

Diversity Tokenism

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Received 25 February 2024; accepted 21 July 2025

ABSTRACT

Using data from over 4,000 Black Lives Matter (BLM) protests across 600 U.S. counties from 2014 to 2021, we examine how BLM activism shapes corporate diversity at different organizational levels. We develop an approach integrating OpenAI's GPT-4 with Chain-of-Thought prompting to classify race and ethnicity. In our validation tests, this method achieves higher accuracy than several tested open-source algorithms. Our main findings are as follows. First, although firms headquartered in protest-affected counties add more Black directors, particularly in larger protests, this gain appears to largely offset the representation of other non-Black minority directors. Second, these board-level shifts do not consistently extend to executives or the general workforce. In contrast, a gap may emerge between a firm's workforce composition and local labor-market demographics, particularly in the representation of Black employees. This pattern is consistent with diversity tokenism, which suggests firms may prioritize high-visibility board appointments and potentially downplay broader, transformative change. Our findings indicate that although board-level diversity gains are highly visible and attract notable public

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Accepted by Laurence van Lent. We are grateful to an anonymous associate editor and two anonymous reviewers for their constructive comments. We also thank Eva Eberhartinger, Zoltán Novotny-Farkas, Byoung-Hyoun Hwang, Thorsten Sellhorn, Hun Tong Tan, Katrin Weiskirchner-Merten, Yuchen Wu, and seminar participants at Ludwig Maximilian University of Munich, Vienna University of Economics and Business, and the 11th NTHU-UNSW-SMU Symposium on Sustainable Finance and Economics for their helpful feedback. This research is supported by the Ministry of Education, Singapore, under its Academic Research Fund Tier 1 (RG106/22). The authors have no conflicts of interest to declare. An online appendix to this paper can be downloaded at <https://www.chicagobooth.edu/jar-online-supplements>. A research-ready version of the race/ethnicity classification data is publicly available at <https://sites.google.com/site/kelvinlaw2012>.

attention, they may not be accompanied by an organization's transformative commitment to company-wide diversity.

JEL codes: G34, J15, J71, L21, M14

1. Introduction

Over the past decade, social movements like Black Lives Matter (BLM) have increased public awareness of social justice issues, particularly concerning underrepresented racial and ethnic groups. High-profile incidents, such as the deaths of Trayvon Martin in 2012, Michael Brown and Eric Garner in 2014, and George Floyd in 2020, have intensified calls for racial equality and prompted firms to reexamine their diversity practices. Prior research finds that firms tend to increase Black board representation following BLM protests (Bogan, Potemkina, and Yonker [2021], Pajuste, Dzabarovs, and Madesovs [2024], Balakrishnan et al. [2023]). Yet, two important questions remain. First, are these increases driven by the addition of new minority board seats or by the replacement of existing directors? This distinction helps us understand whether firms are undertaking meaningful structural changes or simply reallocating representation. Second, do diversity improvements occur consistently across organizational levels, or are they predominantly concentrated at the top? The latter pattern could reflect racial/ethnic diversity tokenism, defined as limited efforts to increase visible diversity without broader substantive change.

We hypothesize that firms may prioritize visible changes in board diversity and invest less in inclusive practices across the workforce. We propose that external pressures from social movements like BLM can lead to symbolic compliance, where firms adopt lower-cost, high-visibility responses to manage external pressure, rather than higher-cost, substantive transformations (Meyer and Rowan [1977], DiMaggio and Powell [1983], Edelman [2016], Dobbin and Kalev [2021]).

Board diversity is a highly visible and frequently monitored metric, which allows firms to signal alignment with social values and mitigate reputational risks (Spence [1973], Connelly et al. [2011], Bogan, Potemkina, and Yonker [2021], Billings, Klein, and Shi [2022]). However, whether these changes translate into broader organizational diversity remains unclear. We propose three reasons why such a cascade might not occur. First, although board diversity receives considerable scrutiny from regulators and environmental, social, and governance (ESG) rating agencies, workforce diversity disclosures are less standardized and subject to limited oversight. This gap in scrutiny may prompt firms to focus on measurable top-level changes rather than less visible areas (Dranove et al. [2003]). Second, increasing board diversity can often be achieved through discrete actions, such as appointing a single diverse director, and may offer immediate reputational benefits. In contrast, improving workforce diversity often requires sustained investment and systemic reforms (Dobbin and Kalev

[2016]). These costs, combined with uncertain returns and lower visibility, may discourage firms from broader initiatives. Third, even when diverse directors are appointed, their influence may be constrained by competing responsibilities and limited organizational power (Dobbin and Kalev [2021], Pajuste, Dzabarovs, and Madesovs [2024]). This combination may contribute to a decoupling effect (Meyer and Rowan [1977]), potentially leading firms to selectively pursue visible improvements at the top without altering deeper organizational practices.

We test these predictions using 4,078 BLM protests across 636 U.S. counties between 2014 and 2021. Specifically, we investigate whether firms headquartered in counties with BLM protests exhibit differential changes in diversity performance following the protests. Our study extends prior work, which has primarily focused on the 2020 protests, by considering the full history of the BLM movement, beginning with its emergence in 2014. We use a staggered difference-in-differences (DiD) design that leverages differential timing of the first BLM protests across counties. Treated firms are those whose headquarters counties experienced BLM protests. In contrast, control firms are those whose headquarters counties have not yet or never experienced BLM protests. To mitigate pre-existing cross-group differences and improve sample imbalance, we apply entropy balancing based on pre-treatment county demographics.

A challenge in this literature is accurately classifying individuals' races and ethnicities. Traditional data sources, such as Institutional Shareholder Services (ISS), are limited to large firms and contain notable classification errors (see section 3.2 for details). Many commonly used race prediction algorithms also tend to underestimate minority representation. To address this, we develop a classification approach using OpenAI's GPT-4 with Chain-of-Thought (CoT) prompting to infer race and ethnicity from names. We validate the model's predictions against a manually verified sample of directors and executives. Our validation results, detailed in online appendix A.2, suggest that GPT-4 outperforms 13 commonly used open-source models in recall and F1-score and substantially reduces the underestimation of Black individuals. Although GPT-4 performs well relative to existing tools, we also document potential limitations. These include overconfidence in some misclassifications, and we caution against overreliance on model-assigned confidence levels.

Our main findings are as follows. First, protest-affected firms significantly increase Black director representation relative to control firms, consistent with prior studies (e.g., Bogan, Potemkina, and Yonker [2021], Pajuste, Dzabarovs, and Madesovs [2024], Balakrishnan et al. [2023]). However, this increase coincides with a nearly one-to-one decrease in non-Black minority directors. This suggests a substitution rather than an expansion of minority representation. Improvements at the board level do not appear to cascade to lower organizational levels. Black executive representation shows limited gains. In contrast, we observe a significant decline among non-Black minority executives. At the workforce level, affected firms exhibit a modest

decrease in Black employee representation. These findings indicate that post-protest diversity changes are selective and concentrated at the top.

Second, despite more Black directors, we find no evidence of improved overall racial/ethnic diversity, as measured by the Herfindahl Index (HHI) across racial/ethnic groups. Instead, executive and workforce diversity modestly decline, particularly in firms exposed to larger-scale protests. To better understand these results, we benchmark firms' internal composition with their external community demographics. We find greater divergence between Black workforce representation and community benchmarks for affected firms post-protest. These results suggest that symbolic top-level adjustments may not be accompanied by firm-wide transformation.

Workforce-level reforms often require sustained commitment and may take years to materialize. To account for this possibility, we extend our analysis to five years post-protest. We observe some improvement in executive diversity over this longer horizon. However, we continue to find no significant gains in workforce diversity. These results suggest that any broader organizational change, if occurring, may take even longer to emerge, and the observed post-protest changes over this window appear largely limited to leadership positions.

Third, we examine how firms' selective diversity changes are perceived by external evaluators. We find that after protests, ESG rating agencies appear to place greater emphasis on Black representation at the board and executive levels, with no corresponding focus on workforce metrics. Furthermore, firms that improve Black representation at the board without a parallel gain among the general workforce tend to receive higher diversity ratings. These findings indicate that rating agencies may disproportionately reward visible leadership changes, which may potentially incentivize symbolic compliance over substantive inclusion.

We consider potential explanations for the limited workforce changes. External factors such as local hiring pools may constrain firms' diversity efforts. Nevertheless, our findings remain robust after controlling for local labor market and economic conditions. The treatment effects persist even among firms with greater Black local talent supply and more flexible hiring pools. Although we cannot rule out worker-side sorting, we find no evidence of post-protest decline in local Black population or labor force participation. This suggests that supply-side constraints are unlikely to fully explain the observed patterns.

We conduct additional tests to assess the robustness of our results. We first replicate our estimations using a stacked DiD design, where we stacked samples for each treated cohort with a window of two years before and after protests. We continue to observe a substitution pattern among minority directors and a modest decline in workforce diversity. Moreover, the negative treatment effects on workforce diversity are more pronounced in firms with higher headquarters dependence and lower geographical dispersion, highlighting the role of local protest exposure. Our results are also robust to excluding firms exposed only to nationwide protest events, suggesting

that local protest exposure, not national sentiment alone, primarily drives the observed changes.

Our study does not pinpoint the precise mechanisms behind the limited workforce-level progress. Yet, several plausible explanations align with prior research. First, board appointments are highly visible and relatively easy to implement, whereas broader changes in recruitment, retention, and internal advancement can be costly and time-consuming (Bertrand et al. [2019]). Second, newly appointed minority directors may lack influence or capability to drive organization-wide reforms (Dobbin and Kalev [2016]). Third, though we find no evidence of local declines in Black labor force participation post-protest, broader worker-side sorting remains difficult to test directly (Eeckhout and Kircher [2011]). Our findings highlight that symbolic leadership changes may not automatically translate into deeper organizational transformation. Future research can build on these results to more systematically examine organizational and market conditions that facilitate inclusive workforce change.

Our study contributes to the growing literature on how social movements shape corporate actions (Brownen-Trinh and Orujov [2020], Bogan, Potemkina, and Yonker [2021], Billings, Klein, and Shi [2022], Chen, Dechow, and Tan [2022], Pajuste, Dzabarovs, and Madesovs [2024], Balakrishnan et al. [2023], Lin, Shi, and Zeng [2023], Ba et al. [2024], Cai et al. [2024], Lins et al. [2024]). Prior research documents increased Black director appointments following BLM-related events. We provide new evidence on broader organizational consequences. We document a substitution effect among minority directors and show that board-level improvements do not necessarily cascade to lower organizational tiers. These findings point to a selective diversity response. Firms appear to enhance visible metrics at the top but leave overall workforce composition largely unchanged.

We add to the ESG and corporate diversity literature by extending analysis beyond the boardroom (Bernile, Bhagwat, and Yonker [2018], Field, Souther, and Yore [2020], Lemayian, Pownall, and Short [2020], Bogan, Potemkina, and Yonker [2021], Billings, Klein, and Shi [2022], Pajuste, Dzabarovs, and Madesovs [2024], Balakrishnan et al. [2023]). ESG assessments often emphasize board composition. It remains unclear whether such diversity extends deeper within firms. Contrary to the trickle-down effects documented by Cai, Grennan, and Qiu [2022], we find that firms under public pressure may pursue symbolic compliance, focusing on highly visible metrics rather than broader reforms. These patterns align with recent concerns about diversity washing (Bailey et al. [2022], Baker et al. [2024]). The fact that ESG rating agencies reward such selective improvements highlights the need to reconsider how diversity metrics are evaluated and interpreted.

We also offer two methodological contributions. First, we introduce an approach using OpenAI's GPT-4 to classify race and ethnicity based on names. Validation tests show that it offers broader coverage than some commercial databases and helps reduce systematic misclassification,

particularly for minority groups. Second, we develop a probability-based method to estimate replacement patterns by race, capturing “who replaces whom” across organizational tiers. This approach improves upon traditional net-change measures by distinguishing between genuine diversity expansions and intra-minority substitution. These tools provide new avenues to examine workforce composition changes.

Our study complements Baker et al. [2024], which documents a gap between diversity disclosures and actual hiring (i.e., diversity washing). We differ in two key ways. First, Baker et al. [2024] focus on the alignment between disclosures and firm behaviors. Our work examines whether diversity efforts are implemented consistently across organizational levels. Second, rather than studying disclosure incentives, we use the BLM protest setting to investigate how firms navigate bottom-up social pressure. By highlighting visibility-contingent improvements, our findings extend the discussion of how firms may strategically shape diversity practices under external scrutiny.

Our study also relates to Bertrand et al. [2019], which find limited trickle-down effects in gender diversity following Norway’s board quota mandate. Unlike their legal, top-down setting, we study firm responses to grassroots, decentralized social movements. Our context allows us to assess how public pressure shapes diversity strategies in the absence of regulation. Our focus on racial/ethnic diversity provides complementary evidence on how firms balance symbolic and substantive actions in navigating public expectations.

2. Literature Review and Hypothesis Development

Corporate diversity has become a core component of firms’ ESG engagement, driven in part by public pressure from social movements. Many companies have responded by publicly expressing support for racial equality (Brownen-Trinh and Orujov [2020], Chen, Dechow, and Tan [2022], Lin, Shi, and Zeng [2023]), appointing directors from underrepresented groups (Bogan, Potemkina, and Yonker [2021], Pajuste, Dzabarovs, and Madesovs [2024], Balakrishnan et al. [2023]), launching diversity, equity, and inclusion (DEI) roles (Mohliver and Raines [2024]), and increasing diversity disclosures (Cai et al. [2024], Ghosh and Wei [2024]) and investments (Karpoff et al. [2024]). Despite these efforts, more recent data point to a drop in diverse hiring and high turnover in DEI roles. Between late 2024 and early 2025, firms such as McDonald’s, Walmart, and Ford scaled back DEI programs in response to legal and political headwinds (MarketWatch [2025], Reuters [2025]). These developments have led some to question the depth and durability of earlier diversity initiatives (Ayas, Aceves, and Rawlings [2023]).¹ Against this backdrop, the BLM movements repre-

¹ “Diversity roles disappear three years after George Floyd’s murder inspired them” (*NBC News* February 28, 2023).

sent a salient setting to examine how firms respond to social pressures, not only at the board level but across the broader organizational structure.

Diversity has been linked to positive corporate outcomes (Allahie, Tahoun, and Tuna [2017], Bernile, Bhagwat, and Yonker [2018], Breuer et al. [2024]). Yet, significant challenges persist in practice (DeHaas, Akutagawa, and Spriggs [2019], Bogan, Potemkina, and Yonker [2021], Knyazeva, Knyazeva, and Naveen [2021], Bourveau, Flam, and Le [2023], Baker et al. [2024], Sutherland, Uckert, and Vetter [2024]). Existing studies document persistent gaps in compensation and leadership opportunities for minorities, despite their comparable qualifications (Field, Souther, and Yore [2020], Lemayian, Pownall, and Short [2020]).

Our study focuses on racial/ethnic diversity. The literature on gender diversity, particularly in response to social movements, offers useful analogies. For example, recent studies find that following the #MeToo movement, firms with fewer women in leadership roles faced negative market reactions (Billings, Klein, and Shi [2022], Lins et al. [2024]). These studies suggest that social movements can shift public expectations and investor preferences, prompting firms to signal alignment with evolving norms by increasing board gender diversity. However, these responses often concentrate on the boardroom, raising questions about whether such changes extend more broadly.

The gender diversity literature also explores whether changes at the top influence outcomes further down the organization. Female leadership has been associated with narrower gender wage gaps (Tate and Yang [2015]), greater promotion opportunities (Kunze and Miller [2017]), more female executives (Matsa and Miller [2011]), and improved performance among female employees (Dong [2024]). Cai, Grennan, and Qiu [2022] provide evidence of trickle-down effects from board to employee-level diversity. These findings suggest that under certain conditions, leadership diversity can foster broader inclusion.

However, these benefits do not always cascade through the organization, especially when changes arise under external pressure. For instance, Norway's gender quota mandate increased female board representation but had limited impacts on broader labor outcomes for female employees (Bertrand et al. [2019]). Moreover, constrained director selection was linked to reduced board effectiveness and firm performance (Ahern and Dittmar [2012], Matsa and Miller [2013]). These findings raise concerns that symbolic compliance may not translate into substantive organizational change and may even entail trade-offs.

We propose that the disparity in spillover effects may depend on whether diversity improvements are achieved voluntarily or under external pressures. Sociology research suggests that external pressures can prompt firms to engage in symbolic compliance. These actions focus on highly visible but less substantive changes rather than undertaking comprehensive reforms (Edelman [2016], Mun and Jung [2018], Dobbin and Kalev [2021], Knight, Dobbin, and Kalev [2022]). Rooted in institutional theory, the con-

cept of decoupling explains how organizations may formally adopt policies to satisfy external demands without integrating them into core operations (Meyer and Rowan [1977], DiMaggio and Powell [1983]). In the context of diversity, this can manifest as firms promoting highly visible and measurable leadership-level representation, although avoiding deeper changes that might provoke resistance or disrupt existing structures (Mun and Jung [2018]). As Edelman [2016, p. 107] notes, such symbolic structures “signal good faith and an intention to move in the direction of civil rights but would not necessarily commit organizations to achieve racial or gender equality or even to make substantial changes.” Over time, these practices may become institutionalized, turning compliance into a checkbox exercise and limiting systemic transformation.

We test the prediction that, when confronted by BLM protests, firms prioritize visible changes to meet societal expectations. First, social movements heighten public awareness and shape market preferences regarding corporate diversity and inclusion (Billings, Klein, and Shi [2022], Lins et al. [2024]). Appointing minority directors allows firms to signal alignment with evolving norms around racial equity (Spence [1973], Connelly et al. [2011]). Second, grounded in stakeholder and legitimacy theory, firms often seek to demonstrate responsiveness to social values and avoid reputational risks (Freeman [1984], Deegan [2002]). Board diversity serves as a visible and auditable signal of progress, helping firms manage external accountability.

However, we do not expect these visible changes at the top to cascade broadly across the organization for three reasons. First, leadership diversity receives greater regulatory and public scrutiny than workforce diversity. Board composition is subject to mandatory disclosure and stakeholder attention (SEC [2002]), whereas workforce-level metrics remain largely discretionary, with limited regulatory requirements until the recent amendment of Regulation S-K (Bourveau et al. [2022], Vaghul, Radeva, and Ira [2022]). Disclosure research suggests that firms tend to prioritize highly visible metrics under external scrutiny, but neglect less visible but equally important dimensions (e.g., Dranove et al. [2003], Dranove and Jin [2010], Bar-Isaac, Caruana, and Cuñat [2012], Lu [2012], Leuz and Wysocki [2016], Christensen, Hail, and Leuz [2021]). This asymmetry is further reinforced by ESG rating agencies, which often place disproportionate weight on board diversity over workforce diversity. These changes incentivize firms to focus on top-level changes as they sideline broader reforms, thus reinforcing a decoupling approach.

Second, the costs and feasibility of improving board versus workforce diversity differ substantially. Board diversity can be achieved through incremental appointments to a small group, often by filling vacancies or expanding within the authorized size. These actions typically do not require shareholder approval (Withers, Hillman, and Cannella [2012]). Firms also tend to recruit directors through existing personal networks (Cai, Garner, and Walkling [2009], Cai, Nguyen, and Walkling [2022]),

reducing the need for costly and time-consuming searches. The small size of boards allows for more flexible metrics to demonstrate improvement. In contrast, achieving comparable diversity across a large workforce requires significant resources and may disrupt existing operations. Moreover, traditional diversity programs like training and grievance procedures often rely on control mechanisms that provoke resistance rather than engagement (Dobbin and Kalev [2016]). Broad-based reform entails deeper organizational change and sustained investment. Although board appointments can yield reputational gains, the business case for diverse workforce hiring remains mixed (Ely and Thomas [2020], Edmans, Flammer, and Glossner [2023], Frijns, Garel, and Liao [2025]). This weakens incentives for comprehensive diversity initiatives.

Third, diverse directors may lack the capability or influence to drive change beyond the boardroom. Ethnic minority directors, particularly Black directors, often serve on multiple boards. After the George Floyd protests, Black directors in S&P 500 firms served on an average of 1.34 boards, compared to 1.17 for other non-White directors (Pajuste, Dzabarovs, and Madesovs [2024]). These obligations may limit their ability to advocate for deeper change. In addition, diverse directors frequently remain a numerical minority on boards (Daniels [2019], Pajuste, Dzabarovs, and Madesovs [2024]). This makes it difficult for them to shift board priorities or influence human resource policies across the firms (Dobbin and Kalev [2021]). Their presence may therefore serve more as a symbolic gesture than as a catalyst for substantive reform.

Taken together, these factors suggest that in response to social pressure, firms may prioritize visible diversity actions at the top rather than pursuing systemic change. The emphasis on leadership-level metrics, the cost asymmetry of broader reforms, and the limited influence of minority directors all contribute to a potential decoupling effect. These considerations lead to our hypothesis:

H1 Firms respond to the BLM protests by improving racial/ethnic diversity at the top organizational levels (e.g., the board of directors), rather than implementing broad-level changes across the organization.

3. Data and Methodology

3.1 DATA SOURCES

We use three primary sets of data: BLM protest data, corporate executive data, and workforce demographic data. Our BLM protest data span from 2014 to 2021 and are sourced from Dunivin et al. [2022]. They compile these data from Elephrame (an open-source dataset on BLM protests by Alisa Robinson) and the Armed Conflict Location & Event Data Project (ACLED). These protest data include each protest's time, location, and protestor count. We focus on protests with full details on both county and

protestor numbers, resulting in 4,078 BLM protests across 636 counties from August 2014 to January 2021. The median protest size is 100 participants, and the largest event reportedly exceeded 70,000.

Given the decentralized structure of BLM movements, our test focuses on large-scale BLM protests involving over 100 protesters. 2,078 protests taking place in 456 counties meet this requirement. We use BLM data starting from 2014 because this year marks the national emergence of the BLM movement, catalyzed by events such as the killing of Michael Brown in Ferguson, Missouri. Spanning 2014 to 2021, this design enables us to distinguish pre-2020 trends from post-2020 changes, providing a clearer view of how firms adjust diversity practices following BLM protests. It also allows us to assess the timing, persistence, and variation of these changes across boards, executives, and the general workforce.

We obtain director and executive information from ExecuComp, which collects information on directors and executives directly from each firm's annual proxy statement (Form DEF14A). We gather workforce data from Revelio Labs, a human resource analytics firm that extracts information from publicly available sources, including professional networking platforms such as LinkedIn. Revelio Labs uses these data to compile employees' demographic characteristics, including race/ethnicity. Diversity ratings are collected from Refinitiv. All firm fundamentals are obtained from Compustat. The historical headquarters of firms are obtained from the WRDS SEC Analytic Suite. After merging these datasets, our final sample includes 13,731 firm-year observations from 1,808 unique firms from 2012 to 2021.

3.2 RACE/ETHNICITY CLASSIFICATION

We examine firms' racial/ethnic composition to assess diversity efforts after BLM protests. Previous research has often relied on racial/ethnic data of board directors provided by ISS Directors (e.g., Bernile, Bhagwat, and Yonker [2018], Lemayian, Pownall, and Short [2020], Bogan, Potemkina, and Yonker [2021], Chen, Dechow, and Tan [2022], Balakrishnan et al. [2023]). However, the ISS data have several limitations: (1) its coverage focuses primarily on S&P 1,500 firms, omitting smaller-cap firms and non-executive employees; (2) many firms do not disclose directors' racial/ethnic information in public filings, with about 80%–90% of directors' racial/ethnic information unavailable in ISS (Daniels [2019], Bogan, Potemkina, and Yonker [2021]); and (3) ISS data may contain systematic misclassifications, with Daniels [2019] reporting that directors identified as Blacks or African Americans were sometimes categorized as Asians.²

² Daniels [2019, p.13] notes that the ISS database lacks comprehensive coverage of director race/ethnicity. Between 1996 and 2006, 53% of director-firm-year observations were missing this information; the figure improved to 19% in 2007–2016. However, across the full 1996–2016 sample, 78% of 38,318 unique directors were still classified as “unknown.” Similarly, Bogan, Potemkina, and Yonker [2021, p. 9] report that race/ethnicity is specified for just 11% of 230,000 directors globally in the ISS data. In our analysis of the ISS Trial data set (2007–2012),

Given these limitations, we develop an alternative approach for race/ethnicity classification. We use a Large Language Model (LLM) for predictive analysis based on individuals' names. We use ExecuComp's data covering from 2005 to 2022 to compile names, including 46,572 executives from 3,101 firms and 33,565 board members from 2,825 firms. This LLM approach may expand the scope of our study beyond the incomplete racial and ethnic information available in traditional director databases.

We use OpenAI's GPT-4 via the ChatGPT web interface (March to April 2023) to classify directors' and executives' race/ethnicity. We chose this approach due to accessibility and cost considerations at the time of initial data processing. For each executive and director, we input their full names and firm names into GPT-4. To improve the model's reasoning abilities, we apply CoT prompting techniques (Wei et al. [2022], Moghaddam and Honey [2023]). We prompt GPT-4 to consider factors that might influence race/ethnicity classifications, such as public records or cultural features of names. We then use the information to classify individuals into five racial/ethnic groups: (1) White, (2) Black, (3) Hispanic, (4) Asian, and (5) Other.³

To validate GPT-4's classification accuracy, we manually identify the race/ethnicity of a random sample of 833 directors and 499 executives and compare the predicted race/ethnicity with the actual race/ethnicity.⁴ We present class-level confusion matrices in online appendix A.4 and summarize the evaluation procedures in online appendix A.2. Aggregating across race/ethnicity categories, GPT-4 attains a recall rate (i.e., true positives over total actual positives) of 93.9% for directors and 85.1% for executives, and a support-weighted macro-F1-score (i.e., the harmonic mean of precision and recall across categories, weighted by each category's share in the validation sample) of 93.8% for directors and 85.4% for executives. We then compare GPT-4's performance with that of 11 algorithms used in prior literature (e.g., NamePrism, ethnicolr, and wru) and two custom ensemble methods (summarized in online appendix B.1).⁵ Results in online appendices

43% of 1,239 unique directors and 25% of 4,979 director-firm-year observations are labeled "unknown."

³We specify the detailed methodology of constructing our GPT-4 prompt with a real example in online appendix A.1.

⁴We manually identified the race/ethnicity of 867 directors and 592 executives, of whom we successfully classified 833 (96.1%) directors and 499 (84.3%) executives. To improve prediction accuracy for ethnic minority groups (as they are often underrepresented in algorithmic predictions), we construct a verified sample by targeting minority individuals covered in media sources, supplemented by random sampling. Race/ethnicity is determined using publicly available information from NNDB, Bloomberg, LinkedIn, Twitter, and corporate filings (e.g., annual reports and proxy statements). The distribution of race/ethnicity for this verified sample is presented in online appendix A.3.

⁵We also tested other LLMs, such as Llama 3.1 8B, for the same prediction task. Llama often failed to follow formatting instructions and showed lower classification accuracy, particularly for Black individuals. For example, its F1-score for Black directors was 49.5%, compared to 86.3% using our GPT-4 approach.

B.2 and B.3 indicate that GPT-4's overall performance is comparable to or higher than the other 13 models tested. Its recall rate (support-weighted macro-F1-score) exceeds the average of the other algorithms, which stands at 72.5% (70.1%) for directors and 67.6% (64.8%) for executives. For Black individuals specifically, our GPT-4 approach achieves recall rates of 83.6% for directors and 76.3% for executives, with corresponding F1-scores of 86.3% and 69.3%, respectively. Based on this validation, we use GPT-4 predictions in all subsequent analyses.

Despite potential benefits, we acknowledge important limitations of our classification approach. LLMs, including GPT-4, can exhibit systematic overconfidence in their classifications (Zhou, Jurafsky, and Hashimoto [2023], Yoo [2024]). Our confidence-level analysis results suggest potential overconfidence in some classifications, particularly for Black executives.⁶ These limitations may introduce measurement errors that could affect our inferences, and misclassification rates may be economically significant. Further discussion of limitations and caveats is provided in online appendix A.2.

For workforce diversity data, we rely on the race/ethnicity classification from Revelio Labs, which uses a proprietary algorithm to predict individuals' race/ethnicity. Revelio Labs reports an accuracy rate of 93.3% based on comparisons with official statistics. However, we acknowledge several important limitations. The data are sourced from scraped public employment profiles (e.g., LinkedIn). These may disproportionately represent white-collar occupations or firms with stronger online visibility and underrepresent lower-level roles and high-turnover industries. These coverage gaps, along with potential misclassification errors, may introduce substantial measurement errors in our workforce diversity metrics. Our validation exercise suggests that Revelio may overestimate the share of Black employees compared to GPT-4-based classifications.⁷ As such, any null or negative findings related to workforce diversity should be interpreted with caution, given these potential measurement concerns.

⁶ GPT-4's tendency toward overconfidence is evident in our validation analysis. For instance, 78.3% of misclassified Black directors and 80.0% of misclassified Asian directors were assigned a "High" confidence score, as shown in online appendix A.5. Although GPT-4 outperforms benchmark models in terms of accuracy and F1-scores, these metrics should be interpreted with caution given the observed confidence calibration issues.

⁷ Due to computational and cost constraints, we could not run GPT-4 on all 29 million employee records from Revelio Labs. Instead, to assess data reliability, we conduct a robustness check by randomly sampling 14,000 names and comparing GPT-4 classifications to those from Revelio. The two sources yield similar estimates for White (74.78% by GPT-4 vs. 74.17% by Revelio) and Hispanic (9.86% vs. 9.39%) groups. However, Revelio reports a lower share of Asian (8.30% by GPT-4 and 5.55% by Revelio) and a higher share of Black individuals (6.89% by GPT-4 and 10.90% by Revelio). Since our analyses emphasize disparities in diversity practices across organizational levels, potential overestimation of Black employees by Revelio may bias against detecting underrepresentation at the workforce level.

3.3 EMPIRICAL STRATEGY

Our empirical approach leverages the differential variations in the onset of large BLM protests across different counties. We use these temporal and spatial variations to implement a staggered DiD research design to examine the association between BLM protests and firms' diversity performance. Our main DiD regression specification is as follows:

$$\text{Diversity Metric}_{i,j,t} = \alpha + \beta_1 \text{BLM Protest}_{i,j,t} + \beta_2 X_{i,t} + \lambda_j + \mu_t + \nu_k + \varepsilon_{i,j,t}.$$

Diversity Metric captures the representation and percentage of individuals in each racial/ethnic group in a firm in a given year. For each firm i at county j in year t , we evaluate firms' racial/ethnic diversity at three workforce levels: board of directors, top executives, and the general workforce. *BLM Protest* is an indicator variable that equals one after a firm whose headquarters county had a BLM protest with at least 100 protesters.⁸ In our DiD design, the treatment group comprises firms headquartered in counties that have experienced large BLM protests with more than 100 protesters. The control group includes firms headquartered in counties where BLM protests have either not occurred yet or never occurred, or where any protests were smaller in scale. β_1 captures the estimated association between BLM protests and firms' diversity performance.⁹

X represents a vector of firm-specific characteristics that might influence firms' diversity performance. We include *Firm Size*, *Asset Growth*, *CapEx*, *PP&E*, *Intangible Assets*, *R&D*, *Return on Assets*, *Loss*, *Leverage*, *Market to Book*, *Dividend Indicator*, and *Dividends*.

Our models include *County Fixed Effects* (λ), *Industry Fixed Effects* (ν), and *Year Fixed Effects* (μ) to account for unobservable heterogeneities.¹⁰ We cluster standard errors at the county-year level to reflect the level at which treatment is assigned and to account for potential spatial and temporal correlation in unobserved shocks (Abadie et al. [2023]). To address potential differences in baseline characteristics that may bias comparisons, we implement entropy balancing to improve covariate balance across treatment and control groups (Hainmueller [2012], McMullin and Schonberger [2020],

⁸We define treatment based on a firm's headquarter county, as top-level policy decisions are typically shaped by the socio-political environment where central leadership resides. Although many firms operate globally, board and executive appointments are often more responsive to local climate at headquarters. This approach is consistent with prior studies that use headquarters shocks to examine corporate response (e.g., Hilary and Hui [2009], Bai, Fairhurst, and Serfling [2020]).

⁹We also test a stacked DiD specification as a robustness check. Results are reported in online appendix I.1 and remain consistent with our main findings.

¹⁰We include county, industry, and year fixed effects, but not firm fixed effects, for two reasons. First, our county-level analysis predicting BLM protests (online appendix D.1) shows that including *County Fixed Effects* improves model fit substantially, increasing pseudo- R^2 by 29.5% to 35.7%, indicating the importance of local context. Second, because our focus is on county- and industry-level influences on diversity, including firm fixed effects could absorb the variation of interest. Future work may explore firm-level heterogeneity in greater detail.

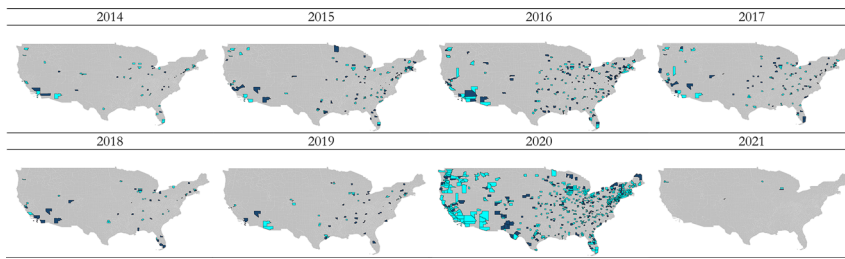


FIG. 1.—Temporal and spatial trends in Black Lives Matter (BLM) protests. The figure plots the evolution of the geographical distribution of BLM protests. Counties with the presence of BLM protests with fewer than 100 protesters are highlighted in dark blue, and counties with the presence of BLM protests with more than 100 protesters are highlighted in cyan.

McMullin and Schonberger [2022]). We reweight the sample based on pre-treatment county-level demographic factors including population size and density, income inequality (Gini index), gender and racial composition (%males, %non-White), household median income, poverty and unemployment rates, and educational attainment (%high school, %bachelor's degree).¹¹ Summary statistics before and after entropy balancing are in online appendix E.1. All variables are defined in the appendix.

4. Results

4.1 SUMMARY STATISTICS

Our main sample includes 2,078 BLM protests with at least 100 protesters spread across 456 U.S. counties between 2014 and 2021. These protests had an average attendance of 901 protesters and a median of 300. The first large protest in our dataset took place in Ferguson, Missouri, in August 2014 after Michael Brown was killed. The temporal and spatial trends are illustrated in figure 1. The frequency and reach of BLM protests increased over the years, with a marked increase in 2020 following George Floyd's death.

Figure 2, panel A, depicts the time trends in the frequency of the BLM protests by year. Studies often reference the year 2020 as a turning point for firms' diversity performance; however, of the 2,078 BLM protests in our sample, 34.1% took place before 2020. 99 protests were recorded in 2014, and the number of protests increased in each of the subsequent two years, reaching 200 protests in 2016. A decline in protest frequency occurred from

¹¹ We select demographic and socioeconomic variables for entropy balancing based on their relevance in predicting BLM protest occurrence. Logistic regressions (online appendix D.1) show that protests are more likely in counties with larger populations, greater income inequality, higher minority shares, and higher poverty rates, and less likely in counties with higher unemployment rates or greater Black educational attainment. These patterns support our choice of balancing covariates to enhance comparability between treated and control counties.



FIG. 2. — Geographical distribution of Black Lives Matter (BLM) protests. Panel A plots the frequency of BLM protests by year. Panel B plots the average number of protesters by year. Panel C plots the cumulative number of BLM protests by county, and panel D plots the cumulative number of protesters by county.

2017 to 2019. However, the death of George Floyd in 2020 was followed by increased public attention on racial inequality, leading to 1,367 recorded protests during that year alone.

Protests became more numerous in 2020, yet their average size declined over time (figure 2, panel B). Protests occurring in the years leading up to 2020 often had large attendance, sometimes greater than that of 2020. The average size for large protests in 2014, 2015, and 2017 was over a thousand protesters, compared to an average of 959 protesters in 2020. Untabulated results show that 40.8% of the 456 counties reported the first BLM protest before 2020, and 9.4% have not reported any BLM protest after 2019. These statistics provide rationale for our research design that extends the analysis of BLM movements to 2014.

In figure 2, panels C and D list the counties with the most frequent protests and the largest number of protesters. In panel C, the leading

county is Cook County in Illinois, followed by Los Angeles County in California, New York County in New York, Multnomah County in Oregon, and Jefferson County in Kentucky. In panel D, Los Angeles County in California records the most protesters, followed by New York County in New York, the District of Columbia, Multnomah County in Oregon, and Dallas County in Alabama. Including county fixed effects in our DiD helps ensure that results are not confounded by unobservable, county-specific characteristics.

Table 1 provides a view of racial/ethnic composition across three organizational levels: directors, executives, and employees. Panel A reports the racial/ethnic distribution for all individuals available from ExecuComp and Revelio Labs. It shows underrepresentation of Black, Hispanic, and Asian individuals in senior leadership roles, despite their presence in the workforce. Blacks constitute 9.4% of the workforce, yet they represent only 3.1% of board members and 1.9% of top executives. Similar patterns occur for Hispanic and Asian individuals. The representation of White individuals is higher among the board of directors and top executives, standing at 89.7% and 91.5%, respectively, compared to their 73.1% share among the general workforce. Panel B summarizes the statistics of the variables used in this study.

4.2 PROBABILITY OF INDIVIDUAL REPLACEMENT BY RACE

We examine firms' workforce composition changes surrounding the BLM protests. Our focus is on the patterns of departure and appointment of individuals at various organizational levels to understand firms' diversity practices regarding racial/ethnic diversity. Given limitations in the empirical data that do not specify which individuals are replaced by whom, we develop a probabilistic model. This model estimates the likelihood of departed individuals being replaced by new appointees in each racial/ethnic category for a firm in a given year. To compute the replacement rates, we consolidate all employee records for a firm from all operating sites, and determine the first and last appearance for each individual. The detailed explanations are in online appendix C.1.

Table 2 presents changes in replacement probabilities by race/ethnicity before and after BLM protests. Results are organized as difference-in-means matrices across organizational hierarchies. Each cell represents the change in probability that a departed individual of a race/ethnicity is replaced by a newly appointed individual of another race/ethnicity.

Panel A reports changes in replacement probabilities at the board level. We find that departed Black directors are 13.8% more likely to be replaced by another Black director after BLM protests. In contrast, departed non-Black minority directors are 4.5% more likely to be replaced by newly appointed Black directors following the protests. Similarly, the likelihood of departing White directors being replaced by newly appointed Black directors increases post-protest, although the magnitude is smaller than that for non-Black minority directors. These results suggest that firms may appoint more Black directors after BLM protests, but this change might be partially

TABLE 1
Summary Statistics

Panel A: Racial/ethnic distribution						
Race/Ethnicity	Board of Directors (1)		Top Executives (2)		Employees (3)	
White	89.66%		91.45%		73.14%	
Black	3.08%		1.89%		9.35%	
Hispanic	2.73%		2.39%		9.20%	
Asian	4.51%		4.27%		8.32%	
Others (e.g., American Ind.)	0.02%		0.00%		0.00%	
Total %	100.00%		100.00%		100.00%	
Total #	33,553		46,561		29,687,967	

Panel B: Summary statistics of variables						
Main Variables	Mean (1)	Stdev (2)	25th (3)	50th (4)	75th (5)	#Obs. (6)
Table 3 (panels A & B)						
<i>Black Director</i>	0.269	0.443	0	0	1	13,731
<i>Non-Black Minority Director</i>	0.404	0.491	0	0	1	13,731
<i>% Black Directors</i>	0.035	0.064	0	0	0.077	13,731
<i>% Non-Black Minority Directors</i>	0.065	0.099	0	0	0.111	13,731
<i>Black Executive</i>	0.089	0.285	0	0	0	13,731
<i>Non-Black Minority Executive</i>	0.296	0.456	0	0	1	13,731
<i>% Black Executives</i>	0.018	0.063	0	0	0	13,731
<i>% Non-Black Minority Executives</i>	0.078	0.147	0	0	0.167	13,731
<i>BLM Protest</i>	0.506	0.500	0	1	1	13,731
<i>Firm Size (Ln)</i>	7.846	1.706	6.691	7.767	8.949	13,731
<i>Leverage</i>	0.261	0.186	0.107	0.260	0.385	13,731
<i>PP&E</i>	0.265	0.242	0.081	0.175	0.382	13,731
<i>Intangible Assets</i>	0.245	0.221	0.041	0.193	0.402	13,731
<i>R&D</i>	0.030	0.056	0	0	0.034	13,731
<i>Market-to-Book (Ln)</i>	1.049	0.941	0.490	0.971	1.514	13,731
<i>CapEx</i>	0.044	0.046	0.015	0.030	0.055	13,731
<i>Dividend</i>	0.014	0.023	0	0.004	0.021	13,731
<i>Dividend Indicator</i>	0.539	0.498	0	1	1	13,731
<i>Asset Growth</i>	0.116	0.298	-0.016	0.051	0.151	13,731
<i>Return on Assets</i>	0.037	0.105	0.012	0.046	0.085	13,731
<i>Loss</i>	0.202	0.401	0	0	0	13,731
<i># Directors</i>	8.640	2.473	7	9	10	13,731
<i># Executives</i>	5.157	1.542	4	5	6	13,731
Table 3 (panel C)						
<i>% Black Employees</i>	0.076	0.040	0.046	0.071	0.099	10,689
<i>% Non-Black Minority Employees</i>	0.161	0.104	0.094	0.135	0.199	10,689
<i>BLM Protest</i>	0.533	0.499	0	1	1	10,689
<i># Employees</i>	5,686	13,406	671	1,836	4,885	10,689
Table 4						
<i>Director Diversity Index</i>	0.158	0.166	0	0.165	0.278	13,731
<i>Executive Diversity Index</i>	0.128	0.183	0	0	0.278	13,731

(Continued)

TABLE 1—(Continued)

Panel B: Summary statistics of variables						
Main Variables	Mean (1)	Stdev (2)	25th (3)	50th (4)	75th (5)	#Obs. (6)
<i>Workforce Diversity Index</i>	0.375	0.118	0.298	0.375	0.454	10,689
Table 5						
<i>Director Alignment Score (Black)</i>	0.283	0.102	0.216	0.260	0.328	10,242
<i>Director Alignment Score (NB. Min.)</i>	0.464	0.082	0.418	0.446	0.509	10,242
<i>Executive Alignment Score (Black)</i>	0.194	0.075	0.157	0.176	0.212	10,242
<i>Executive Alignment Score (NB. Min.)</i>	0.367	0.095	0.316	0.337	0.405	10,242
<i>Workforce Alignment Score (Black)</i>	0.309	0.074	0.266	0.303	0.349	10,242
<i>Workforce Alignment Score (NB. Min.)</i>	0.319	0.091	0.267	0.302	0.352	10,242
Table 6						
<i># Protesters</i>	3,036	9,515	140	500	1,050	13,731
Table 7						
<i>Diversity Score</i>	21.573	10.708	15.848	20.475	26	7,465
<i>Black Dir Up But Not Workforce</i>	0.141	0.348	0	0	0	6,123
<i>Black Dir Alignment Score Up But Not Workforce Alignment Score</i>	0.127	0.333	0	0	0	5,843

Panel A provides the distribution of racial/ethnic composition at different organizational levels—directors, executives, and employees—with each data point representing an individual. Panel B offers the descriptive statistics for the variables used in this research. The details of variable constructions are in the appendix.

accompanied by the withdrawal of board seats from other racial/ethnic groups, especially non-Black minorities.¹²

Panel B and panel C report the post-protest changes in replacement probabilities for top executives and the general workforce, respectively. Firms place more emphasis on Black representation at the board level after protests. We do not, however, observe a similar increase for departed Black executives or employees. In contrast, non-Black minority executives are 10.5% more likely to be replaced by another non-Black minority executive post-protest. A similar trend occurs among non-Black minority employees, with same-race replacement increasing by 0.2%.

Overall, table 2 indicates a different pattern across organizational levels. Firms appear to prioritize Black board representation, but we do not see a similar trend for lower organizational levels. This increase appears to be accompanied by replacements of non-Black minority groups.

¹² We find a rise in the “busyness” of Black directors following BLM protests. Black directors account for 6.6% of 6,448 new appointments and hold an average 1.787 board seats. This is higher than non-Black minority (1.372) and White directors (1.444). The probability of Black directors receiving multiple appointments within a year increases by 5.5% post-protest, and by 5.6% for those already holding three or more seats. These patterns suggest a preference for appointing already busy Black directors, raising concerns about symbolic diversity and potential constraints on their influence.

TABLE 2
Changes in Replacement Probabilities by Race/Ethnicity

Panel A: Directors			
Departed Directors	Newly Appointed Directors		
	Black (1)	Non-Black Minority (2)	White (3)
Black	+13.8%**	+3.3%	-17.1%***
Non-Black Minority	+4.5%**	-4.4%	-0.1%
White	+1.2%***	+0.9%	-2.1%***
Panel B: Executives			
Departed Executives	Newly Appointed Executives		
	Black (1)	Non-Black Minority (2)	White (3)
Black	-0.1%	+2.1%	-2.1%
Non-Black Minority	-0.6%	+10.5%**	-9.9%**
White	+0.4%	+0.9%	-1.3%**
Panel C: General workforce			
Departed Employees	Newly Appointed Employees		
	Black (1)	Non-Black Minority (2)	White (3)
Black	-0.0%	+0.1%	-0.0%
Non-Black Minority	-0.0%	+0.2%*	-0.2%*
White	+0.0%	+0.0%	-0.1%

This table reports the change of mean probability of replacement by race/ethnicity before and after a firm's headquartered county has a large BLM protest. Results are presented as difference-in-means (i.e., post - pre) matrices for directors (Panel A), executives (Panel B), and general workforce (Panel C). Each cell shows the post-protest change in the likelihood that a departed individual of one race/ethnicity is replaced by a newly appointed individual of another race/ethnicity. Departed individuals are those with their last recorded appearance in a given organizational role (director, executive, or employee) in a specific firm-year. Newly appointed individuals are those with their first recorded appearance in that role in a firm-year. Detailed methodology for estimating replacement probabilities is provided in online appendix C.1. Full pre- and post-protest replacement probability matrices are reported in online appendix C.2. ***, **, and * indicate two-tailed *t*-statistics with statistical significance at the 1%, 5%, and 10% levels, respectively.

4.3 DO BLM PROTESTS INFLUENCE DIVERSITY PERFORMANCE?

We formally test the association between large BLM protests and diversity of three tiers within corporate hierarchies: the board of directors, top executives, and the general workforce. Our analyses focus on two sets of dependent variables that capture diversity performance: (1) indicator variables for the likelihood that a given racial/ethnic group is represented and (2) numeric variables for the percentage of individuals within that racial/ethnic group.

4.3.1. Board of Directors We begin our analysis with two indicator variables: one for the presence of one or more Black directors (*Black Director*),

and another for non-Black minority directors (*Non-Black Minority Director*). We summarize the estimation results in table 3, panel A, columns 1 and 2.¹³ The estimated coefficient for the *BLM Protest* is 1.544 for column 1 and -3.240 for column 2, both of which are statistically significant. These results indicate that compared to control firms, affected firms are more likely to include a Black director following large BLM protests, and are simultaneously less likely to include directors from non-Black minority groups.¹⁴

To examine whether the results reflect changes in total director headcount, we construct two numeric dependent variables. *%Black Directors* (*%Non-Black Minority Directors*) is the percentage of Black (non-Black minority) directors of a firm in a given year. To control for potential changes in board size, our regression models include the natural logarithm of the number of directors.¹⁵ We estimate the same regressions. The results summarized in columns 3 and 4 are consistent with the pattern observed in columns 1 and 2. The percentage of Black directors increases by 0.213% after the BLM protests in column 3, which represents a 6.1% ($= 0.213\% \div 0.035$) increase relative to the mean *%Black Directors*. In contrast, the percentage of other minority directors in column 4 decreases by 0.485%, which represents a 7.5% ($= 0.485\% \div 0.065$) decrease relative to the mean *%Non-Black Minority Directors*. The magnitudes from column 3 to column 4 show an almost one-to-one correspondence (visualized in figure 3), consistent with a substitution effect where increasing Black representation coincides with diminishing representation of non-Black minority groups.

Our visual analyses support the above pattern. In figure 4, we substitute the *BLM Protest* indicator in our DiD model with relative time-to-treatment dummies and plot the estimated coefficients. In panel A, when *%Black Directors* is used as the dependent variable, the estimated coefficients appear relatively stable in the pre-treatment period. However, an increase occurs in the event year, and the post-event time indicator coefficients remain positive despite a downward trend. In contrast, *%Non-Black Minority Directors* show a gradual and persistent decline beginning shortly after the event year, consistent with a substitution effect over time.¹⁶

¹³ We omit results for control variables to save space. We report full results of coefficient estimates including control variables in online appendix E.2.

¹⁴ As a robustness check, we re-estimate the binary outcomes in table 3 using logit regressions. Due to convergence issues with high-dimensional fixed effects in non-linear models, we follow standard practice and report two reduced-form specifications: one with Year FEs only and one with county FEs. The results (online appendix E.3) are qualitatively consistent with our baseline linear probability models.

¹⁵ We find no significant change in board size following BLM protests. Regressing the natural logarithm of number of directors on *BLM Protest* yields an insignificant coefficient of -0.520 (*t*-statistic = -0.99, *p*-value = 0.321).

¹⁶ The apparent speed of board composition shifts in the protest year partly reflects data structure. Appointments after the protest but before the next reporting date (e.g., proxy statement) are recorded as same-year changes. Given their strategic importance, board appointments can also be fast-tracked in response to external events. To assess potential misclas-

TABLE 3
Do BLM Protests Influence Diversity Performance?

Panel A: Board of directors				
Independent Variables	Dependent Variables			
	<i>Black Director</i>	<i>Non-Black Minority Director</i>	<i>% Black Directors</i>	<i>% Non-Black Minority Directors</i>
	(1)	(2)	(3)	(4)
<i>BLM Protest</i>	1.544* (1.78)	-3.240*** (-3.27)	0.213* (1.66)	-0.485** (-2.53)
# <i>Directors (Ln)</i>	0.238*** (10.79)	0.339*** (14.31)	0.007** (2.02)	0.009 (1.43)
Control Variables	Yes	Yes	Yes	Yes
<i>Year Fixed Effects</i>	Yes	Yes	Yes	Yes
<i>County Fixed Effects</i>	Yes	Yes	Yes	Yes
<i>Industry Fixed Effects</i>	Yes	Yes	Yes	Yes
# Observations	13,731	13,731	13,731	13,731
Adjusted R ²	0.266	0.215	0.203	0.172
Mean of Dep. Var.	0.269	0.404	0.035	0.065
Eco. Magnitude	5.7%	-8.0%	6.1%	-7.5%

Panel B: Top executives				
Independent Variables	Dependent Variables			
	<i>Black Executive</i>	<i>Non-Black Minority Executive</i>	<i>% Black Executives</i>	<i>% Non-Black Minority Executives</i>
	(1)	(2)	(3)	(4)
<i>BLM Protest</i>	1.116* (1.65)	-3.329*** (-3.06)	0.228 (1.61)	-0.949*** (-2.92)
# <i>Executives (Ln)</i>	0.115*** (10.84)	0.291*** (20.94)	0.000 (0.11)	0.002 (0.28)
Controls/Fixed Effects	Identical to those in panel A			
# Observations	13,731	13,731	13,731	13,731
Adjusted R ²	0.097	0.159	0.077	0.179
Mean of Dep. Var.	0.089	0.296	0.018	0.078
Eco. Magnitude	12.5%	-11.2%	12.8%	-12.1%

Panel C: General workforce		
Independent Variables	Dependent Variables	
	<i>% Black Employees</i>	<i>% Non-Black Minority Employees</i>
	(1)	(2)
<i>BLM Protest</i>	-0.105** (-2.07)	-0.054 (-0.44)
# <i>Employees (Ln)</i>	0.005*** (7.35)	-0.011*** (-5.37)

(Continued)

TABLE 3—(Continued)

Panel C: General workforce

Independent Variables	Dependent Variables	
	% Black Employees (1)	% Non-Black Minority Employees (2)
Controls/Fixed Effects	Identical to those in panel A	
# Observations	10,689	10,689
Adjusted R^2	0.569	0.572
Mean of Dep. Var.	0.076	0.161
Eco. Magnitude	-1.4%	-0.3%

This table reports the coefficient estimates from ordinary least squares regressions (linear probability model for columns 1 and 2 in panels A and B). Each observation is at the firm-year level. Since the treatment is assigned at the county level, we address potential bias from pre-existing differences in county characteristics by applying entropy balancing to reweight control firms. Specifically, we match treated and control firms based on pre-treatment means of the following county-level demographic variables: *Population (Ln)*, *Population Density (Ln)*, *Gini Index*, *%Male*, *%Non-White Population*, *Household Median Income (Ln)*, *%Poverty*, *%Unemployment*, *% High School*, and *%Bachelor's Degree*. Summary statistics before and after reweighting are provided in online appendix E.1. Panel A reports the racial/ethnic composition of directors around BLM protests. *BLM Protest* is an indicator variable that equals one after a firm whose headquarters county has a large Black Lives Matter protest. *Black Director (Non-Black Minority Director)* is an indicator variable that equals one if a firm has one or more Black (non-Black minority) directors in a given year. *% Black Directors (% Non-Black Minority Directors)* is the percentage of Black (non-Black minority) directors of a firm in a given year. Panel B (panel C) replicates the same regression analyses and focuses on top executives (general workforce). The details of variable constructions are in the appendix. Standard errors are clustered at the county-year level. Intercepts are included for estimation but not tabulated. We report full results with estimated coefficients for control variables in online appendix E.2. To improve readability, we multiply the coefficient estimates of *BLM Protest* by 100. ***, **, and * indicate two-tailed t -statistics with statistical significance at the 1%, 5%, and 10% levels, respectively.

Our results indicate a substitution effect at the board level following BLM protests. The presence and percentage of Black directors increase, yet this increase coincides with a reduction in the representation of other racial/ethnic minority groups. This pattern reflects a transition in representation from one minority group to another rather than an overall improvement in the diversity of the board's racial and ethnic composition.¹⁷

sification, we manually review 100 randomly selected protest-year appointments. Among 97 appointments with identifiable dates, 61% occurred after and 39% before the protest. Since only 8% of all appointments fall in the protest year, the overall misclassification rate is modest (around 3.3%). Robustness checks using forwarded outcomes and delayed treatment timing yield consistent results (online appendix E.4), suggesting bias is limited.

¹⁷ To explore whether firms strategically publicize board diversity changes, we examine 100 randomly selected director appointments. Among 97 with identifiable start dates, 92 had publicly accessible announcements. Black directors were most frequently featured in press releases (70.3%) and newswire coverage (78.4%), followed by non-Black minority directors (60.0% and 76.0%). White directors were less likely to appear in press releases (43.3%) or newswires (56.7%). Although this analysis is exploratory, the pattern suggests that firms may selectively emphasize diverse director appointments. A systematic, large-scale analysis of firm communications is a promising direction for future research.

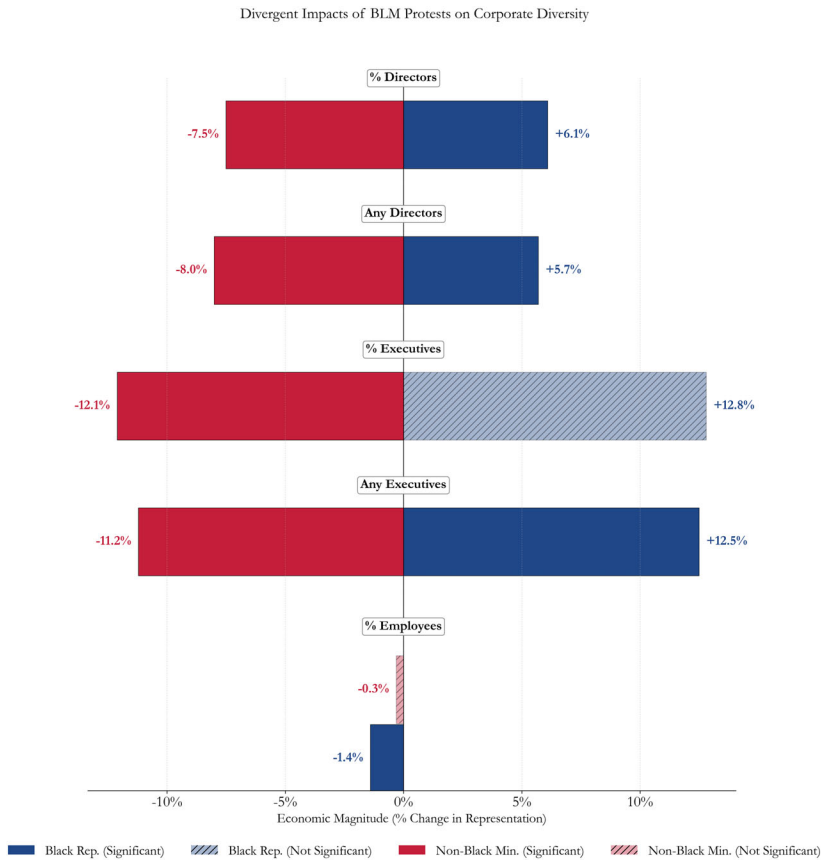


FIG. 3.—Divergent impacts of Black Lives Matter (BLM) protests on corporate diversity. This figure presents the estimated economic magnitudes of changes in representation for Black (blue bars) and non-Black minority (red bars) groups across three organizational levels following BLM protests. Each pair of bars reflects the presence (*Any Directors* and *Any Executives*) or the percentage share (*%Directors*, *%Executives*, and *%Employees*) of minority groups within that category.

4.3.2. *Top Executives.* We examine the composition of top executives who oversee daily operations. We construct four dependent variables focusing on executives. *Black Executive* (*Non-Black Minority Executive*) is an indicator variable that equals one if a firm has one or more Black (non-Black minority) executives in a given year. We estimate the same regressions and report the results in table 3, panel B. Similar to the pattern observed for director composition, we find that firms are more likely to appoint a Black executive (column 1), and less likely to appoint a non-Black minority executive (column 2). Columns 3 and 4 report the results using the percentage of executives in each racial/ethnic group as dependent variables. The estimated effect for *%Black Executives* in column 3 is positive but does not reach conventional statistical significance. However, *%Non-Black Minority Executives* of



FIG. 4.—Difference-in-differences (DiD) plots by corporate hierarchy. These figures present the estimated coefficients from our baseline regressions along with 95% confidence intervals. Year 0 is the event year. DiD plots for other outcome variables are presented in online appendix E.5.

affected firms in column 4 shows a statistically significant drop of 12.1% (= 0.949% ÷ 0.078) relative to the sample mean. These results align with the patterns in figure 4, panel B, in which the share of Black executives rises after protests, and the share of non-Black minority executives shows a decline.

In sum, firms are more likely to appoint Black executives following BLM protests, consistent with the pattern observed for directors. However, this increase does not translate into a significant rise in the overall share of Black executives, suggesting only limited change at the executive level. In contrast, we observe a significant decline in non-Black minority executive representation. The findings indicate that post-protest diversity responses at the executive level may be more constrained in scope and uneven across minority groups.

4.3.3. General Workforce. Finally, we examine changes in the racial/ethnic composition of the broader workforce following BLM protests. Due to limited variation in the likelihood of having Black and non-Black minority employees, we focus on representation measures and report results in table 3, panel C.¹⁸

¹⁸ Specifically, among the 1,206 unique firms in our sample (10,689 firm-year observations), only seven firms (26 firm-year observations) report no minority employees, and one firm (2 firm-year observations) reports only Asian employees. As a result, both *Black Employee* and *Non-Black Minority Employee* exhibit means near 0.99 and limited variations.

We find a significant decline for *%Black Employees* following the protests. The estimated coefficient implies a 1.4% ($= 0.105\% \div 0.076$) decrease relative to the sample mean. In contrast, the changes in *%Non-Black Minority Employees* are not statistically significant. These findings are visually reflected in figure 4, panel C.

We emphasize key limitations in interpreting these workforce-level findings. Drawing from scraped online profiles, Revelio Labs data may skew toward white-collar roles and firms with stronger digital footprints, which could limit coverage of broader employee populations. Our validation exercise further suggests that Revelio may overestimate the proportion of Black employees. If so, this could attenuate baseline representation levels and bias against detecting underrepresentation post-protest. Although these limitations do not invalidate the results, they highlight the need for caution when interpreting workforce-level findings.

Overall, we find evidence of a post-protest decline in Black employee representation, although representation of non-Black minority groups remains largely unchanged.¹⁹ These patterns differ from the board and executive levels, suggesting that diversity shifts in response to social movements may be limited at lower organizational layers.

4.4 DO BLM PROTESTS IMPROVE OVERALL DIVERSITY?

We next examine whether BLM protests are associated with broader improvements in firms' overall racial/ethnic diversity. For each organizational tier, we compute a *Diversity Index* as one minus the HHI across racial/ethnic groups. A higher *Diversity Index* value indicates greater diversity. We regress each *Diversity Index* on *BLM Protest* along with the same control variables.

Table 4, panel A, presents the results. Column 1 shows no statistically significant change in the *Director Diversity Index* following protests. Column 2 reveals a decline in the *Executive Diversity Index* for treated firms. The estimated coefficient represents a 7.6% ($= 0.971\% \div 0.128$) drop relative to the sample mean, suggesting reduced executive-level diversity post-protests. This aligns with earlier findings: increases in Black leadership are not accompanied by broader gains and may coincide with declines in non-Black minority representation.

Column 3 reports a significant decline in the *Workforce Diversity Index* among treated firms. This pattern indicates that protest-related changes at the top do not extend to the broader employee base. Some firms may have improved visible representation, particularly among Black directors. These changes, however, do not appear to translate into more inclusive workforce composition and, in some cases, coincide with lower overall diversity.

¹⁹ Workforce changes often take time to materialize, especially in larger firms with slower hiring and promotion cycles. To account for potential lags, we extend the post-treatment window to five years for early-treated cohorts (see section 4.9). Even with this longer horizon, we find no meaningful improvements in Black workforce representation, suggesting that the observed patterns may persist beyond a short term.

TABLE 4
Do BLM Protests Improve Firm Diversity?

Panel A: Diversity index by corporate hierarchy				
Independent Variables	Dependent Variables			
	<i>Director Diversity Index</i>	<i>Executive Diversity Index</i>	<i>Workforce Diversity Index</i>	
	(1)	(2)	(3)	
<i>BLM Protest</i>	-0.320 (-1.01)	-0.971** (-2.21)	-0.294** (-2.10)	
Controls/Fixed Effects	Identical to table 3A	Identical to table 3B	Identical to table 3C	
# Observations	13,731	13,731	10,689	
Adjusted R^2	0.230	0.151	0.564	
Mean of Dep. Var.	0.158	0.128	0.375	
Eco. Magnitude	-2.0%	-7.6%	-0.8%	

Panel B: Does shift in board diversity cascade to workforce levels?				
Independent Variables	<i>Executive Diversity Index</i>		<i>Workforce Diversity Index</i>	
	Increase in % Black Directors	No increase in % Black Directors	Increase in % Black Directors	No increase in % Black Directors
	(1)	(2)	(3)	(4)
<i>BLM Protest</i>	-2.844*** (-2.73)	-0.749 (-1.62)	-0.399* (-1.76)	-0.231 (-1.42)
Controls/Fixed Effects	Identical to those in table 3B		Identical to those in table 3C	
# Observations	2,117	11,613	1,738	8,950
Adjusted R^2	0.366	0.164	0.843	0.551
Mean of Dep. Var.	0.129	0.128	0.375	0.375
Eco. Magnitude	-22.1%	-5.8%	-1.1%	-0.6%
Testing subsample diff.	p -value = 0.066		p -value = 0.548	

This table reports the coefficient estimates of the ordinary least squares regressions. Each observation is at the firm-year level. We apply the same entropy balancing weights generated from table 3 to ensure consistency in treated and control group comparisons. Panel A reports the diversity index by corporate hierarchy. *Diversity Index* is one minus the Herfindahl Index (HHI) for the racial or ethnic diversity among a firm's board of directors/top executives/employees in a given year. The HHI is computed by summing the squares of the percentages of directors/top executives/employees belonging to specific racial or ethnic groups—Asian, Black, Hispanic, White, and others. Panel B reports the diversity index by whether a firm increases the percentage of its Black directors within two years after its headquarters county had a large Black Lives Matter protest. The details of variable constructions are in the appendix. Standard errors are clustered at the county-year level. Intercepts are included for estimation but not tabulated. To improve readability, we multiply the coefficient estimates of *BLM Protest* by 100. *Economic Magnitude* divides the estimated coefficients by the mean of the dependent variable. ***, **, and * indicate two-tailed t -statistics with statistical significance at the 1%, 5%, and 10% levels, respectively.

To assess whether increased Black board representation correlates with broader diversity gains, table 4, panel B, splits the sample based on whether a firm increased its percentage of Black directors within two years post-protests. Columns 1 and 2 report results for the *Executive Diversity Index*. Firms with increased Black board representation experienced a significant decline in executive diversity. For firms without such board changes, the *BLM Protest* coefficient is also negative but not statistically significant. The

between-group difference is significant, indicating that diversity efforts at the board level are not mirrored at the executive tier.

Columns 3 and 4 examine the *Workforce Diversity Index*. Both subsets show negative coefficients, though only firms with increased Black board representation exhibit a statistically significant decline. The difference in coefficients between two groups is not significant. These findings suggest that changes at the top do not consistently spill over to the broader workforce.

Overall, although BLM protests are associated with some increases in Black board representation, these changes do not consistently translate into broader diversity gains across the executive and employee levels. This pattern is consistent with symbolic adjustments at the top, rather than organization-wide shifts in diversity.

4.5 DO BLM PROTESTS IMPROVE DIVERSITY ALIGNMENT?

We next assess how firms' racial/ethnic composition shifts in relation to the demographics of the communities where they operate. One possible explanation for uneven changes across groups is that some firms may already have relatively diverse employee bases, thus reducing the perceived need to act. To examine this, we benchmark internal representation against external labor pool availability using descriptive metrics.

We introduce three "Alignment Scores" that compare a firm's internal representation to the racial/ethnic composition of the local labor pool. These scores are computed as the difference between the percentage of a given minority group within the firm and its weighted-average share in the firm's operating states. For example, *Director Alignment Score (Black)* reflects the gap between *%Black Directors* and *%Black Community Representation* in a given year.²⁰ These community benchmarks are not intended as normative targets, as firms may diverge from local demographics for various reasons, such as specialized talent needs or global recruitment strategies. Instead, we use these scores as consistent, objective benchmarks to track changes in representation over time.

Summary statistics indicate that, on average, minority groups (especially Black individuals) are underrepresented at all organizational levels relative to local demographics (i.e., showing a negative mean and median). For comparability, we standardize all alignment scores between zero and one, where lower values reflect greater disparity.²¹

²⁰ We construct a firm's community representation benchmark in three steps. First, we use Revelio Labs data to calculate the percentage of its employees in each state by year. Second, we obtain state-level racial/ethnic population shares from the American Community Survey. Third, we compute a weighted average by multiplying the firm's employee share in each state by that state's population share for the relevant group. We then sum across all states where the firm operates. We also test using state citation shares in 10-Ks as an alternative benchmark in online appendix F.2.

²¹ Normalization rescales alignment scores to a standardized [0,1] range to allow consistent interpretation across firms. A lower normalized score (i.e., closer to zero) implies a greater

To ensure shifts in alignment are not mechanically driven by changes in community composition, we verify in online appendix F.1 (columns 1 and 2) that local demographic benchmarks remain stable post-protest. This suggests that any observed changes in alignment scores are likely driven by changes in firms' internal compositions.

Table 5 reports the regression results. Columns 1 and 2 show no statistically significant changes in director-level alignment scores. Although the signs mirror the changes in board composition (i.e., improving for Black directors and declining for non-Black minorities), these changes are not statistically significant, suggesting limited shifts in board-level alignment.

Columns 3 and 4 report results for executives. We find a marginally significant increase in *Executive Alignment Score (Black)*, representing a 1.5% ($= 0.289 \div 0.194$) rise relative to the sample mean. However, *Executive Alignment Score (Non-Black Minority)* shows a statistically significant decline of similar magnitude. This pattern mirrors the substitution patterns discussed earlier.

Columns 5 and 6 focus on general workforce. The *Workforce Alignment Score (Black)* declines significantly, indicating a growing divergence between internal and community representation. In contrast, we find no significant change in the *Workforce Alignment Score (Non-Black Minority)*.

Overall, we find limited evidence of improved demographic alignment at the board level, some substitution effects among executives, and a widening gap in Black representation at the workforce level. These findings highlight the uneven and stratified nature of firms' diversity responses to BLM protests.

4.6 DOES THE SCALE OF BLM PROTESTS MATTER?

We examine whether protest features are associated with differences in corporate diversity outcomes. Specifically, we test whether larger turnout corresponds to stronger firm responses. We construct a variable, *BLM Protest Scale*, based on the total number of protesters in the first protest year within a firm's headquarters county. We then sort observations into three groups: no protest (assigned a value of 0), smaller scale protests (assigned a value of 0.5), and larger scale protests (assigned a value of 1). This rescaling facilitates interpretations of the estimated coefficients.

We present the results in table 6. Panel A focuses on board-level outcomes. We find that firms exposed to larger protests exhibit a statistically significant increase in *%Black Directors* (column 1)—a 7.9% rise relative to the sample mean—accompanied by a significant improvement in *Director Alignment Score (Black)* (column 4). *Director Diversity Index* remains un-

divergence between a firm's internal demographics and local community benchmarks. This process rescales the raw alignment scores to a standard [0,1] range for consistent interpretation, where a lower value indicates greater divergence. For example, if the observed scores in the sample ranged from -10% to +10%, a firm with the worst alignment score (-10%) would be normalized to 0, and a firm with the best alignment score (+10%) would be normalized to 1.

TABLE 5
Do BLM Protests Improve Diversity Alignment?

	Dependent Variables					
	Director Alignment Score (Black) (1)	Director Alignment Score (Non-Black Minority) (2)	Executive Alignment Score (Black) (3)	Executive Alignment Score (Non-Black Minority) (4)	Workforce Alignment Score (Black) (5)	Workforce Alignment Score (Non-Black Minority) (6)
<i>BLM Protest</i>	0.332 (1.64)	-0.250 (-1.51)	0.289* (1.72)	-0.562** (-2.44)	-0.241** (-1.98)	-0.119 (-0.72)
Controls/FEs	Identical to table 3A	Identical to table 3A	Identical to table 3B	Identical to table 3B	Identical to table 3C	Identical to table 3C
# Observations	10,242	10,242	10,242	10,242	10,242	10,242
Adjusted R ²	0.242	0.225	0.200	0.176	0.418	0.472
Mean of Dep. Var.	0.283	0.464	0.194	0.367	0.309	0.319
Eco. Magnitude	1.2%	-0.5%	1.5%	-1.5%	-0.8%	-0.4%

This table reports the coefficient estimates of the ordinary least squares regressions. Each observation is at the firm-year level. We apply the same entropy balancing weights generated from table 3 to ensure consistency in treated and control group comparisons. *Director Alignment Score (Black)* is the difference between % *Black Directors* and % *Black Community Representation* of a firm in a given year. *Director Alignment Score (Non-Black Minority)* is the difference between % *Non-Black Minority Directors* and % *Non-Black Minority Community Representation* of a firm in a given year. % *Black Community Representation* is the weighted-average percentage of the Black population in the states where firms operate. % *Non-Black Minority Community Representation* is the weighted-average percentage of the non-Black minority population in the states where firms have operations. The scores are defined in a similar way for executives and the general workforce. For ease of interpretation, all scores are normalized between zero and one. The details of variable constructions are in the appendix. Standard errors are clustered at the county-year level. Intercepts are included for estimation but not tabulated. To improve readability, we multiply the coefficient estimates of *BLM Protest* by 100. *Economic Magnitude* divides the estimated coefficients by the mean of the dependent variable. *, **, and *** indicate two-tailed *t*-statistics with statistical significance at the 1%, 5%, and 10% levels, respectively.

TABLE 6
Does the Scale of BLM Protests Matter?

	Dependent Variables				
	% Black Directors (1)	% Non-Black Minority Directors (2)	Director Diversity Index (3)	Director Alignment Score (Black) (4)	Director Alignment Score (Non-Black Minority) (5)
<i>BLM Protest Scale</i>	0.276* (1.74)	-0.321 (-1.26)	-0.109 (-0.28)	0.476* (1.85)	-0.410* (-1.93)
Controls/FEs	Identical to the corresponding column in earlier tables				
# Observations	13,731	13,731	13,731	10,242	10,242
Adjusted R ²	0.203	0.171	0.230	0.242	0.225
Mean of Dep. Var.	0.035	0.065	0.158	0.283	0.464
Eco. Magnitude	7.9%	-5.0%	-0.7%	1.7%	-0.9%

(Continued)

TABLE 6—(Continued)

Panel B: Executives	Dependent Variables				
	% Black Executives	% Non-Black Minority Executives	Executive Diversity Index	Executive Alignment Score (Black)	Executive Alignment Score (Non-Black Minority)
Independent Var.	(1)	(2)	(3)	(4)	(5)
<i>BLM Protest Scale</i>	0.113 (0.61)	-0.617 (-1.42)	-1.040* (-1.78)	0.291 (1.34)	-0.697** (-2.27)
Controls/FEs			Identical to the corresponding column in earlier tables		
# Observations	13,731	13,731	13,731	10,242	10,242
Adjusted R^2	0.077	0.178	0.151	0.200	0.176
Mean of Dep. Var.	0.018	0.078	0.128	0.194	0.367
Eco. Magnitude	6.3%	-7.9%	-8.1%	1.5%	-1.9%

(Continued)

TABLE 6—(Continued)

Panel C: General workforce					
	% Black Employees	% Non-Black Minority Employees	Workforce Diversity Index	Workforce Alignment Score (Black)	Workforce Alignment Score (Non-Black Minority)
Independent Var.	(1)	(2)	(3)	(4)	(5)
<i>BLM Protest Scale</i>	-0.235*** (-3.25)	0.011 (0.06)	-0.381** (-2.03)	-0.208 (-1.24)	-0.229 (-1.16)
Controls/FEs	Identical to the corresponding column in earlier tables				
# Observations	10,689	10,689	10,689	10,242	10,242
Adjusted R ²	0.569	0.572	0.564	0.418	0.472
Mean of Dep. Var.	0.076	0.161	0.375	0.309	0.319
Eco. Magnitude	-3.1%	0.1%	-1.0%	-0.7%	-0.7%

This table reports the coefficient estimates of the ordinary least squares regressions. Each observation is at the firm-year level, and each panel represents a corporate hierarchy. We apply the same entropy balancing weights generated from table 3 to ensure consistency in treated and control group comparisons. The *BLM Protest Scale* variable represents the scale of BLM protests based on the total number of protesters in the initial year when a firm's headquarters county had a BLM protest. This variable is then sorted into large and small protestor groups based on the initial size of these protests. After sorting, we assign a value of 0 to observations without BLM protests, 0.5 to the small protest group, and 1 to the large protest group. This normalization makes it easier to interpret the magnitudes of the estimated coefficients. The details of variable constructions are in the appendix. Standard errors are clustered at the county-year level. Intercepts are included for estimation but not tabulated. To improve readability, we multiply the coefficient estimates of the *BLM Protest Scale* by 100. *Economic Magnitude* divides the estimated coefficients by the mean of the dependent variable. ***, **, and * indicate two-tailed *t*-statistics with statistical significance at the 1%, 5%, and 10% levels, respectively.

changed (column 3). The *% Non-Black Minority Directors* shows a slight but not significant decline (column 2). In contrast, their alignment with community demographics drops significantly (column 5). These findings are consistent with earlier substitution patterns among minority groups.

Panel B turns to the executive level. We find no significant changes in *%Black Executives* or *%Non-Black Minority Executives* (columns 1 and 2). However, the *Executive Diversity Index* declines significantly (column 3), along with the *Executive Alignment Score (Non-Black Minority)* (column 5). These results indicate a reduced overall diversity and a greater disparity relative to community demographics at the executive level.

Panel C examines workforce-level outcomes. Firms exposed to larger protests exhibit a significant decline in *%Black Employees* (column 1) and *Workforce Diversity Index* (column 3). Workforce alignment scores also decline (columns 4 and 5), though the effects are not statistically significant. These results suggest that diversity gains at the board level are not mirrored at lower organizational tiers, and workforce diversity may even deteriorate following large-scale protest exposure.

Together, the results highlight differential responses across organizational levels. Firms exposed to larger protests appear more likely to increase board-level Black representation. Similar efforts are not evident at the executive or workforce levels. This suggests that the protest scale may shape visible top-tier diversity responses without necessarily driving broader organizational change.

4.7 DO SELECTIVE DIVERSITY PRACTICES INFLUENCE DIVERSITY RATINGS?

We next explore whether firms that respond to BLM protests by increasing upper-level diversity also see changes in their diversity ratings, particularly in ways that reflect these selective shifts. We obtain Refinitiv's *Diversity Score*, from Refinitiv, which provides a long time series of diversity ratings.²² To assess whether ESG rating agencies altered their evaluation criteria post-protest, we interact *BLM Protest* with the share of individuals from each racial/ethnic group across board, executive, and workforce levels.

Table 7, panel A, presents the results. Column 1 focuses on board representation. The interaction term between *BLM Protest* and *%Black Directors* is positive and statistically significant: A 10 percentage point increase in

²²The Refinitiv *Diversity Score*, available from 2016 onward, is based on eight components. Due to limited coverage for four components, we estimate pre-2016 scores using regression models based on the remaining four. These are the *diversity process*, *diversity objectives*, *women employees*, and *women managers*. Using 2016–2018 data, we estimate industry-level coefficients and apply them to earlier years. The predicted scores correlate strongly with actual scores ($r = 0.89$). As a robustness check, we replicate table 7 using only observed *Diversity Scores* from 2016 to 2021, excluding predicted values. Results remain consistent: key interaction terms involving Black directors and executives stay positive and significant, with larger magnitudes, and evidence of selective improvements continue to hold.

TABLE 7
Do Selective Diversity Practices Influence Diversity Ratings?

Independent Variables	Dependent Variables: Diversity Score (<i>Ln</i>)			
	(1)	(2)	(3)	(4)
Panel A: Does rating agency consider BLM protests?				
<i>BLM Protest</i> × % <i>Black Directors</i>	0.401*** (3.71)			0.595*** (4.94)
<i>BLM Protest</i> × % <i>Non-Black Minority Directors</i>	0.062 (0.66)			0.173 (1.61)
<i>BLM Protest</i> × % <i>White Directors</i>	0.013 (0.56)			
<i>BLM Protest</i> × % <i>Black Executives</i>		0.261* (1.79)		0.265* (1.76)
<i>BLM Protest</i> × % <i>Non-Black Minority Executives</i>		0.050 (0.88)		0.049 (0.86)
<i>BLM Protest</i> × % <i>White Executives</i>		0.026 (1.16)		
<i>BLM Protest</i> × % <i>Black Employees</i>			0.211 (0.76)	-0.959*** (-3.14)
<i>BLM Protest</i> × % <i>Non-Black Minority Employees</i>			0.041 (0.47)	-0.303*** (-2.85)
<i>BLM Protest</i> × % <i>White Employees</i>			0.003 (0.09)	
Controls/Fixed Effects	Identical to table 3A	Identical to table 3B	Identical to table 3C	<i>BLM Protest</i> × Controls in table 3
# Observations	7,465	7,465	7,465	7,465
Adjusted <i>R</i> ²	0.337	0.335	0.340	0.266

(Continued)

TABLE 7—(Continued)

Panel B: Does rating agency consider diversity tokenism?	
Independent Variables	Dependent Variables: Diversity Score (<i>Ln</i>)
	(1) (2)
<i>BLM Protest</i> × <i>Black %Dir Up But Not %Workforce</i>	0.067** (2.14)
<i>BLM Protest</i> × [1 – <i>Black %Dir Up But Not %Workforce</i>]	0.030 (1.32)
<i>BLM Protest</i> × <i>Black Dir Alignment Score Up But Not Workforce Alignment Score</i>	0.104*** (3.22)
<i>BLM Protest</i> × [1 – <i>Black Dir Alignment Score Up But Not Workforce Alignment Score</i>]	0.024 (1.00)
Controls/Fixed Effects	Identical to table 3 Firm Controls + <i>Director Alignment Score (Black)</i> + <i>Workforce Alignment Score (Black)</i>
# Observations	5,843
Adjusted <i>R</i> ²	0.354
Mean of Dependent Variable	2.961
Economic Magnitude:	
<i>BLM Protest</i> × <i>Black Dir Up But Not Workforce</i>	2.3%
<i>BLM Protest</i> × [1 – <i>Black Dir Up But Not Workforce</i>]	1.0%
Testing Coef. Diff. (<i>p</i> -value)	0.341

This table reports the coefficient estimates of the ordinary least squares regressions. Each observation is at the firm-year level. We apply the same entropy balancing weights generated from table 3 to ensure consistency in treated and control group comparisons. *Diversity Score* is the Diversity component score of the Diversity and Inclusion Ratings of a firm in a given year. In panel B, *Black %Dir Up But Not %Workforce* is an indicator variable that equals one if a firm increases %*Black Directors* but not %*Black Employees* after its headquarters county had a large Black Lives Matter (BLM) protest compared to its pre-protest level. *Black Dir Alignment Score Up But Not Workforce Alignment Score* is an indicator variable that equals one if a firm increases *Director Alignment Score (Black)* but not *Workforce Alignment Score (Black)* after its headquarters county had a large BLM compared to its pre-protest level. The details of variable constructions are in the appendix. Standard errors are clustered at the county-year level. Intercepts are included for estimation but not tabulated. *Economic Magnitude* divides the estimated coefficients by the mean of the dependent variable. ***, **, and * indicate two-tailed *t*-statistics with statistical significance at the 1%, 5%, and 10% levels, respectively.

Black director representation is associated with a 4.01% increase in *Diversity Score* among affected firms post-protest. This suggests that ESG rating agencies may have placed greater weight on Black board representation after protests. In contrast, the representation of non-Black minority groups is not significantly associated with diversity score changes.

Column 2 shows a similar pattern for executives. The estimated coefficient for *BLM Protest* \times *%Black Executives* remains significant, but the effect is smaller. In contrast, column 3 shows that *%Black Employees* is not associated with diversity scores, nor are other workforce-level interactions.

Column 4 includes interaction for all levels simultaneously (excluding White as a reference to avoid multicollinearity). Results remain consistent: Black director representation continues to show the strongest association with diversity score, followed by Black executive representation. Interactions with both Black and non-Black minority employee representation are negative and significant. This pattern indicates that diversity improvements at the workforce level may be underweighted in ESG evaluations following the protests.

To further probe the role of selective improvements, we construct two indicators. The first indicator *Black %Dir Up But Not %Workforce* equals one if a firm increased *%Black Directors* but did not increase *%Black Employees* compared to its pre-protest level. The second indicator *Black Dir Alignment Score Up But Not Workforce Alignment Score* equals one if a firm improves its *Director Alignment Score (Black)* but not *Workforce Alignment Score (Black)* compared to its pre-protest level. We interact these indicators with *BLM Protest* and compare affected firms with and without such selective improvements.

Table 7, panel B, shows that affected firms with increases in *%Black Directors* but not *%Black Employees* see a 2.3% rise in diversity score relative to the sample mean (column 1). Similarly, those with improved board (but not workforce) alignment scores receive a 3.5% increase in their diversity score relative to the sample mean (column 2). The difference in coefficients between the two groups is statistically significant (p -value = 0.045). These results suggest that rating agencies may reward firms for top-level diversity gains even when such gains are not accompanied by broader inclusion.

Taken together, the findings indicate that selective increases in Black leadership representation are associated with favorable changes in diversity ratings. This pattern suggests that ESG rating agencies may place greater emphasis on board- and executive-level diversity, potentially encouraging firms to focus on visible top-tier metrics without broader organizational change.

4.8 DO LOCAL ECONOMIC AND LABOR MARKET CONDITIONS INFLUENCE FIRMS' DIVERSITY PERFORMANCE?

One potential explanation for the limited progress in workforce diversity is the constraint imposed by local labor market conditions. We test this possibility by augmenting our baseline model with controls for local economic

and labor market indicators, including State Coincident Index, and state- and county-level unemployment rates for (Black) civilian labor force.

Results reported in online appendix G, panel C, show that our main findings remain robust. The estimated coefficients on *BLM Protest* remain negative and statistically significant for *%Black Employees*, *Workforce Diversity Index*, and *Workforce Alignment Score (Black)* across specifications. These results suggest that controlling for these socioeconomic factors does not substantially alter our key inferences.²³

We next examine whether local availability of Black talent affects firms' responsiveness to BLM protests. We proxy qualified local Black talent using the county-level share of Black residents with a bachelor's degree. Results in online appendix H.1 show that the decline in Black employee representation is concentrated in areas with relatively higher Black talent supply. This suggests that a constrained talent pipeline is unlikely to be the primary driver of the observed workforce patterns.

We also explore whether industries with more flexible hiring practices respond differently. We focus on firms in labor-accessible sectors (e.g., retail, restaurants, hospitality, and personal services).²⁴ Results in online appendix H.2 show that affected firms in these industries significantly increase *%Non-Black Minority Employees* after the protests. However, we find no corresponding increase in Black workforce representation or overall workforce diversity.

Taken together, our findings indicate that neither local talent supply nor industry-specific hiring flexibility fully explain the limited gains in workforce diversity following BLM protests.

4.9 ROBUSTNESS TESTS

We conduct additional tests to assess the robustness of our findings. First, to address concerns that heterogeneous treatment effects in our staggered design may bias estimates, we implement a stacked DiD approach. We construct stack samples for each treated cohort with a two-year window before and after protests and apply entropy balancing within each cohort based on pre-treatment county-level demographics.²⁵ Online appendix I.2, panel

²³ We assess whether BLM protests are associated with shifts in county-level demographics or education composition in online appendix D.2. Results in panel A show no consistent change in the size of the local Black population or labor force. Although there is a small increase in the percentage of Black residents and the size of unemployed Black labor force, overall patterns suggest that local hiring pool remains largely stable. Similarly, panel B shows no meaningful shifts in the educational attainment of Black residents, as measured by the shares with a high school diploma or bachelor's degree. These results indicate that protests did not coincide with major demographic or compositional changes among more educated Black residents.

²⁴ Black workers are slightly overrepresented in the retail sector relative to their share of the overall workforce (see details at <https://www.census.gov/library/stories/2020/09/profile-of-the-retail-workforce.html>). In our sample, Black employee representation is highest in the candy & soda industry, followed by restaurants/hotels, retail, and personal services.

²⁵ Summary statistics before and after entropy balancing are reported in online appendix I.2, panel A. Our results remain similar when we omit entropy balancing (online appendix

B provides evidence that supports the parallel trends assumption. Results in online appendix I.1 align with our main findings. Panel A shows substitution among minority directors post-protest, although this pattern is weakened for executives in panel B. Panel C reveals a significant post-protest decline in non-Black minority employee representation and overall workforce diversity, though the decline in Black employee representation is no longer statistically significant.

Second, we extend the post-treatment window to five years for early-treated cohorts (online appendix K). Black board representation continues to rise until $t+4$, although non-Black minority representation steadily declines, leading to a drop in overall board diversity. Executive-level non-Black minority representation begins rising from $t+2$, contributing to an increase in the executive diversity index, though Black executive representation remains largely unchanged. Workforce-level representation remains relatively flat, with only a modest uptick in overall diversity around $t+3$. Nonetheless, the coefficients remain negative throughout the period. Taken together, these patterns indicate limited downstream effects from top-level changes even over a longer time horizon.

Third, we test robustness to alternative control groups. Excluding firms from counties with only small-scale protests from the control group yields similar results (online appendix L.1 and online appendix L.2).²⁶ When using only never-treated firms as controls for our stacked DiD design (online appendix L.3), we still do not observe meaningful workforce diversity improvement, though director-level effects become statistically weaker. These results suggest our findings are not driven by specific control group construction.

Fourth, we explore whether our results are influenced by the geographic definition of treatment. Our main design focuses on headquarters counties. Many large firms, however, operate across multiple states. Using a firm-state-year panel constructed from Revelio (online appendix M), we define treatment at the headquarters state level and find sharper declines in *%Black Employees* and *Workforce Diversity Index* in headquarters states than in other operating states. In contrast, defining treatment based on any operating state protest exposure yields no consistent diversity change. This suggests that responses are more strongly tied to headquarters-specific exposures than to broader operational geographies. Relatedly, our tests contrasting

I.3), as well as when we exclude entropy balancing but add lagged county-level demographic controls to account for potential pre-existing trends (online appendix I.4). We also test an alternative entropy balancing based on pre-treatment firm characteristics in online appendix J.1 and J.2.

²⁶ To maintain comparability, we apply the same entropy balancing weights from table 3 to alternative control group analysis (staggered sample) in online appendix L.1, and weights from online appendix I.1 to those analyses (stacked sample) in online appendices L.2 and L.3. Results are robust if we re-estimate the entropy balancing weights based on each restricted sample.

local versus nationwide (e.g., George Floyd protests in 2020) protest exposure (online appendix N.1 and online appendix N.2) confirm that local protest exposure, rather than general national sentiment, better explain firms' responses.

Fifth, we examine how firm heterogeneity in geographic structure and baseline diversity affect their responses to BLM protests. We find that firms with broader geographic reach (measured via state mentions in 10-Ks and Revelio employee data) exhibit weaker declines in Black employee representation (online appendix H.3). This implies that dispersed firms may possess greater recruitment flexibility. In contrast, firms with greater dependence on their headquarters experience stronger negative effects on Black employee representation and workforce diversity. When we explore pre-treatment diversity in online appendix H.4, we do not find stronger symbolic responses at the board level or improved representation at the workforce level. Instead, the diversity gap among Black executives widens, suggesting that firms with low baseline diversity may lack internal pipelines to respond effectively to social pressure.

Last, although our main design focuses on supply-side firm actions, we also consider the possibility of worker-side sorting, where employees may be less willing to join or remain at protest-exposed firms. Given data limitations, we cannot directly test this mechanism, but we conduct several descriptive analyses to gauge its plausibility. First, we find no consistent evidence of changes in the size or labor force participation of the local Black population post-protests (online appendix D.2). Some indicators (such as the share of Black residents and the number of unemployed Black workers) increase slightly, but the overall patterns suggest that the local hiring pools remain broadly stable. Second, affected firms experience a modest rise in labor-related reputational incidents from RepRisk (online appendix O.1), though this may reflect heightened scrutiny rather than worsening workplace conditions. Third, we find no significant changes in employee turnover, well-being, and support programs as rated by S&P Global (online appendix O.2). Although these measures are not race-specific and have known limitations, their stability provides suggestive evidence that widespread worker rejection is unlikely to be the primary driver of observed workforce trends. Nonetheless, these results are not definitive but point to the need for future research with richer microdata to more fully examine two-sided matching in corporate diversity outcomes.

5. Conclusion

This study examines the association between BLM protests and corporate diversity across organizational levels. Research indicates that firms tend to increase Black representation on their boards following BLM-related events (Bogan, Potemkina, and Yonker [2021], Pajuste, Dzabarovs, and Madesovs [2024], Balakrishnan et al. [2023]), yet questions remain about whether the increase in Black directors results from expanding minority board seats or

substituting existing ones, and whether improvements extend consistently across all levels of the corporate hierarchy.

Using data from 4,078 BLM protests in 636 U.S. counties between 2014 and 2021, we find an increase in the representation of Black directors on boards in firms headquartered in counties where BLM protests occurred. However, this increase often coincided with a nearly one-to-one decrease in representation of non-Black minority directors, and it did not extend to executive or workforce levels. We observe a growing disparity between the workforce diversity of affected firms and demographic trends in their operating communities, especially for the Black workforce and in larger protests. These patterns indicate that corporate diversity responses may focus on visible improvements at higher echelons rather than extending these efforts throughout the organization.

Our research contributes to the literature on how social movements shape corporate actions. Our results suggest that under external pressures, firms may pursue symbolic compliance by focusing predominantly on measurable, visible top-level metrics rather than implementing substantive efforts across broader organizational levels. Our findings also add to the literature on corporate ESG practices, highlighting questions about whether board-level diversity serves as a sufficient proxy for evaluating firms' overall diversity practices.

APPENDIX

Variable Definitions

Main Variables	Descriptions
<i>BLM Protest</i>	An indicator variable that equals one after a firm whose headquarters county had a Black Lives Matter protest with at least 100 protesters. [Source: Dunivin et al. [2022]]
<i>BLM Protest Scale</i>	The scale of BLM protests is based on the total number of protesters in the initial year when a firm's headquarters county had a BLM protest. This variable is then sorted into large and small protestor groups based on the initial size of these protests. After sorting, we assign a value of 0 to observations without BLM protests, 0.5 to the small protest group, and 1 to the large protest group. This normalization makes it easier to interpret the magnitudes of the estimated coefficients. [Source: Dunivin et al. [2022]]
Directors	
<i>Black Director</i>	An indicator variable that equals one if a firm has one or more Black directors in a given year. % <i>Black Directors</i> is the percentage of Black directors of a firm in a given year. [Source: ExecuComp]

Main Variables	Descriptions
<i>Non-Black Minority Director</i>	An indicator variable that equals one if a firm has one or more non-Black minority directors in a given year. Non-Black minority directors include directors who are American Indian or Alaska Native, Hispanic, Asian, and Native Hawaiian or Other Pacific Islander. <i>% Non-Black Minority Directors</i> is the percentage of non-Black minority directors of a firm in a given year. [Source: ExecuComp]
# Directors	Number of directors of a firm in a given year. [Source: ExecuComp]
Top Executives	
<i>Black Executive</i>	An indicator variable that equals one if a firm has one or more Black executives in a given year. <i>% Black Executives</i> is the percentage of Black executives of a firm in a given year. [Source: ExecuComp]
<i>Non-Black Minority Executive</i>	An indicator variable that equals one if a firm has one or more non-Black minority executives in a given year. Non-Black minority executives include executives who are American Indian or Alaska Native, Hispanic, Asian, and Native Hawaiian or Other Pacific Islander. <i>% Non-Black Minority Executives</i> is the percentage of non-Black minority executives of a firm in a given year. [Source: ExecuComp]
# Executives	Number of executives of a firm in a given year. [Source: ExecuComp]
Employees	
<i>Black Employee</i>	An indicator variable that equals one if a firm has one or more Black employees in a given year. <i>% Black Employees</i> is the percentage of Black employees of a firm in a given year. [Source: Revelio Labs]
<i>Non-Black Minority Employee</i>	An indicator variable that equals one if a firm has one or more non-Black minority employees in a given year. Non-Black minority employees include employees who are Hispanic and Asian. <i>% Non-Black Minority Employees</i> is the percentage of non-Black minority employees of a firm in a given year. [Source: Revelio Labs]
# Employees	Number of employees of a firm in a given year. [Source: Revelio Labs]
Main Variables	
<i>Director Diversity Index</i>	One minus the Herfindahl Index (HHI) for the racial or ethnic diversity among a firm’s board of directors in a given year. The HHI is computed by summing the squares of the percentages of directors belonging to specific racial or ethnic groups—Asian, Black, Hispanic, White, and others. [Source: ExecuComp]
<i>Executive Diversity Index</i>	One minus the HHI for the racial or ethnic diversity among a firm’s top executives in a given year. The HHI is computed by summing the squares of the percentages of top executives belonging to specific racial or ethnic groups—Asian, Black, Hispanic, White, and others. [Source: ExecuComp]
<i>Workforce Diversity Index</i>	One minus the HHI for the racial or ethnic diversity among a firm’s employees in a given year. The HHI is computed by summing the squares of the percentages of employees belonging to specific racial or ethnic groups—Asian, Black, Hispanic, and White. [Source: Revelio Labs]

Main Variables	Descriptions
<i>Director Alignment Score (Black)</i>	The difference between % <i>Black Directors</i> and % <i>Black Community Representation</i> of a firm in a given year. % <i>Black Community Representation</i> is the weighted-average percentage of the Black population in the states where firms operate. It is normalized between zero and one. [Source: ExecuComp, Revelio Labs, American Community Survey]
<i>Director Alignment Score (Non-Black Minority)</i>	The difference between % <i>Non-Black Minority Directors</i> and % <i>Non-Black Minority Community Representation</i> of a firm in a given year. % <i>Non-Black Minority Community Representation</i> is the weighted-average proportion of the non-Black minority population in the states where firms have operations. It is normalized between zero and one. [Source: ExecuComp, Revelio Labs, American Community Survey]
<i>Executive Alignment Score (Black)</i>	The difference between % <i>Black Executives</i> and % <i>Black Community Representation</i> of a firm in a given year. % <i>Black Community Representation</i> is the weighted-average percentage of the Black population in the states where firms operate. It is normalized between zero and one. [Source: ExecuComp, Revelio Labs, American Community Survey]
<i>Executive Alignment Score (Non-Black Minority)</i>	The difference between % <i>Non-Black Minority Executives</i> and % <i>Non-Black Minority Community Representation</i> of a firm in a given year. % <i>Non-Black Minority Community Representation</i> is the weighted-average proportion of the non-Black minority population in the states where firms have operations. It is normalized between zero and one. [Source: ExecuComp, Revelio Labs, American Community Survey]
<i>Workforce Alignment Score (Black)</i>	The difference between % <i>Black Employees</i> and % <i>Black Community Representation</i> of a firm in a given year. % <i>Black Community Representation</i> is the weighted-average percentage of the Black population in the states where firms operate. It is normalized between zero and one. [Source: Revelio Labs, American Community Survey]
<i>Workforce Alignment Score (Non-Black Minority)</i>	The difference between % <i>Non-Black Minority Employees</i> and % <i>Non-Black Minority Community Representation</i> of a firm in a given year. % <i>Non-Black Minority Community Representation</i> is the weighted-average proportion of the non-Black minority population in the states where firms have operations. It is normalized between zero and one. [Source: Revelio Labs, American Community Survey]
<i>Black Dir Up But Not Workforce</i>	An indicator variable that equals one if a firm increases % <i>Black Directors</i> but not % <i>Black Employees</i> after its headquarters county had a Black Lives Matter protest compared to its pre-protest level. [Source: ExecuComp, Revelio Labs]
<i>Black Dir Alignment Score Up But Not Workforce Alignment Score</i>	An indicator variable that equals one if a firm increases <i>Director Alignment Score (Black)</i> but not <i>Workforce Alignment Score (Black)</i> after its headquarters county had a Black Lives Matter protest compared to its pre-protest level. [Source: ExecuComp, Revelio Labs, American Community Survey]
<i>Diversity Score</i>	The Diversity component score of the Diversity and Inclusion Ratings of a firm in a given year. [Source: Refinitiv]

Main Variables	Descriptions
Firm Fundamentals	
<i>Asset Growth</i>	The difference between a firm's total assets (<i>AT</i>) of the current year and the last year, divided by the total assets of the last year. [Source: Compustat]
<i>CapEx</i>	Capital expenditures (<i>CAPX</i>) divided by total assets (<i>AT</i>). [Source: Compustat]
<i>Dividends</i>	Dividends (<i>DVC</i>) divided by total assets (<i>AT</i>). [Source: Compustat]
<i>Dividend Indicator</i>	An indicator variable that equals one when a firm pays dividends in a given year (<i>DVC</i>). [Source: Compustat]
<i>Firm Size</i>	Total assets (<i>AT</i>). [Source: Compustat]
<i>Intangible Assets</i>	Intangible assets (<i>INTAN</i>) divided by total assets (<i>AT</i>). [Source: Compustat]
<i>Leverage</i>	Sum of short-term debt (<i>DLC</i>) and long-term debt (<i>DLTT</i>), divided by total assets (<i>AT</i>). [Source: Compustat]
<i>Loss</i>	An indicator variable that equals one when a firm has a negative <i>Return on Assets</i> in a given year. [Source: Compustat]
<i>Market to Book</i>	The ratio of market capitalization to book value of equity (<i>CEQ</i>). Market capitalization is calculated as the number of shares outstanding (<i>CSHO</i>) multiplied by the closing stock price (<i>PRCC_F</i>). [Source: Compustat]
<i>PP&E</i>	Property, plant, and equipment (<i>PPENT</i>) divided by total assets (<i>AT</i>). [Source: Compustat]
<i>R&D</i>	Research and development expenses (<i>XRD</i>) divided by total assets (<i>AT</i>). [Source: Compustat]
<i>Return on Assets</i>	Income (<i>IB</i>) divided by firms' total assets (<i>AT</i>). [Source: Compustat]
County Demographics	
<i>Population</i>	The county-level total population. [Source: American Community Survey]
<i>Population Density</i>	The county-level population density. [Source: American Community Survey]
<i>Gini Index</i>	The county-level Gini Index. [Source: American Community Survey]
<i>%Male</i>	The ratio of county-level male population to the total population. [Source: American Community Survey]
<i>%Non-White Population</i>	The ratio of county-level non-White population to the total population. [Source: American Community Survey]
<i>Household Median Income</i>	The county-level median household income. [Source: American Community Survey]
<i>%Poverty</i>	The ratio of county-level population living in poverty to the total population. [Source: American Community Survey]
<i>%Unemployment</i>	The county-level ratio of unemployment rate for civilian labor force. [Source: Bureau of Labor Statistics]
<i>%High School</i>	The ratio of the county-level population with a high school diploma to the total population aged 25 and over. [Source: American Community Survey]
<i>%Bachelor's Degree</i>	The ratio of the county-level population with a bachelor's degree or higher to the total population aged 25 and over. [Source: American Community Survey]

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