see that firms backed by minority-owned VCs are more likely to appoint minorities and female directors in general, but do not respond more strongly to the

GF movement. If anything, the point estimates are negative, suggesting that the difference between minority-owned VC firms and other VC firms is less pronounced in the aftermath of GF. These findings are consistent with the idea that minority partners may be at capacity and unable to join additional boards following GF. The results also indicate that the increase in diverse director appointments following GF is concentrated among firms backed by non-minority-owned venture capital firms, firms that had fewer minority directors on their boards pre-GF.

Table A7 assesses the influence of minority VCs on board diversity separately for executive, independent, and investor directors. The results show that minority VCs are associated with a higher likelihood of appointing diverse investor-directors, but there is no evidence that these VCs impact diversity in independent or executive director roles. This suggests that minority VC partners primarily contribute to board diversity by sitting on the boards, rather than through assisting the firm in finding diverse candidates to executive and independent director roles.

E. Individual Qualifications of Directors

One of the most striking results presented thus far is the significantly lower diversity among directors on private boards, particularly following the GF movement. In this section, we investigate a supply-side explanation for these results.

One frequently cited reason for the low representation of Black and Hispanic directors is a limited supply of qualified candidates. We begin by examining whether the qualifications of diverse directors differ from those of non-diverse directors. We then use GF movement as a natural experiment to test this supply-side argument. The idea is that GF acts as a shock to the demand for diverse directors. Although the observed increase in board diversity is significantly smaller in private firms than in public firms, the propensity to appoint diverse directors nevertheless increase. If the supply-side argument holds, we would expect the qualifications of diverse directors

appointed after GF to be systematically inferior to those of non-diverse directors.

E.1. Qualifications of all Minority and Non-Minority Directors

To assess the qualifications of directors, we rely on resume data from the directors' LinkedIn profiles. We extract information on work experiences as well as educational information. To avoid look-ahead bias, we only consider information on the LinkedIn profile as of the year preceding the director's appointment. The unit of observation is an individual director-appointment; thus, an individual that serves on multiple boards may appear in the data multiple times, with varying resume data. The sample consists of 35,103 director appointments between 2013 and 2021.

We examine qualification differences by estimating the following regression equation separately for each characteristic i:

$$\text{Characteristic}_i = \beta_0 + \delta_i \times \text{I(Minority Director)}_i + \text{Start Year Fixed Effects} + \epsilon.$$

We separately estimate this in the pre- and post-GF periods. We set the post-GF period to be all appointments in 2020 and 2021. As we estimate each characteristic separately, we standardize all variables to facilitate comparison of relative effects across rows.

Figures 4 presents our results for the pre-GF period. This figure plots the estimated effects of various job and educational characteristics on the likelihood that a director is a minority. The blue and red dots represent the estimated coefficients, with horizontal lines indicating the 95% confidence intervals.

[INSERT FIGURE 4 ABOUT HERE.]

From the figure, we see that, pre-GF, minority directors are more likely to have been past startup founders or to have worked at other startups. It is more common that they have a master's degree or an MBA, have more degrees overall, and are

more likely to specialize in computer science. Furthermore, they are more likely to have attended a top-tier school. Minority directors tend to have fewer years of work experience, likely due to being younger.[12]

For directors appointed following GF, presented in Figure 5, characteristics of minority directors are much more similar to those of non-minority directors. Relative to the pre-period, minority directors are less likely to have been past startup founders or have worked at other startups, and have worked for fewer unique employers. However, note that there is only one significant difference between minority and non-minority directors: minorities have worked at fewer unique employers.

[INSERT FIGURE 5 ABOUT HERE.]

To the extent that these observable characteristics serve as good proxies for unobserved quality, the evidence presented in this section does not support the supply-side argument that the low number of minority directors pre-GF was primarily due to a lack of qualified minority candidates. The sudden increase in demand for diverse directors, triggered by the GF movement, does not seem to have led firms to compromise on the quality by appointing inferior minority directors. If anything, the evidence suggests that minorities faced a significantly higher bar prior to GF, and that the bar is now level.

IV. Implications of Board Diversity

Having documented a significant diversity gap, a natural question is whether board diversity has any real implications. In this section we provide two pieces of suggestive evidence in that regard: employee diversity and racial wealth disparities. While it

[12] For the sub-sample of directors for whom we have the year of graduation from their undergraduate, we proxy for age by using the number of years since graduation until the director appointment. By this measure, minority are three years younger than non-minorities at the time of their director appointment.

is of great importance to understand the full implications of board diversity and the precise mechanisms behind the diversity gap, it is beyond the scope of this paper to provide that. Our primary goal is to paint a comprehensive picture of the current state of diversity in private boards, laying the groundwork for research that further our understanding in those directions.

A. Board Diversity and Diverse Employees

To understand whether board diversity is related to overall firm employee diversity, we need to observe employees of private firms, as well as classify the race of those employees.

To identify employee spells at these private firms, we utilize CoreSignal which provides a comprehensive LinkedIn coverage of employees associated with firms. CoreSignal provides a historical record of all employees that have been associated with a given firm, including their start and end year at that company. This allows us to create a dataset of the number of employees at the firm at any given time, including which ones join the company in a given year.

To classify the race of these employees we deviate from the approach taken thus far. For directors, we employ a combination of algorithmic approaches and extensive manual review for directors of those firms. However, this approach is incredible time consuming and quickly becomes infeasible when we consider all employees having worked at those firms, rather than the relatively few directors.

Instead, we utilize the fact that we have conducted this extensive manual review for directors to train a machine learning model. Specifically, we use the probabilities provided by our name and image algorithms as inputs to a machine learning model, asking it to predict race where our final classifications act as target outcomes. This allows our model to learn the non-linearities inherent in the data. For example, the image prediction algorithm alone struggles to distinguish between Blacks and some

Asians, generating a lot of false positive predictions for Black. By contrast, many Blacks have names that are indistinguishable from White Americans, leading to a large number of false negatives. The information inherent in the name prediction is typically sufficient to resolve the false positives inherent in the image classifier, while the image prediction can resolve the false negative inherent in the name classifier.

Thus, we utilize our trained model to generate predictions for these employees, improving over using any one method on its own while being feasible for a large set of individuals. We collect data on all employees hired at the private firms in our data between 2017 and 2019 in CoreSignal, and aggregate employee diversity to the firm-year level by measuring the fraction of employees that are Black, Hispanics, or minorities. We then relate this to the fraction of Black, Hispanic, and Female directors.

The results are presented in Table 10. We see a strong relationship between the fraction of Black directors and the fraction of Black employees. Interestingly, there is no such effect between Hispanic directors and Hispanic employees. This result can be contrasted with Cai et al. (2022), where they do not find that gender and racial board diversity have a large effect on DEI outcomes. By contrast, our results provides suggestive evidence that board diversity in private firms may lead to more widespread diversity among employees, at least for Black directors.

B. Board Diversity and Racial Wealth Disparity

We provide some evidence that board diversity may have implications for racial wealth disparities. The reason for this is at least twofold.

There is a direct effect as directors often become wealth when startups experience liquidity events. To quantify this effect, we gather data on director ownership from SEC form S-1 filings for 3,456 startup-director pairs in our sample period of 2013 to 2021. For 902 distinct startups we have price per share at the time of the IPO

available in PitchBook, allowing us to estimate the value of those shares.

We plot the typical director value generated at the IPO by year in Figure 6. As some of the directors in our dataset may constitute founders (with a large personal share) and investors (with a low personal ownership), we plot this number as the median director value per year to avoid undue influence from outliers.

Beyond the direct wealth effect from such liquidation events, it is possible that directors would utilize such windfalls to become angel investors and support startup. Given the existing evidence of homophily in private investments (Cook et al., 2022; Ewens and Townsend, 2020; Gompers et al., 2017), it is plausible that diverse directors would be more likely to fund diverse entrepreneur. Thus, the lack diversity in private boards may have implications for which entrepreneurs gets funded, and contribute to the difficulty of minority entrepreneurs in accessing capital (Cook et al., 2022; Fairlie et al., 2020).

V. Conclusion

This paper sheds light on board diversity in both public and private firms, with a focus on the economically important subset of private firms backed by venture capital. We assemble the first dataset on private board directors with racial information, and document stark diversity gaps in gender and racial representation between private and public company boards. While the 2020 George Floyd Social Justice Movement increased diversity in both public and private firms, the board diversity gap widened dramatically as public firms' response was significantly stronger than that of private firms.

Our findings point to institutional barriers as a key factor in this diversity shortfall. While Black director appointments in private firms more than doubled following the movement, these gains come from a low base and are largely confined to executive and independent director roles, with investor directors showing much smaller improve-

ment. The scarcity of minority directors in the investor-director role is greatest among companies backed by venture capital firms without minority partners.

Although governance structures in private firms increasingly align with those of public companies (Lowry, 2022), our study suggests that private firms are less responsive to societal demands for diversity. Our findings of a strong persistence in the level of board diversity for private firms transitioning to the public market further highlight the importance of understanding the evolution of diversity among private firms.

Finally, our findings have real implications. We find that diverse private boards are more likely to have a diverse workforce. Furthermore, the lack of board diversity have implications for racial wealth disparities, given the amount of wealth accruing to private company directors when startups experience liquidity events.

REFERENCES

Adams, R. B. and D. Ferreira (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics 94*(2), 291–309.

Agarwal, S., W. Qian, D. M. Reeb, and T. F. Sing (2016). Playing the boys game: Golf buddies and board diversity. *American Economic Review 106*(5), 272–276.

Ahern, K. R. and A. K. Dittmar (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *The quarterly journal of economics 127*(1), 137–197.

Amornsiripanitch, N., P. A. Gompers, and Y. Xuan (2019). More than money: Venture capitalists on boards. *The Journal of Law, Economics, and Organization 35*(3), 513–543.

Asker, J., J. Farre-Mensa, and A. Ljungqvist (2015). Corporate Investment and Stock Market Listing: A Puzzle? *The Review of Financial Studies 28*(2), 342–390.

Balakrishnan, K., R. Copat, D. De la Parra, and K. Ramesh (2023). Racial diversity exposure and firm responses following the murder of George Floyd. *Journal of Accounting Research 61*(3), 737–804.

Barry, C. B., C. J. Muscarella, J. W. Peavy Iii, and M. R. Vetsuypens (1990). The role of venture capital in the creation of public companies: Evidence from the going-public process. *Journal of Financial economics 27*(2), 447–471.

Bernile, G., V. Bhagwat, and S. Yonker (2018). Board diversity, firm risk, and corporate policies. *Journal of financial economics 127*(3), 588–612.

Bernstein, S. and A. Sheen (2016). The operational consequences of private equity buyouts: Evidence from the restaurant industry. *The Review of Financial Studies 29*(9), 2387–2418.

Bogan, V. L., E. Potemkina, and S. E. Yonker (2021). What drives racial diversity on us corporate boards? *Available at SSRN 3952897*.

Cai, W., A. Dey, J. Grennan, J. Pacelli, and L. Qiu (2022). Do diverse directors influence dei outcomes? *Available at SSRN*.

Cassel, J., J. Lerner, and E. Yimfor (2022). Racial diversity in private capital fundraising. Working Paper 30500, National Bureau of Economic Research. https://www.nber.org/papers/w30500.

Celikyurt, U., M. Sevilir, and A. Shivdasani (2014). Venture capitalists on boards of mature public firms. *The Review of Financial Studies 27*(1), 56–101.

Cohn, J., N. Nestoriak, and M. Wardlaw (2021). Private equity buyouts and workplace safety. *The Review of Financial Studies 34*(10), 4832–4875.

Cook, L., M. Marx, and E. Yimfor (2022). Funding black innovation. Working Paper 30682, National Bureau of Economic Research. https://www.nber.org/papers/w30682.

Ewens, M. and N. Malenko (2022). Board dynamics over the startup life cycle. Working Paper 27769, National Bureau of Economic Research. https://www.nber.org/papers/w27769.

Ewens, M. and D. Sosyura (2023). Irreplaceable venture capitalists.

Ewens, M. and R. R. Townsend (2020). Are early stage investors biased against women? *Journal of Financial Economics 135*(3), 653–677.

Fairlie, R. W., A. Robb, and D. T. Robinson (2020). Black and white: Access to capital among minority-owned startups. Working Paper 28154, National Bureau of Economic Research. https://www.nber.org/papers/w28154.

Field, L. C., M. E. Souther, and A. S. Yore (2020). At the table but can not break through the glass ceiling: Board leadership positions elude diverse directors. *Journal of Financial Economics 137*(3), 787–814.

Gompers, P. A., W. Gornall, S. N. Kaplan, and I. A. Strebulaev (2020). How do venture capitalists make decisions? *Journal of Financial Economics 135*(1), 169–190.

Gompers, P. A., K. Huang, and S. Q. Wang (2017). Homophily in entrepreneurial team formation. Working Paper 23459, National Bureau of Economic Research. https://www.nber.org/papers/w23459.

Gompers, P. A. and S. Q. Wang (2017). Diversity in innovation. Working Paper 23082, National Bureau of Economic Research. https://www.nber.org/papers/w23082.

Gormley, T. A., V. K. Gupta, D. A. Matsa, S. C. Mortal, and L. Yang (2023). The big three and board gender diversity: The effectiveness of shareholder voice. *Journal of Financial Economics 149*(2), 323–348.

Gornall, W. and I. A. Strebulaev (2021). The economic impact of venture capital: Evidence from public companies. *Available at SSRN 2681841*.

Gow, I. D., D. F. Larcker, and E. M. Watts (2020). Board diversity and shareholder voting. *Rock Center for Corporate Governance at Stanford University Working Paper* (245).

Hart, O. and L. Zingales (2017). Companies should maximize shareholder welfare not market value. *ECGI-Finance Working Paper* (521).

Hochberg, Y. V. (2012). Venture capital and corporate governance in the newly public firm. *Review of Finance 16*(2), 429–480.

Iliev, P. and M. Lowry (2020). Venturing beyond the ipo: Financing of newly public firms by venture capitalists. *The Journal of Finance 75*(3), 1527–1577.

Kim, D. and L. T. Starks (2016). Gender diversity on corporate boards: Do women contribute unique skills? *American Economic Review 106*(5), 267–271.

Lerner, J., R. Dewan, J. Ledbetter, and A. Billias (2021). Knight diversity of asset managers research series: Industry. *John S. and James L. Knight Foundation, and Bella Private Markets.*. https://knightfoundation.org/reports/knight-diversity-of-asset-managers-research-series-industry/.

Lowry, M. (2022). The blurring lines between private and public ownership. *Available at SSRN*.

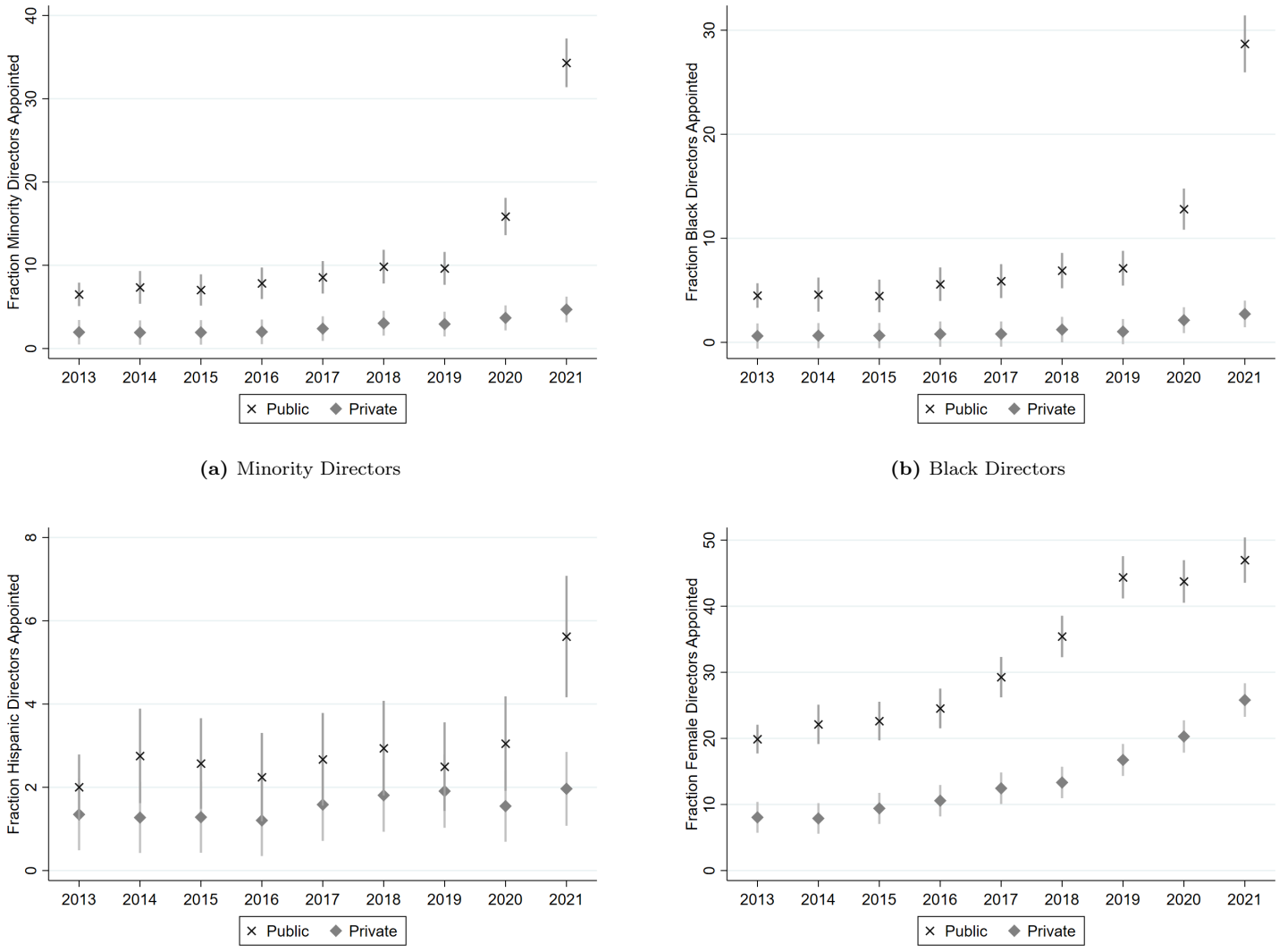
Ma, D. S., J. Kantner, and B. Wittenbrink (2021). Chicago face database: Multiracial expansion. *Behavior Research Methods 53*, 1289–1300.

Montag, A. (2021). Attention, please! Outside expertise and entrepreneurial success. *Available at SSRN 3924340*.

Needleman, S. E. (2020). Pinterest appoints first black board member amid claims of discrimination. *Wall Street Journal*.

Pajuste, A., M. Dzabarovs, and R. Madesovs (2022). Boardroom racial diversity: Evidence from the black lives matter protests. *Corporate Governance: An International Review*.

Yimfor, E. (2021). Brokers and finders in startup offerings. *Available at SSRN 3511164*.



(a) Minority Directors

(b) Black Directors

(c) Hispanic Directors

(d) Female Directors

Figure 1: Board Diversity in Appointments - Public vs. Private

This figure presents yearly coefficients from 2013 to 2021 from OLS regressions run at the firm-year level, with 95% confidence intervals indicated by the lines around the dots. The dependent variable is the fraction of newly appointed board members that are Minorities in subfigure (a), Black in subfigure (b), Hispanic in subfigure (c), and Female in subfigure (d). The figure has been scaled to show the levels of appointments. The key independent variables are indicators for whether a company is publicly traded or privately held, interacted with an indicator for the year of the observation. A company-year is only included if there is at least one director appointed in that year and we can classify the race of that director. Private companies are only included in the sample if the firm has been backed by a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. In the regression, *State FE*, not shown, are included as indicators for the state where the firm is headquartered. Each regression has 42,994 observations. We cluster standard errors by the firm.

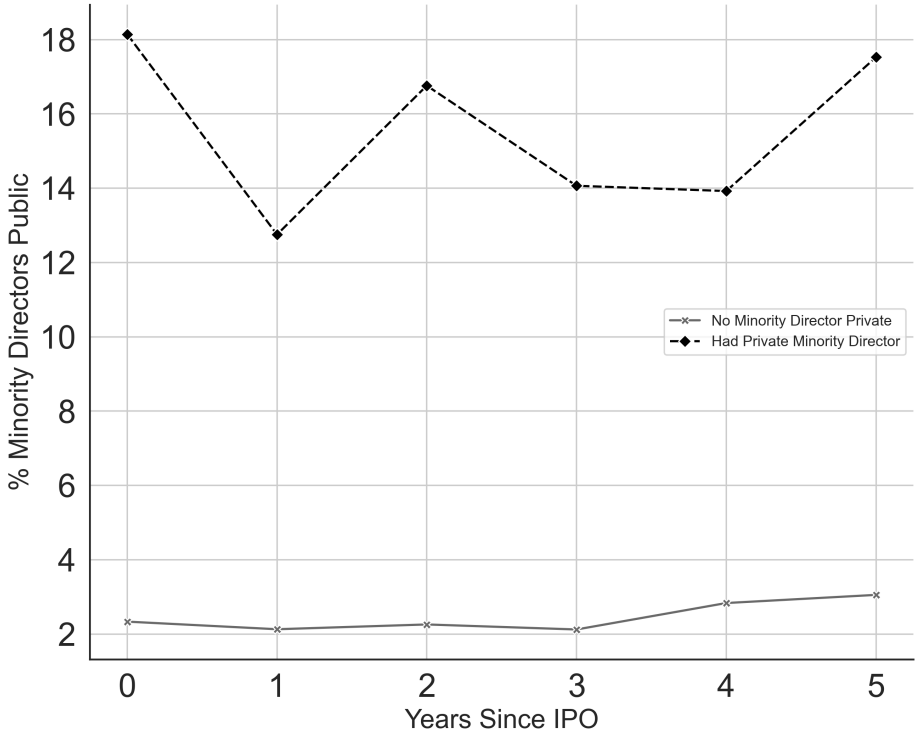
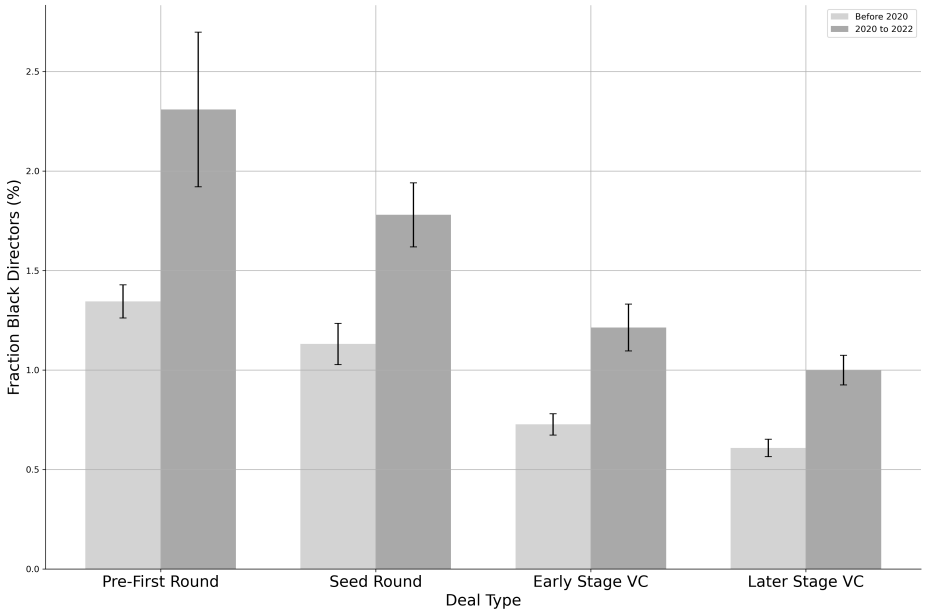
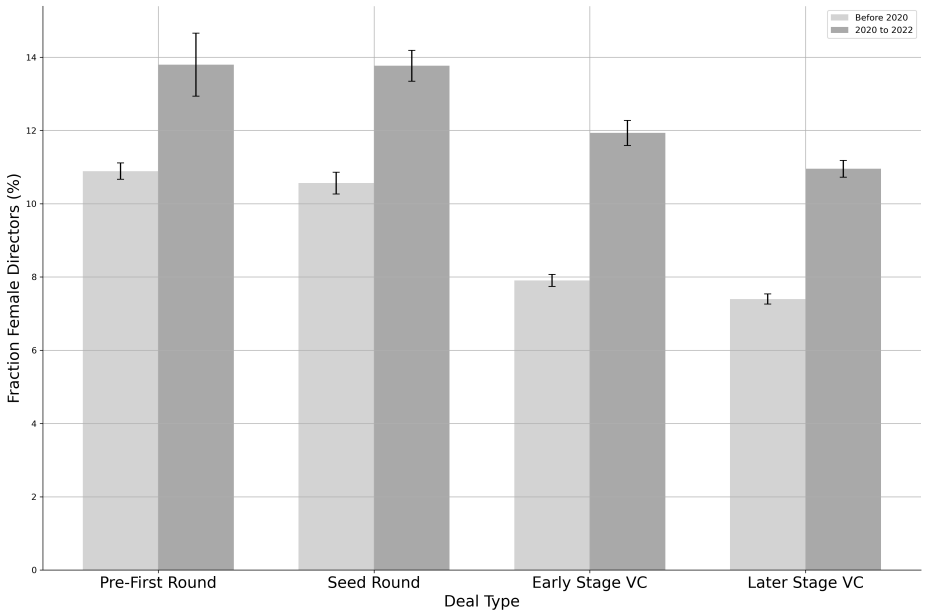


Figure 2: Association between Pre- and Post-IPO Board Diversity

This figure shows the average percentage of minority directors appointed to the board of a company in the years following its initial public offering (IPO) to five years post-IPO. The data is split by whether the company had at least one diverse director while it was private. A diverse director is defined as either a Black or Hispanic director. This figure is based on information from 711 companies: we source pre-IPO board diversity data from our private firms sample, and post-IPO board diversity data from ISS. *Had Private Minority Director* is an indicator that equals one for companies that had at least one Black or Hispanic director in the years before their public offering.



(a) Average Fraction of Black Directors by Deal Type Before and After 2020



(b) Average Fraction of Female Directors by Deal Type Before and After 2020

Figure 3: This figure plots the average fraction of startup board directors that are Black or Female by Deal Type, before and after 2020. Pre-first Round are firms that have not yet raised a first round of funding. PitchBook defines a Seed Round as: "When investors and/or a press release state that a round is a seed financing, or if the round is for less than $500,000 and is the first round as reported by a government filing (such as Form D), it is classified as a Seed round. If angels are the only investors, then a round is only marked as Seed if it is explicitly stated." An Early Stage VC round as: "Early stage is usually a Series A to Series B financing deal that occurred within 5 years of the company's founding date. If there is no series associated with the deal, and the deal occurred within 5 years of the company's founding date, PitchBook also categorizes the deal as early-stage VC." And a Late Stage VC round as: "A later-stage round of financing by a venture capital firm into a company. Later-stage is usually Series B to Series Z+ rounds and/or occurred more than 5 years after the company's founding date."

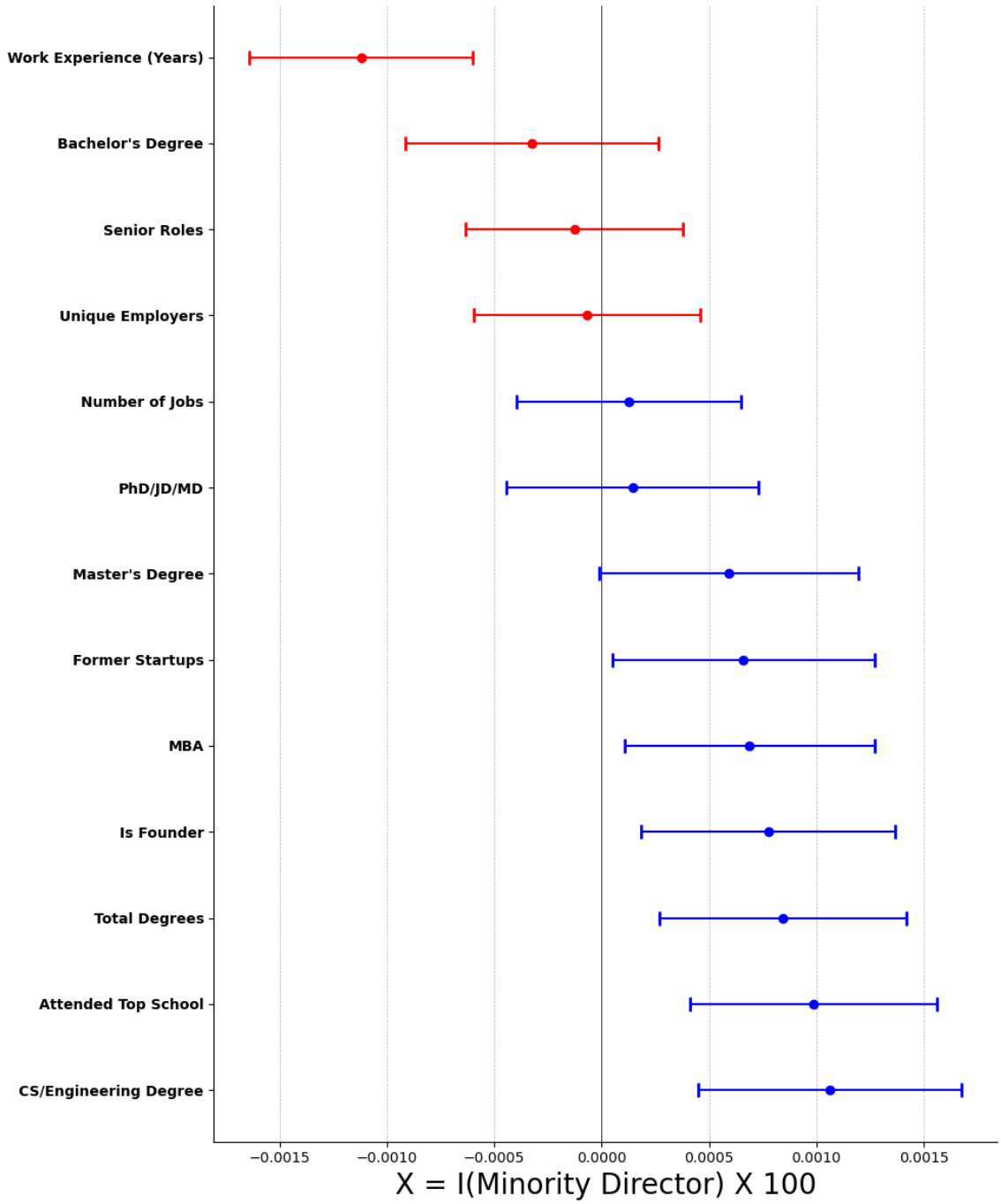


Figure 4: Minority Director Characteristics (Pre-GF)

This figure plots the estimated effects of various job and education characteristics on the likelihood that a director is a minority, based on a sample of directors joining startup boards between 2013 and 2019. The blue and red dots represent the estimated coefficients, with horizontal lines showing the 95% confidence intervals. The regression equation for each characteristic i is represented as: $\text{Characteristic}_i = \beta_i + \delta_i \times \text{I(Minority Director)}_i + \text{Start Year Fixed Effects} + \epsilon_i$.
We standardize all variables to ease comparison of relative effects across rows.

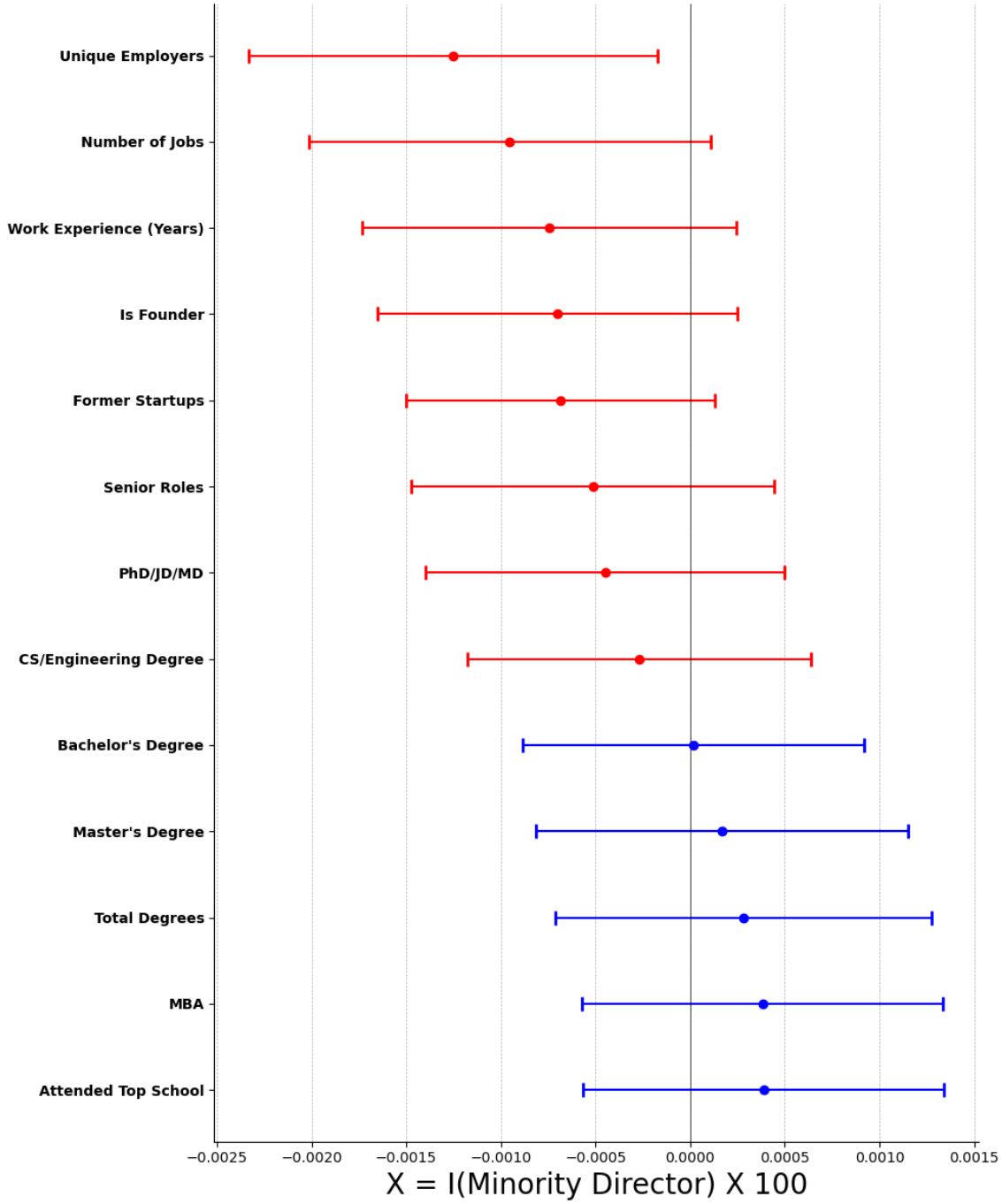


Figure 5: Minority Director Characteristics (Post-GF)

This figure plots the estimated effects of various job and education characteristics on the likelihood that a director is a minority, based on a sample of directors joining startup boards between 2020 and 2021. Relative to the previous figure, this analysis aims to understand how characteristics of minority directors on boards compare to other directors post George Floyd. The blue and red dots represent the estimated coefficients, with horizontal lines showing the 95% confidence intervals. The regression equation for each characteristic i is represented as:
$\text{Characteristic}_i = \beta_i + \delta_i \times \text{I(Minority Director)}_i + \text{Start Year Fixed Effects} + \epsilon_i$ We standardize all variables to ease comparison of relative effects across rows.

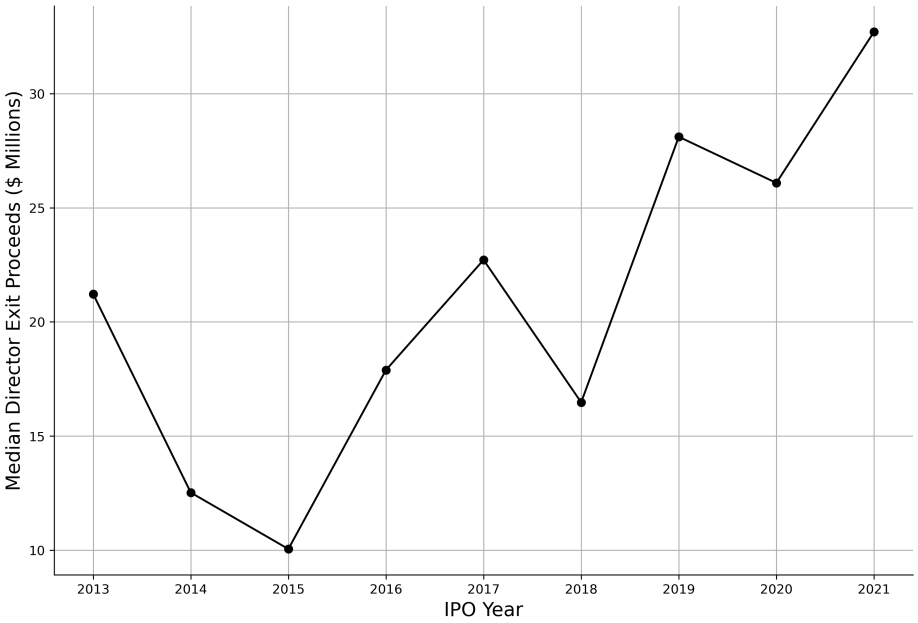


Figure 6: Median Director Exit Proceeds at IPO

This figure shows the median exit proceeds accrued by directors at the time of an IPO. The data spans 2013 to 2021 and is derived from SEC form S-1 filings, which detail director ownership. Out of the 3,456 startup-director pairs we collect from the filings, 902 distinct startups have associated IPO valuations in PitchBook. We estimate "Director Exit Proceeds" by multiplying the shares owned by each director with the IPO price per share, which is the value the director could achieve if all shares were sold at the IPO. We plot this median value for each IPO year.

Table 1: Board Diversity - Descriptive Statistics

This table presents the fraction of newly appointed board members that are either female, Black, or Hispanic. In Panel A, we include all firm-years for publicly traded firms in which at least one new director is appointed to the board of directors. The table presents the average number of directors joining boards, the fraction of these directors with data on gender, and the fraction with data on race. For Panels B, C and D, a board-year is only included if at least one director is appointed to the board within the time frame for whom we have race information (from ISS for public firms, and from following the methodology detailed in Appendix B for private firms). Panel B reports the fraction of diverse director appointments for publicly traded firms that received venture backing pre-IPO, using a classification compiled by Gornall and Strebulaev (2021). Panel C presents statistics for private firms. The results are presented using four-year time windows, with the exception of the 2020 to 2021 cluster, which is the post George-Floyd period.

Panel A: Public Firms

Year Bin:	2000 - 2003	2004 - 2007	2008 - 2011	2012 - 2015	2016 - 2019	2020 - 2021
# Directors Joining	1.62	1.62	1.64	1.61	1.64	1.61
with Race Information	14.9%	15.5%	21.1%	52.0%	72.0%	79.5%
Firm-Years	2,653	7,753	6,808	6,671	6,996	2,841
Among firm-years with at least one director with race						
Fraction Female	21.0%	20.0%	18.1%	22.1%	33.5%	45.2%
Fraction Black	10.9%	6.7%	4.5%	4.5%	6.4%	19.8%
Fraction Hispanic	3.3%	2.1%	2.8%	2.6%	2.6%	4.2%
Firm-Years	572	1,746	1,988	4,189	5,652	2,440

Panel B: Public Firms with prior VC Backing

Year Bin:	2000 - 2003	2004 - 2007	2008 - 2011	2012 - 2015	2016 - 2019	2020 - 2021
Fraction Female	18.0%	18.4%	17.5%	21.0%	35.1%	51.0%
Fraction Black	3.9%	4.1%	2.5%	2.9%	4.2%	15.5%
Fraction Hispanic	0.0%	2.3%	1.8%	1.6%	2.1%	3.9%
Firm-Years	116	362	419	817	1098	435

Panel C: Private Firms

Year Bin:	2000 - 2003	2004 - 2007	2008 - 2011	2012 - 2015	2016 - 2019	2020 - 2021
# Directors Joining	1.39	1.62	1.63	1.63	1.52	1.53
with Race	70.9%	77.6%	83.1%	86.0%	89.3%	87.2%
Firm-Years	1,477	4,474	8,074	13,938	15,701	8,267
Among firm-years with at least one director with race						
Fraction Female	6.0%	5.6%	6.5%	8.2%	13.5%	22.9%
Fraction Black	0.5%	0.7%	0.7%	0.6%	1.0%	2.4%
Fraction Hispanic	0.9%	0.9%	1.2%	1.3%	1.6%	1.7%
Firm-Years	1,107	3,716	7,012	12,568	14,629	7,616

Table 2: Board Diversity by Director Types

This table presents the distribution of director types by director race for our sample of privately held firms. Only director appointments between 2013 to 2021 are included. We classify directors as "Insiders" if they are executives of the company. We classify directors as "Investors" if they are on the board representing an investment firm, where the firm is classified in PitchBook as "Venture Capital," "Private Equity," "Angel Group," or "Limited Partner." We classify directors as "Outsiders" if they are neither Insiders nor Investors. Panel A presents the count of the number of unique directors in each role that are either female, Black, or Hispanic. Panel B reports the fraction of diverse directors for each of the role, and in total fraction of diverse directors in all roles.

Panel A: Number of Directors

Director Role:	Insider	Investor	Outsider	Type not Known	Total
Female	1,259	2,699	2,754	2	6,714
Black	133	213	222	0	568
Hispanic	145	349	251	0	745
All Directors	7,950	25,441	14,222	25	47,638

Panel B: Fraction of Diverse Directors

Director Role:	Insider	Investor	Outsider	Total
Fraction Female	15.8%	10.6%	19.4%	14.1%
Fraction Black	1.7%	0.8%	1.6%	1.2%
Fraction Hispanic	1.8%	1.4%	1.8%	1.6%

Table 3: Validating PitchBook's Coverage of Startup Directors

This table tabulates the coverage of directors by PitchBook. We identify directors by considering all individuals associated with a given firm in LinkedIn, and extract potential directors of the board by processing their job titles. The sample consists of companies in our sample of private companies that we match to FormD and then to LinkedIn through fuzzy matching. As the fuzzy name matching may generate multiple matches in LinkedIn for a given company in PitchBook, we require that at least one of the directors identified among the employees in LinkedIn is included in PitchBook, either as a director or as a senior executive. These individuals are matched through their LinkedIn URLs. We classify directors by race following the process outlined in Section II.B.1 and Appendix B.1. Panel A presents the counts for all directors by race and by whether the director is in PitchBook, as well as the fraction of directors that are in PitchBook. Panels B, C, and D breaks this down by Insider Directors, Outsider Directors, and Investor Directors, respectively. The total number of unique companies is 4,890.

Panel A: All Directors

	Director Race				
	White	Black	Hispanic	Asian	Total
Directors in PitchBook	12,246	166	201	1,907	14,520
Directors not in PitchBook	522	19	14	64	619
Total	12,768	185	215	1,971	14,973
Fraction in PitchBook	95.91%	89.73%	93.49%	96.75%	95.81%

Panel B: Insider Directors

	Director Race				
	White	Black	Hispanic	Asian	Total
Directors in PitchBook	2,588	36	53	407	3,084
Directors not in PitchBook	357	13	10	54	434
Total	2,945	49	63	461	3,518
Fraction in PitchBook	87.88%	73.47%	84.13%	88.29%	87.66%

Panel C: Outsider Directors

	Director Race				
	White	Black	Hispanic	Asian	Total
Directors in PitchBook	3,664	74	55	448	4,241
Directors not in PitchBook	83	1	0	3	87
Total	3,747	75	55	451	4,328
Fraction in PitchBook	97.78%	98.67%	100.00%	99.33%	97.99%

Panel D: Investor Directors

	Director Race				
	White	Black	Hispanic	Asian	Total
Directors in PitchBook	5,994	56	93	1,052	7,195
Directors not in PitchBook	77	5	3	6	91
Total	6,071	61	96	451	1,058
Fraction in PitchBook	98.73%	91.80%	96.88%	99.43%	98.75%

Table 4: Board Diversity in Appointments - Public vs. Private Firms

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses, where the sample period is between 2013 and 2021. The dependent variable is the fraction of newly appointed board members that are either Hispanic, Black, Minorities (Black/Hispanic), or Female. The key independent variable is *Public*, which is an indicator that equals one if the company is a public firm. *Post GF* is an indicator that equals one for 2020 and 2021, following the George Floyd social justice movement. *State FE* are indicators for the state where the firm is headquartered. Private firms in our sample have raised capital from a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Dep Var:	Black	Hispanic	Minority	Female
Public × Post GF	12.666***	1.450***	14.116***	4.858***
	(0.774)	(0.419)	(0.845)	(1.080)
Public	4.559***	1.065***	5.624***	18.537***
	(0.226)	(0.173)	(0.285)	(0.428)
Observations	43849	43849	43849	43849
Adjusted R^2	0.084	0.004	0.071	0.089
Year FE?	X	X	X	X
State FE?	X	X	X	X

Table 5: Board Diversity - Influence of VC Backed Public Firms

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is a firm-year where a new director was appointed between 2013 and 2021. The dependent variable is the fraction of newly appointed board members that are either Hispanic, Black, Minority (Black/Hispanic) or female. The firms in Panels A and B are publicly traded. The key independent variable is *VC Backed*, which is an indicator that equals one if the company has received VC financing prior to its IPO, using the classification compiled by Gornall and Strebulaev (2021). All models include year and state fixed effects, where *State FE* are indicators for the state where the firm is headquartered with the year representing the year of the director appointment. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Panel A: Public Firms	Black	Hispanic	Minority	Female
VC Backed	-1.475***	-0.797**	-2.271***	0.349
	(0.566)	(0.377)	(0.668)	(0.938)
Observations	11742	11742	11742	11742
Adjusted R^2	0.081	0.004	0.077	0.058
Year FE?	X	X	X	X
State FE?	X	X	X	X

Panel B: Public Firms	Black	Hispanic	Minority	Female
VC Backed × Post GF	-2.013	0.471	-1.542	6.380**
	(1.845)	(0.968)	(2.038)	(2.540)
VC Backed	-1.076*	-0.890**	-1.966***	-0.913
	(0.553)	(0.392)	(0.678)	(1.023)
Observations	11742	11742	11742	11742
Adjusted R^2	0.081	0.004	0.077	0.058
Year FE?	X	X	X	X
State FE?	X	X	X	X

Table 6: Board Diversity - Political Leaning of Stakeholders

This table presents coefficients from OLS regressions run at the startup-year level, with standard errors reported in parentheses. The unit of observation is a firm-year where a new director was appointed between 2013 and 2021. Panel A focuses on public firms while Panel B focuses on private firms. A private firm is included in the sample if it has received capital from at least one U.S.-based private capital fund (venture capital or private equity fund) according to PitchBook data. The dependent variable is the fraction of newly appointed board members that are either Hispanic, Black, Minority (Hispanic/Black) or Female. The key independent variable is *Post GF*, which is an indicator that equals one for 2020 and 2021. *State FE* are indicators for the state where the firm is headquartered. *I(Republican State)* is an indicator for firms headquartered in states Republicans won in 2016. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Panel A: Public Firms	Black	Hispanic	Minority	Female
Post GF	15.665***	1.190**	16.855***	13.834***
	(1.040)	(0.505)	(1.113)	(1.390)
I(Republican State) × Post GF	-0.278	1.911*	1.633	-3.173
	(1.846)	(1.047)	(1.991)	(2.471)
Observations	10735	10735	10735	10735
Adjusted R^2	0.013	-0.010	0.038	-0.054
Firm FE?	X	X	X	X

Panel B: Private Firms	Black	Hispanic	Minority	Female
Post GF	1.895***	0.064	1.959***	13.838***
	(0.306)	(0.262)	(0.399)	(0.800)
I(Republican State) × Post GF	0.354	-0.456	-0.101	-1.078
	(0.773)	(0.621)	(0.986)	(1.939)
Observations	21689	21689	21689	21689
Adjusted R^2	0.008	0.032	0.021	0.056
Firm FE?	X	X	X	X

Table 7: Board Diversity in Private Firms - Political Leaning of Investors

This table presents coefficients from OLS regressions run at the startup-year level, with standard errors reported in parentheses. The unit of observation is a startup-year where a new director was appointed between 2013 and 2021. To be included in the sample, the startup must have received capital from a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. The dependent variable is the fraction of newly appointed board members that are either Hispanic, Black, Minority (Hispanic/Black) or Female. The key independent variable is *Post GF*, which is an indicator that equals one for 2020 and 2021. *State FE* are indicators for the state where the firm is headquartered. *F(Republican VCs)* is the fraction of VCs backing the company that are headquartered in a state that the Republicans won in 2016, while *F(Republican LPs)* is the fraction of LPs that are located in a state that the Republicans won in 2016. LPs included here are those that are invested in the fund raised by the VC, which in turn invested in the startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by startup.

Panel A: Venture Capital Investors in Republican States				
Post GF	2.169***	0.188	2.358***	15.846***
	(0.423)	(0.376)	(0.561)	(1.117)
F(Republican VCs) × Post GF	-0.348	-1.068	-1.416	-1.648
	(1.441)	(1.736)	(2.255)	(4.160)
F(Republican VCs)	-1.450	0.049	-1.401	-4.434
	(1.407)	(1.049)	(1.738)	(3.931)
Observations	14114	14114	14114	14114
Adjusted R^2	-0.008	0.020	0.009	0.051
Firm FE?	X	X	X	X
Panel B: Limited Partners in Republican States				
Post GF	1.778***	-0.249	1.529*	14.680***
	(0.603)	(0.607)	(0.852)	(1.719)
F(Republican LPs) × Post GF	0.969	0.860	1.829	2.553
	(1.370)	(1.339)	(1.897)	(4.044)
F(Republican LPs)	-1.484	-2.686**	-4.170**	2.650
	(1.135)	(1.247)	(1.677)	(3.857)
Observations	14114	14114	14114	14114
Adjusted R^2	-0.008	0.021	0.009	0.051
Firm FE?	X	X	X	X

Table 8: Board Diversity in Private Firms by Director Type

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is a startup-year where a new director was appointed between 2013 and 2021. The dependent variable is the fraction of newly appointed board members of a given type that are either Hispanic, Black, Minority (Black/Hispanic) or female. Panel A focuses on Insider Directors, and a startup-year is included if at least one insider director is appointed. Panel B focuses on Outsider Directors, and a startup-year is only included if at least one outside director is appointed. Recall that an outside director is neither affiliated with the firm nor its investors. Panel C focuses on Investor Directors, and a firm-year is included when at least one director is appointed and that director works for an investor in the firm. The key independent variable is *Post GF*, which is an indicator that equals one for directors appointed in 2020 or 2021. All models include firm fixed effects. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors at the startup level.

Panel A: Insider Directors	Black	Hispanic	Minority	Female
Post GF	3.825***	-0.033	3.792**	15.552***
	(1.073)	(1.014)	(1.477)	(2.545)
Observations	1898	1898	1898	1898
Adjusted R^2	-0.014	-0.007	-0.005	0.069
Firm FE?	X	X	X	X

Panel B: Outsider Directors	Black	Hispanic	Minority	Female
Post GF	3.621***	0.753	4.373***	16.236***
	(0.632)	(0.465)	(0.776)	(1.581)
Observations	5616	5616	5616	5616
Adjusted R^2	0.059	0.010	0.028	0.052
Firm FE?	X	X	X	X

Panel C: Investor Directors	Black	Hispanic	Minority	Female
Post GF	1.135***	-0.595	0.540	8.381***
	(0.381)	(0.407)	(0.552)	(1.169)
Observations	9564	9564	9564	9564
Adjusted R^2	0.029	0.010	0.018	0.056
Firm FE?	X	X	X	X

Table 9: Board Diversity - Impact of Type of Investor

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is a private-firm year with a board director appointment between 2013 and 2021. The dependent variable is the fraction of newly appointed board members that are either Hispanic, Black, Minority (Black and Hispanic) or female. The key independent variable is *F(Minority VCs)*, which measures the fraction of VCs invested in the company that are minority-owned (have a Black or Hispanic Founder or Senior Partner), following the classification in Cassel et al. (2022). All models include year and state fixed effects, where *State FE* are indicators for the state where the firm is headquartered. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Dependent Variable:	Black	Hispanic	Minority	Female
F(Minority VCs) × Post GF	-4.318	-1.905	-6.223	-10.259*
	(3.917)	(3.590)	(5.033)	(5.876)
F(Minority VCs)	11.701***	6.460***	18.161***	6.228**
	(2.469)	(1.720)	(2.937)	(2.897)
Observations	32107	32107	32107	32107
Adjusted R^2	0.011	0.002	0.010	0.035
Year FE?	X	X	X	X
State FE?	X	X	X	X

Table 10: Board Diversity - Impact on Employee Composition

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is a private-firm year with information on the composition of employees from CoreSignal between 2017 and 2019. The dependent variable is the fraction of employees that are either Hispanic, Black, or Minority (Black and Hispanic). The key independent variables are the proportion of board members that are Black, Hispanic, or Female. All models include year and state fixed effects, where *State FE* are indicators for the state where the firm is headquartered. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Dependent Variable:	Black Employees	Hispanic Employees	Minority Employees	Minority Employees
F(Black Directors)	0.123**		0.115**	0.114**
	(0.053)		(0.053)	(0.053)
F(Hispanic Directors)		0.012	0.020	0.020
		(0.017)	(0.026)	(0.026)
F(Female Directors)				0.008
				(0.008)
Observations	10,844	10,844	10,844	10,844
Adjusted R^2	0.009	-0.000	0.006	0.006
Year FE?	X	X	X	X
State FE?	X	X	X	X

Evolution of Board Diversity: A Study of Private and Public Firms

Internet Appendix

Appendix A. Matching Directors in BoardEx to ISS

Our dataset of directors in public firms comes from BoardEx, which lacks information about the ethnicity of directors. We supplement it with ISS, which has data on the ethnicity of board directors. This appendix details our process for matching directors in BoardEx to ISS and verifying the accuracy of our matches.

We begin by matching companies in both datasets on CIK (the Central Index Key — a firm-specific identifier given to the firm by the Securities and Exchange Commission), and then match the directors at that company. This initial step ensures that we do not accidentally match two different directors with similar names, as we require that they are listed as being on the same company's board according to both BoardEx and ISS.

Second, we match directors associated with the matched firm pair using two textual analysis methods: fuzzy name matching on cleaned names, and matching on common nicknames plus surnames.

We combine these two approaches because BoardEx and ISS do not list director names in a consistent way. While ISS typically lists individuals with their legal first and last names, BoardEx commonly uses nicknames and often includes honorary titles and suffixes. For example, Benjamin Cravatt is on the board of directors of Fibrogen, Inc. In ISS, he appears as "Benjamin Cravatt", while BoardEx lists him as "Professor Doctor Ben Cravatt III". While Ben and Benjamin are close enough for fuzzy matching to work reasonably well, other common nicknames are less similar (e.g. "Bob" for "Robert", or "Bill" for "William").

Our name cleaning consists of removing punctuation; standardizing special characters; removing common honorary titles, prefixes, suffixes, initials, and family name prepositions (e.g "de", "la", "von"); and removing single-letter initials. To identify common honorary titles, prefixes and suffixes we manually inspect the 500 most com-

monly occurring words among director names in BoardEx and ISS.

Then, we calculate two fuzzy name matching scores. One based on directors' cleaned names and the other on the original name entry. For pairs of directors with fuzzy name matching scores exceeding 95%, we consider them a match. To further remove false positives, we manually inspect every match with a score below 100%. The manual inspection validates that the 95% threshold avoids all false positives. Recall that directors pairs that are eligible for matching must be listed as directors for the same firm in BoardEx and ISS. While there are some valid matches with lower fuzzy matching scores, the number of false positives rapidly increases below the 95% threshold.

To reduce false negatives (unmatched directors that are the same person), we focus on directors whose surnames are the same. Unlike first names, BoardEx does not replace surnames with variations, so surnames are broadly comparable across the two data sets. However, as certain surnames are common, relying solely on surnames may yield false positives. We therefore incorporate the nicknames from BoardEx in our process. Specifically, we consider two directors a match if they match exactly on surnames, and if the nickname variation of their first name (based on our database on nicknames) in ISS matches their nickname in BoardEx.[13] We manually inspect each proposed match, comparing dates at which ISS and BoardEx claim the director worked for the company to ensure an accurate match. For suspicious cases we manually inspect that the director actually goes by their nickname in BoardEx.

For remaining cases where there is a match on surnames, but we neither have a nickname match nor a fuzzy matching score on first names above 95, we inspect each potential match to identify a threshold of fuzzy matching that is sufficiently good.

[13] We get our database of nicknames from https://github.com/carltonnorthern/nicknames (accessed on July 29, 2022), which was initially generated by mining a genealogy page. As it was mined from a genealogy page consisting primarily of old nicknames, we manually complement this list with common nicknames in BoardEx. Please contact the authors for additional details on the process of matching on nicknames.

We find that, generally, if the fuzzy matching on the full name exceeds 80 when the surnames match perfectly, it is almost always a match. We include all of these matches except for four incorrect matches where multiple family members had worked in the same firm.[14]

When a director in BoardEx matches to multiple directors in ISS, we inspect all matches manually to keep the best match. To resolve ties, we rely on a nickname match if available, and in the absence of a nickname match we resolve any remaining cases by keeping the match with the highest overall fuzzy matching score.

ISS classifies race/ethnicity by one of the following eight categories: 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 focus on Black and Hispanic directors in our paper, which corresponds to the ISS classifications "Black/African American" and "Hispanic/Latin American", respectively.

If a director is matched between ISS and BoardEx and has specified race/ethnicity, then we apply this race/ethnicity data to all boards on which the director sits on according to BoardEx.

Appendix B. Board of Directors in Private Firms

Our data on private company directors comes from PitchBook, providing start and end dates of the director's tenure at a given company. To understand diversity of private company directors, we need to overcome two hurdles. First, PitchBook does not collect data on director race. One of our contributions is therefore to collect this information for all directors. While we take great care to correctly classify directors,

[14] These incorrect matches are: William Peterffy being matched with Tom Peterffy at Interactive Brokers; Zachary Jaindl and Mark Jaindl at American Bank; Ryan Ruhlman and Randy Ruhlman at Preformed Line Products; and Ronald Lauder and Leonard Lauder at Estée Lauder.

a potential concern is that we are only able to retrieve the race for a small subset of those directors. Second, PitchBook may not capture all director appointments, as private firms are not required to publicly disclose director appointments. These two points would call into question the external validity of our findings. Further, PitchBook may lack data on the start and/or end date of a director's appointment (Ewens and Malenko, 2022). Of course, the start date is important to understand how diversity evolves over time, our main focus in this paper.

While the next version of this paper will contain more detailed data of whether director coverage in PitchBook varies by race, in this section we discuss our efforts to preserve as much of the sample as possible and end with statistics on the fraction of directors for whom we have data on race and tenure.

From our initial set of directors, PitchBook lacks a start date in 31.5% of all director appointments. We complement missing start and end dates by merging directors to their LinkedIn profile. One limit to this approach is that PitchBook does not always have a LinkedIn profile link for directors. To mitigate this limitation, we manually search for LinkedIn profiles of directors without a LinkedIn profile in PitchBook.

Thus, when available, we use PitchBook's start and end years for a director's tenure. Else, we use the first time they are associated with the firm according to their LinkedIn page as the start date, and the last year they are associated with the firm as the end year. If they are still associated with the firm (according to their LinkedIn profile), and there is no end date in PitchBook, we assume that the director is still sitting on the firm's board. We are able to recover the start dates for 13.4% of directors from their LinkedIn profile, although we are still missing start dates for 18.1% of director appointments.

Panel C of Table 1 shows the total number of firm-years with at least one director appointment, and the average number of directors appointed to private firms, aggregated in four-year buckets. The panel further shows the fraction of director appointments for which we have director race data. To make the comparison to our

public firm coverage of director race, Panel A shows similar statistics for public firms. Overall, we have director race for 85.6% of director appointments in our private-firm sample. Across all time periods, we are able to classify director race for a larger fraction of private company directors than what ISS captures for public company directors. This addresses the first concern highlighted above. Before turning to the second, we detail our process for classifying the race of directors.

Appendix 1. Details on Process to Classify Directors' Race

We classify the race of directors, following the U.S. Census, into the following categories: Hispanic, Black, Asian, and White. Our approach combines two algorithmic approaches with manual review. Our first algorithmic approach uses a machine learning algorithm to predict directors race from profile pictures, which we complement using an algorithmic prediction based on the first and last name of the director (see Cook et al. (2022) for details on the algorithmic classification). Since we require both name and picture for each director, we are unable to classify a director when we cannot find an image for the director. Whenever available, we rely on the director's LinkedIn profile picture. If missing, we search for a picture using the firm's website, or use alternative online sources if the director is clearly identified as a director of the firm in question.

As a first pass, we classify individuals based on whether the image and name algorithm agree with each other about the director's race. When they disagree, we rely on the image-based prediction for classifying directors as either Black or White and use the name-based prediction for identifying directors as either Hispanic or Asian. Then, we hire three Upworkers to review all classifications. One of the Upworkers self-identifies as Asian American, one as Hispanic, and one as Black. Our hope, backed by research (Ma et al., 2021), is that each Upworker is better suited to identify members of their group. We provide the Upworkers with the names and profile pictures of all

directors, and ask for their classification of the directors. If all three Upworkers agree on a classification, we leave the director in that group. Any remaining discrepancies are resolved by one of the authors.

After this first pass we do two full additional reviews. As before, we hire three Upworkers to review the initial algorithmic predictions and the classifications of the previous batch of Upworkers. We ask each of these Upworkers to first focus on the group they identify with and remove images of directors they believe have been incorrectly placed in that group. When they remove a director, we ask them to propose the racial or ethnic category they believe best identifies the director's race. After that, we ask the same Upworker to review all directors classified as a different race, and ask them whether they believe any of these directors should be in the group the Up-Worker identifies as. For example, we ask the Hispanic Upworker to propose director images we should exclude from the set of directors preliminary classified as Hispanics. We then ask this Hispanic Upworker to search for potential Hispanic directors among directors classified as any other race (White, Black, and Asian). We repeat this step twice, with one of the authors reviewing every proposed change.

We do one additional review focused on identifying potential false positives, where the Upworker focuses on identifying incorrectly classified directors from their group.[15] For any proposed incorrect classification at this stage, one of the authors searches for information on LinkedIn, interviews of that director, newspaper coverage, or additional information corroborating the original classification. If we do not find any corroborating information, the director is categorized into the race proposed by the Upworker. Finally, two of the authors independently conduct a full manual review of all director classifications.

We gather director appointments in PitchBook for all directors associated with the startups in our sample. As some of these firms go public, we end up classifying

[15] At this stage we only hire two Upworkers, one that identifies as Black and one that identifies as both Hispanic and Asian American.

race for a subset of directors that are also covered by ISS. We leverage this overlap to validate our approach, comparing our classifications with those of ISS. To do so, we match directors by fuzzy matching on their names within each company, and gather the classifications of all overlapping directors in Table A1. Our classifications have a small number of false positives for black directors, but is less accurate for Hispanic and Asian directors.[16]

Appendix C. How Comprehensive is Data on Private Firm Directors?

While PitchBook is unlikely to have a comprehensive coverage of all directors of private firms, we make an assumption in our study that PitchBook's coverage of director appointments is unrelated to the race of the director. To validate this assumption, we follow Ewens and Malenko (2022) and collect the names of directors listed on Form D filings (see Yimfor (2021) for details on Form D filings and firms that make these filings). We match firms to PitchBook using fuzzy matching on cleaned firm names, manually inspecting each proposed match to ensure its validity. For the set of matched firms, we then match directors within each company between PitchBook and Form D based on their surname and, if multiple matches are found, on the closest first name. Following this process, we end up with three sets of directors: directors that are only listed on Form D, directors that are only in PitchBook, and directors in both datasets.

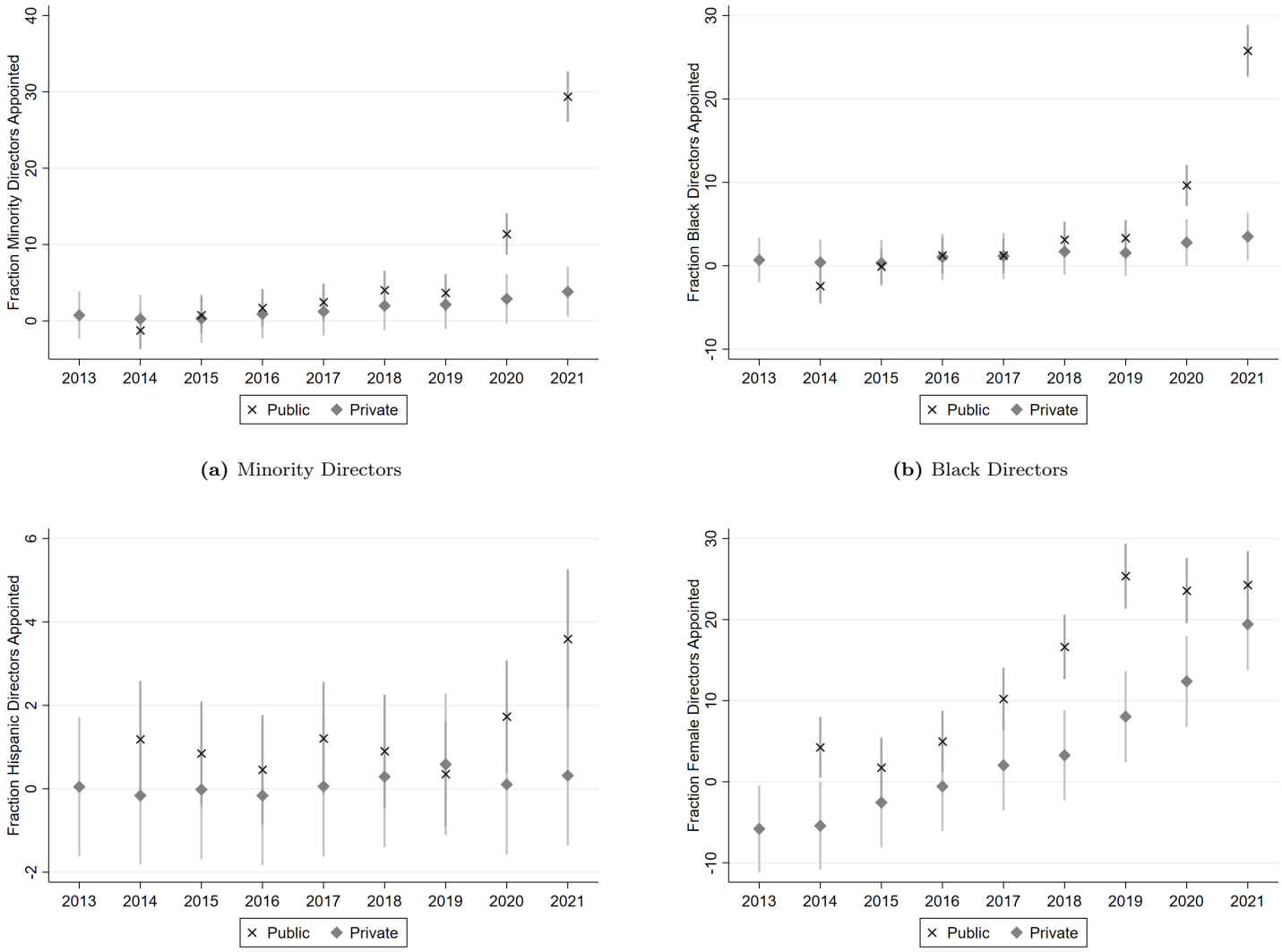
To validate PitchBook's director appointments, we need to show two things. First, the likelihood of observing a director in PitchBook is not a function of whether the director belongs to an underrepresented group. If it is, then our sample will either

[16] Due to the fuzzy matching on director names, some of the discrepancies are likely due to incorrectly matched directors.

under- or over- represent the fraction of minority directors in private firms. Second, the director race does not predict whether a director is only listed on Form D.

To that end, we extract the LinkedIn profiles of directors that we only observe in the Form D sample. As Form D filings do not contain URLs to LinkedIn profiles, we extract individual profiles from LinkedIn page of the firm they work at, matching the director to the set of employees listed with fuzzy matching on first names and exact matching on surname.

The process of extracting LinkedIn matches and data is currently in process, and we expect to present these results in the next version of the paper.



(a) Minority Directors

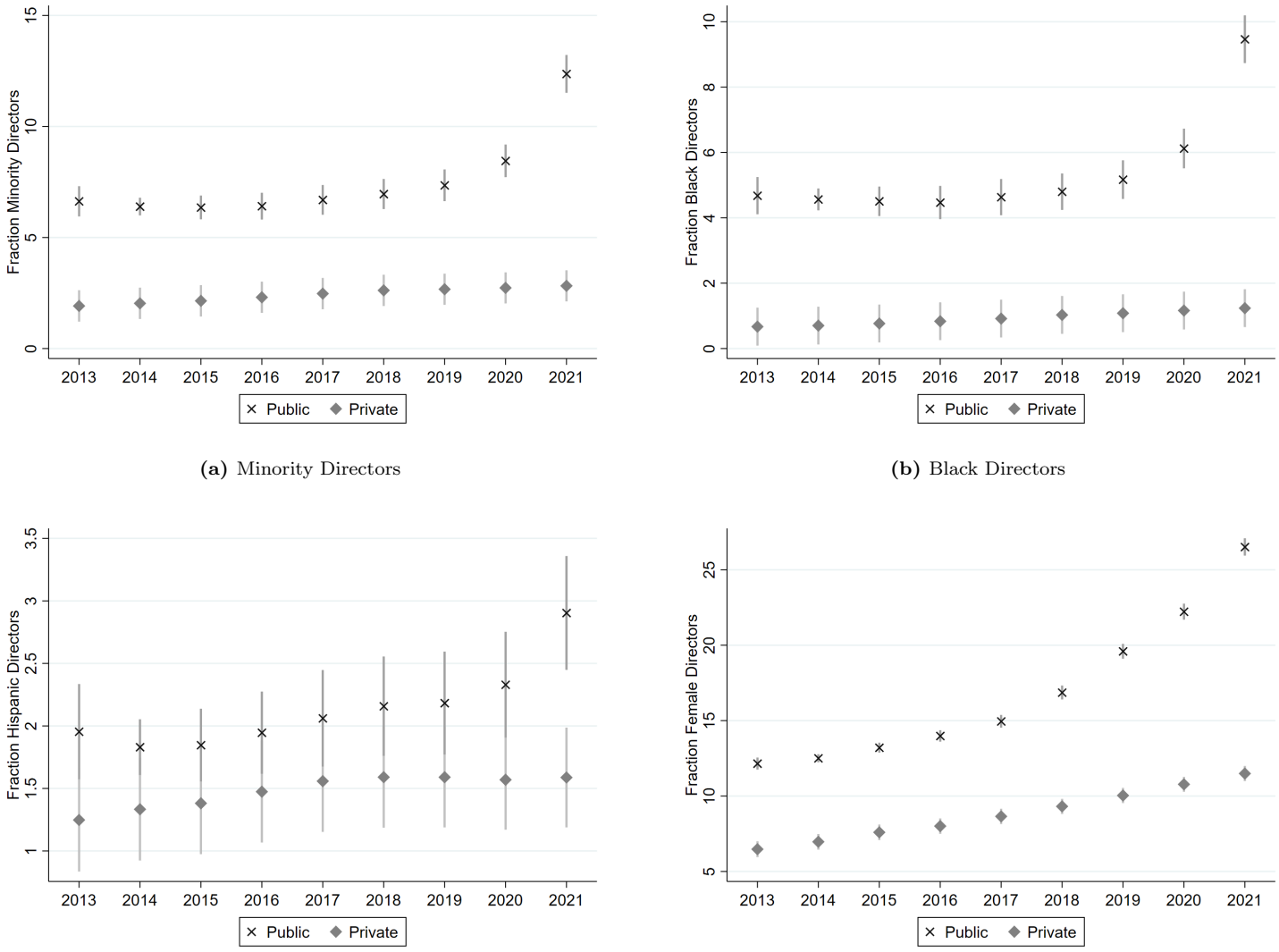
(b) Black Directors

(c) Hispanic Directors

(d) Female Directors

Figure A1: Board Diversity in Appointments - Public vs. Private with Firm Fixed Effects

This figure presents yearly coefficients from 2013 to 2021 from OLS regressions run at the firm-year level, with 95% confidence intervals indicated by the lines around the dots. The dependent variable is the fraction of newly appointed board members that are Minorities in subfigure (a), Black in subfigure (b), Hispanic in subfigure (c), and Female in subfigure (d). Public firms are the reference category in 2013. The key independent variables are indicators for whether a company is publicly traded or privately held, interacted with an indicator for the year of the observation. A company-year is only included if there is at least one director appointed in that year and we can classify the race of the appointed director. Private companies are only included in the sample if the firm has been backed by a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. In the regression, *Firm FE* are included as controls. Each regression has 31,318 observations. We cluster standard errors by the firm.



(a) Minority Directors

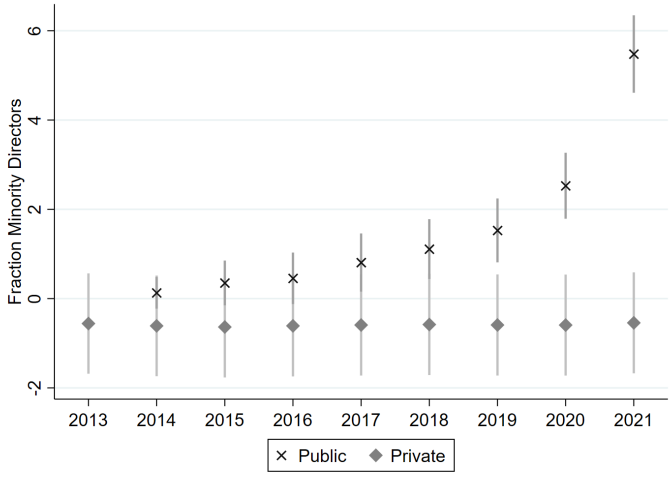
(b) Black Directors

(c) Hispanic Directors

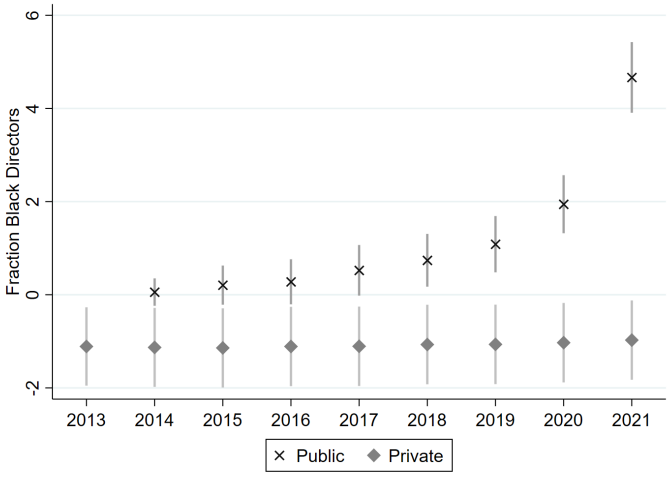
(d) Female Directors

Figure A2: Board Diversity in Levels - Public vs. Private

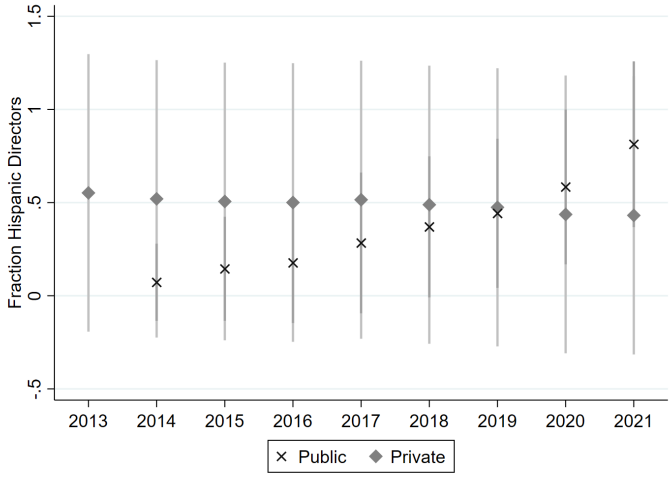
This figure presents yearly coefficients from 2013 to 2021 from OLS regressions run at the firm-year level, with 95% confidence intervals indicated by the lines around the dots. The dependent variable is the fraction of directors sitting on the board that are Minorities in subfigure (a), Black in subfigure (b), Hispanic in subfigure (c), and Female in subfigure (d). The key independent variables are indicators for whether a company is publicly traded or privately held, interacted with an indicator for the year of the observation. A company-year is only included if there is at least one director on the board with gender information in subfigure (d), and at least one director with race in the other subfigures. The fraction of diverse director is calculated based on all directors whose race is known (or gender, in the case of subfigure (d)). Private companies are only included in the sample when they are backed by a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook. In the regression, *State FE*, not shown, are included as indicator variables that equal one when a the firm is headquartered in the state. Regressions in subfigures (a) through (c) have 186,412 observations, while the regression in subfigure (d) has 191,207 observations. We cluster standard errors by the firm.



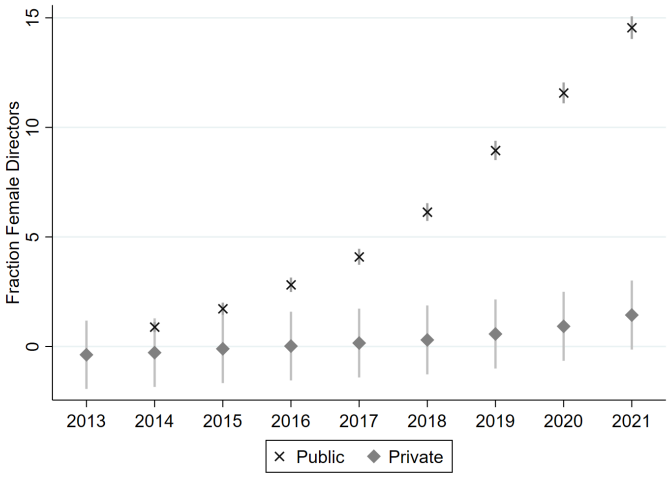
(a) Minority Directors



(b) Black Directors



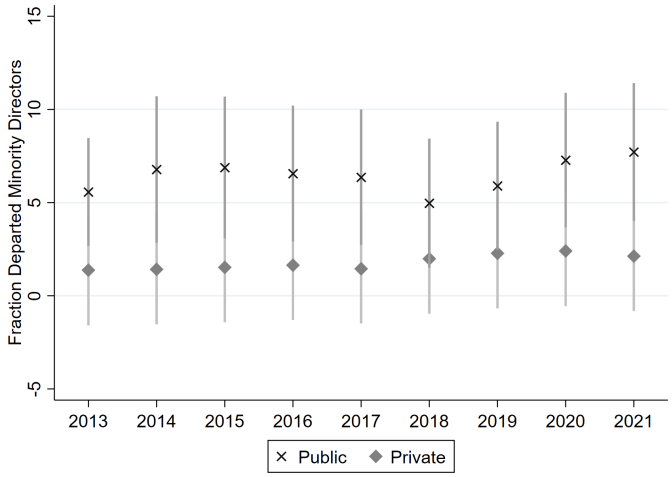
(c) Hispanic Directors



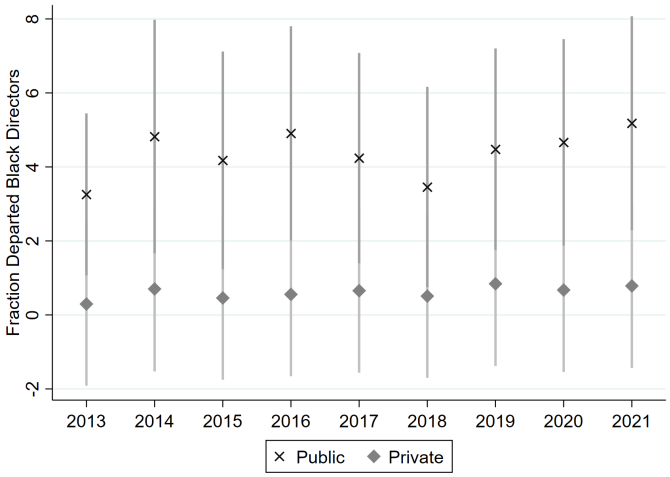
(d) Female Directors

Figure A3: Board Diversity in Levels - Public vs. Private with Firm Fixed Effects

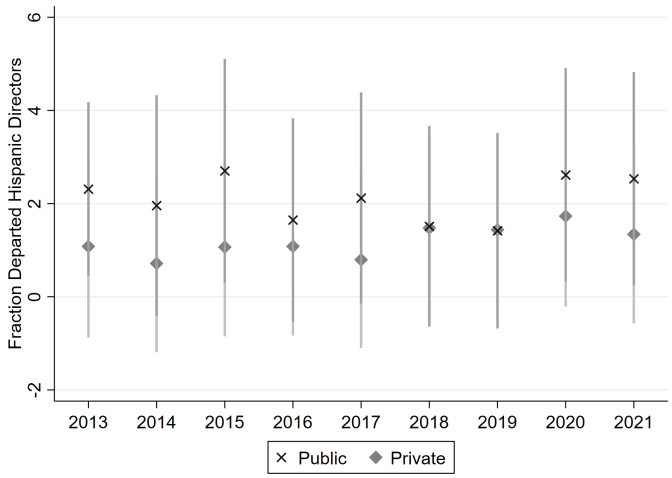
This figure presents yearly coefficients from 2013 to 2021 from OLS regressions run at the firm-year level, with 95% confidence intervals indicated by the lines. The dependent variable is the fraction of directors sitting on the board that are Minorities in subfigure (a), Black in subfigure (b), Hispanic in subfigure (c), and Female in subfigure (d). The key independent variables are indicators for whether a company is publicly traded or privately held, interacted with an indicator for the year of the observation. A company-year is only included if there is at least one director on the board with gender information in subfigure (d), and at least one director with race information in the other subfigures. The fraction of diverse director is calculated based on all directors whose race is known (or gender, in the case of subfigure (d)). Private companies are only included in the sample if the firm has been backed by a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. The regression includes *Firm FE*, so we require firms to have at least two years of data to be included. Regressions in subfigures (a) through (c) have 184,508 observations, while the regression in subfigure (d) has 189,266 observations. We cluster standard errors by the firm.



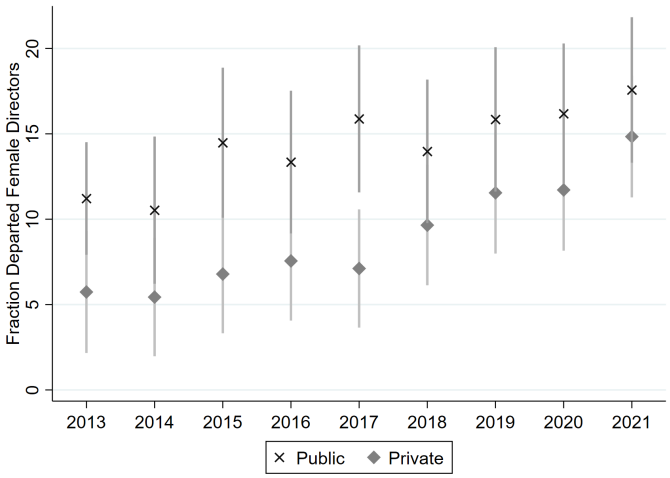
(a) Minority Directors



(b) Black Directors



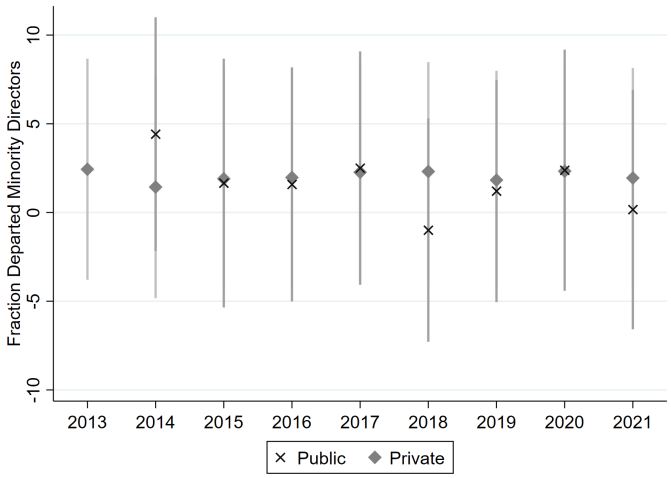
(c) Hispanic Directors



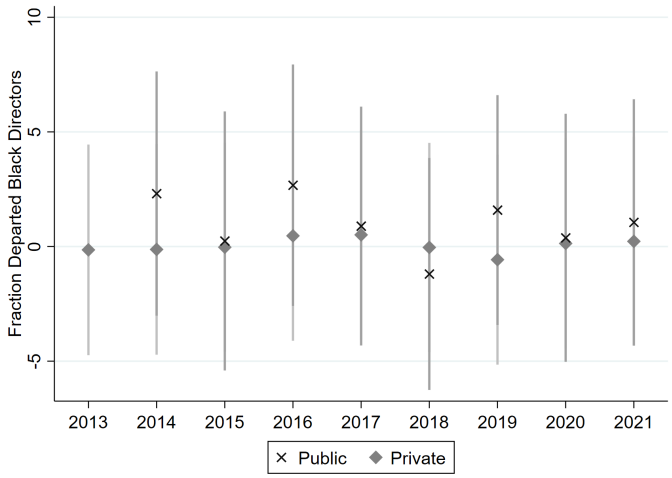
(d) Female Directors

Figure A4: Which Directors Leave?

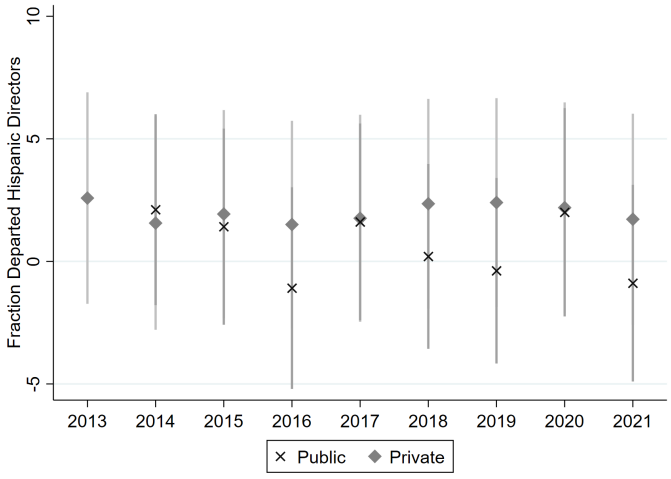
This figure presents yearly coefficients from 2013 to 2021 from OLS regressions run at the firm-year level, with 95% confidence intervals indicated by the lines around the dots. The dependent variable is the fraction of directors leaving the board in a given year that are Minorities in subfigure (a), Black in subfigure (b), Hispanic in subfigure (c), and Female in subfigure (d). The key independent variables are indicators for whether a company is publicly traded or privately held, interacted with an indicator for the year of the observation. A company-year is only included if there is at least one director leaving the board in that year with gender information in subfigure (d), and at least one director with race leaving the board in the other subfigures. The fraction of diverse director is calculated based on all departing directors whose race is known (or gender, in the case of subfigure (d)). Private companies are only included in the sample when they are backed by a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook. Each regression has 18,612 observations. We cluster standard errors by the firm.



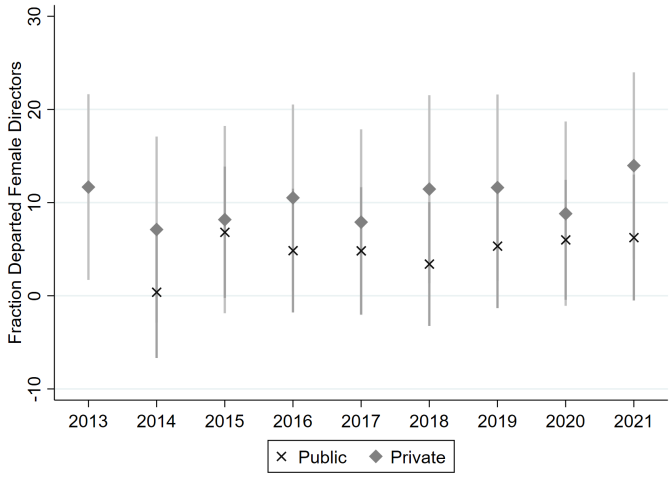
(a) Minority Directors



(b) Black Directors



(c) Hispanic Directors



(d) Female Directors

Figure A5: Which Directors Leave? Within-Firm Estimations

This figure presents yearly coefficients from 2013 to 2021 from OLS regressions run at the firm-year level, with 95% confidence intervals indicated by the lines around the dots. The dependent variable is the fraction of directors leaving the board in a given year that are Minorities in subfigure (a), Black in subfigure (b), Hispanic in subfigure (c), and Female in subfigure (d). The key independent variables are indicators for whether a company is publicly traded or privately held, interacted with an indicator for the year of the observation. A company-year is only included if there is at least one director leaving the board in that year with gender information in subfigure (d), and at least one director with race leaving the board in the other subfigures. The fraction of diverse director is calculated based on all departing directors whose race is known (or gender, in the case of subfigure (d)). Private companies are only included in the sample when they are backed by a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook. The regressions include *Firm FE*, so we require firms to have at least two years of data to be included. Each regression has 8,575 observations. We cluster standard errors by the firm.

Table A1: Validation of Director Race Classification - Our Classification vs. ISS

This table shows a two-way contingency table of the count of directors classified as "White," "Black," "Hispanic," and "Asian," according to ISS ("ISS Directors") and PitchBook ("PitchBook Directors"). Panel A presents the total count of directors in each cell. Panel B calculates the proportion of the ISS director classifications that match our classification using PitchBook. For example, of the 361 directors we identify as Black, ISS agrees with our classification 97.5% of the time. We classify directors by race following the process outlined in Section II.B.1 and Appendix B.1. To match directors in PitchBook to our BoardEx/ISS sample, we first match companies by CIK. Within each CIK, we then conduct a fuzzy matching on names. We follow the name-matching procedure outlined in Appendix A to determine the best match for each director. Finally, to create this table we use the intersection of matched directors with race in both PitchBook and ISS. In total, we match 7,890 unique directors. As ISS race classifications have more categories than our PitchBook classification of directors, we map ISS classifications into our four categories as follows: We map"Black/African American" to "Black"; "Hispanic/Latin American" to "Hispanic"; "indian/south asian" to "asian (exclude indian/south asian)", and "native hawaiian/other pacific islander" to "Asian"; We map all other categories to "White." Although we do not report statistics on gender, the overlap between gender classifications in BoardEx and PitchBook is 99.8%.

Panel A: Counts

	PitchBook Directors				
ISS Directors	White	Black	Hispanic	Asian	Total ISS
White	6,435	6	44	147	6,650
Black	188	352	0	22	562
Hispanic	85	0	79	8	172
Asian	83	3	3	416	506
Total PitchBook	6,810	361	126	593	7,890

Panel B: Proportion Correctly Classified

	F(ISS Directors' Race)				
PitchBook Directors	White	Black	Hispanic	Asian	F(PitchBook)
White	94.8%	2.8%	1.3%	1.2%	86.3%
Black	1.7%	97.5%	0.0%	0.8%	4.6%
Hispanic	34.9%	0.0%	62.7%	2.4%	1.6%
Asian	24.8%	3.7%	1.3%	70.2%	7.5%

Table A2: Board Diversity in Appointments - Public vs. Private Firms with Firm Fixed Effects

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses, where the sample period is from 2013 to 2021. The dependent variable is the fraction of newly appointed board members that are either Hispanic, Black, Minorities, or Female. The key independent variable is *Public*, which is an indicator that equals one if the company is a public firm. *Post GF* is an indicator that equals one for 2020 and 2021, following the George Floyd social justice movement. *Firm FE* and *Year FE* are included as controls, and firms with no within-firm variation are dropped from this analysis. Private firms in our sample have raised capital from a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Dep Var:	Black	Hispanic	Minority	Female
Public × Post GF	13.599***	1.841***	15.440***	-1.505
	(0.892)	(0.500)	(0.977)	(1.345)
Observations	32712	32712	32712	32712
Adjusted R^2	0.015	-0.002	0.042	0.062
Year FE?	X	X	X	X
Firm FE?	X	X	X	X

Table A3: Board Diversity in Levels - Public vs. Private Firms

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses, where the sample period is from 2013 to 2021. The dependent variable is the fraction of current board members that are either Hispanic, Black, Minorities, or Female. The key independent variable is *Public*, which is an indicator that equals one if the company is a public firm. *Post GF* is an indicator that equals one for 2020 and 2021, following the George Floyd social justice movement. *State FE* are indicators for the state where the firm is headquartered. Private firms in our sample have raised capital from a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Dep Var:	Black	Hispanic	Minority	Female
Public × Post GF	2.581***	0.473***	3.053***	6.463***
	(0.210)	(0.130)	(0.244)	(0.220)
Public	3.743***	0.472***	4.215***	7.146***
	(0.204)	(0.148)	(0.252)	(0.221)
Observations	190625	190625	190625	190625
Adjusted R^2	0.037	0.006	0.025	0.033
Year FE?	X	X	X	X
State FE?	X	X	X	X

Table A4: Board Diversity in Levels - Public vs. Private Firms with Firm Fixed Effects

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses, where the sample period is from 2013 to 2021. The dependent variable is the fraction of current board members that are either Hispanic, Black, Minorities, or Female. The key independent variable is *Public*, which is an indicator that equals one if the company is a public firm. *Post GF* is an indicator that equals one for 2020 and 2021, following the George Floyd social justice movement. *Firm FE* and *Year FE* are included as controls, and firms with no within-firm variation are dropped from this analysis. Private firms in our sample have raised capital from a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Dep Var:	Black	Hispanic	Minority	Female
Public × Post GF	2.616***	0.503***	3.119***	7.697***
	(0.192)	(0.113)	(0.220)	(0.178)
Observations	184508	184508	184508	189266
Adjusted R^2	0.832	0.878	0.857	0.887
Year FE?	X	X	X	X
Firm FE?	X	X	X	X

Table A5: Board Diversity in Levels and VC Backing - Public Firms

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is a publicly traded firm covered by BoardEx where we found the race of at least one current director in ISS. This sample spans the years 2013 to 2021. The dependent variable is the fraction of directors on the board that are either Hispanic, Black, Minorities (Black/Hispanic), or Female. The key independent variable is *VC Backed*, an indicator that equals one if the company has received VC financing prior to its IPO, using data from Gornall and Strebulaev (2021). *State FE* are indicators for the state where the firm is headquartered. In Panel B, we include firm fixed effects, *Firm FE*, removing all firms with only one observation that consequently have no within-firm variation. *Post GF* is an indicator that equals one for 2020 and 2021, the years following the George Floyd social justice movement. *I(Republican)* is an indicator for firms headquartered in states Republicans won in 2016. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Panel A:	Black	Hispanic	Minority	Female
VC Backed	-1.820***	-0.036	-1.856***	-0.086
	(0.489)	(0.375)	(0.609)	(0.437)
Observations	29087	29087	29087	33882
Adjusted R^2	0.038	0.010	0.030	0.140
Year FE?	X	X	X	X
State FE?	X	X	X	X

Panel B:	Black	Hispanic	Minority	Female
Post GF	2.701***	0.431***	3.132***	8.916***
	(0.234)	(0.124)	(0.263)	(0.193)
I(Republican State) × Post GF	-0.134	0.056	-0.078	-0.441
	(0.416)	(0.260)	(0.481)	(0.348)
Observations	28788	28788	28788	33536
Adjusted R^2	0.685	0.704	0.699	0.726
Firm FE?	X	X	X	X

Table A6: Board Diversity in Levels - Impact of Political Leanings

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is a firm-year between 2000 and 2021. A firm-year is included if we know the race of at least one director on the board, and if the firm has received capital from a private capital fund (venture capital or private equity fund) that has at least one U.S.-based limited partner according to PitchBook data. The dependent variable is the fraction of directors on the board with race and gender information that are either Hispanic, Black, Minorities, or Female. The key independent variable is *Post GF*, which is an indicator that equals one for 2020 and 2021. *State FE* are indicators for the state where the firm is headquartered. *I(Republican State)* is an indicator for firms headquartered in states the Republicans won in 2016. *F(Republican VCs)* is the fraction of VCs backing the companies that are headquartered in a state that the Republicans won in 2016, while *F(Republican LPs)* is the fraction of limited partners (investors in the venture capital funds that backed the firms in this regression) located in states Republicans won in 2016. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by firm.

Panel A:	Black	Hispanic	Minority	Female
Post GF	0.152***	0.018	0.169***	1.545***
	(0.036)	(0.038)	(0.053)	(0.124)
I(Republican State) × Post GF	-0.015	-0.186*	-0.201	-0.245
	(0.082)	(0.097)	(0.127)	(0.292)
Observations	74744	74744	74744	74744
Adjusted R^2	0.901	0.898	0.899	0.869
Firm FE?	X	X	X	X
Panel B: Private Capital Group Investors in Republican States				
Post GF	0.181***	0.007	0.188***	1.706***
	(0.039)	(0.040)	(0.056)	(0.132)
F(Republican VCs) × Post GF	-0.184**	-0.112	-0.296**	-1.151***
	(0.077)	(0.130)	(0.150)	(0.329)
F(Republican VCs)	-0.378	0.338	-0.040	0.353
	(0.294)	(0.438)	(0.531)	(0.741)
Observations	74744	74744	74744	74744
Adjusted R^2	0.901	0.898	0.899	0.869
Firm FE?	X	X	X	X
Panel C: Limited Partners in Republican States				
Post GF	0.134**	-0.041	0.094	1.633***
	(0.054)	(0.060)	(0.080)	(0.185)
F(Republican LPs) × Post GF	0.042	0.078	0.119	-0.358
	(0.123)	(0.133)	(0.181)	(0.388)
F(Republican LPs)	-0.129	-0.296	-0.425	0.531
	(0.213)	(0.310)	(0.376)	(0.933)
Observations	74744	74744	74744	74744
Adjusted R^2	0.901	0.898	0.899	0.869
Firm FE?	X	X	X	X

Table A7: Board Diversity - Impact of Minority VC backing by Type of Director

This table presents coefficients from OLS regressions run at the firm-year level, with standard errors reported in parentheses. The unit of observation is firm-year with at least one director appointment between 2013 and 2021. The dependent variable is the fraction of newly appointed directors that are Hispanic, Black, Minority (Black/Hispanic) or female. Panel A focuses on Insider Directors, where a firm-year is included if the firm appointed at least one insider director. We classify directors as insiders if they also occupy a management role within the firm. Panel B focuses on Outsider Directors, where a firm-year is included if the firm appoints at least one outsider director. We classify a director as an outsider if the director neither holds a role in management nor works for the venture capital firm that invested in the startup. Panel C focuses on Investor Directors, where a firm-year is included if the firm appoints at least one investor director. We classify a director as an investor if they concurrently work for the VC firm that invested in the firm. The key independent variable is *F(Minority VCs)*, which measures the fraction of VCs invested in the company that are minority-owned, following the classification in Cassel et al. (2022). All models include year and state fixed effects, where *State FE* are indicators for the state where the firm is headquartered. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level. We cluster standard errors by the firm.

Panel A: Insider Directors	Black	Hispanic	Minority	Female
F(Minority VCs) × Post GF	0.505	-0.679	-0.174	-11.096
	(8.019)	(3.392)	(8.658)	(11.534)
F(Minority VCs)	5.337	-0.081	5.257	4.425
	(4.778)	(1.721)	(5.046)	(6.663)
Observations	6933	6933	6933	6933
Adjusted R^2	0.005	0.002	0.007	0.029
Year FE?	X	X	X	X
State FE?	X	X	X	X

Panel B: Outsider Directors	Black	Hispanic	Minority	Female
F(Minority VCs) × Post GF	-3.653	-3.763	-7.415*	-6.301
	(3.805)	(2.401)	(4.443)	(11.286)
F(Minority VCs)	3.315	1.368	4.683	-0.145
	(2.182)	(2.147)	(3.053)	(5.026)
Observations	11971	11971	11971	11971
Adjusted R^2	0.013	-0.001	0.006	0.051
Year FE?	X	X	X	X
State FE?	X	X	X	X

Panel C: Investor Directors	Black	Hispanic	Minority	Female
F(Minority VCs) × Post GF	0.270	1.985	2.255	-5.828
	(6.233)	(6.793)	(8.553)	(8.113)
F(Minority VCs)	14.879***	10.186***	25.064***	7.725**
	(3.092)	(2.495)	(3.807)	(3.326)
Observations	18769	18769	18769	18769
Adjusted R^2	0.020	0.006	0.020	0.019
Year FE?	X	X	X	X
State FE?	X	X	X	X