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BOARDROOM RACIAL (IN)EQUALITY AND STOCK RETURNS: EVIDENCE FROM THE BLACK-LIVES-MATTER PROTESTS

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Boardroom Racial (In)Equality and Stock Returns: Evidence from the Black-Lives-Matter Protests

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Abstract

The purpose of this study is to determine whether the racial diversity of a company's corporate board has an effect on company stock returns during the Black-Lives-Matter (BLM) protests against racial inequality. The paper follows an event study methodology using cross-sectional OLS regressions to estimate the effect of boardroom racial diversity on company four-factor adjusted cumulative abnormal returns. To isolate the effect of market turmoil induced by the Covid-19 pandemic, the regression is controlled for individual firm characteristics and industry effects. The sample size consists of the 250 largest companies listed in the S&P 500 index as of the beginning of protests (May 25, 2020). We find that both the share of African American directors on the board, as well as the presence of at least one African American director on the board has a positive and significant effect on company cumulative abnormal returns during the analysed 25-day event window. As the effect is not statistically significant for other diversity measures, we conclude that racial inequality towards African American/Black people is indeed taken into the investor decision-making process during the BLM protest period. Overall, the paper provides a novel outlook on the previously uninvestigated relationship between board racial diversity, protests, and company stock returns.

Keywords: board racial diversity, protests, racial inequality, Black-Lives-Matter, stock returns.

JEL Classification: G11, G14, M14.

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1. Introduction

The Black-Lives-Matter (BLM) mass protests started in the United States following the notorious murder of George Floyd by the U.S. police officer (May 25, 2020) and resulted in worldwide attention towards racial injustice. The protests reached their peak on June 6, 2020, gathering almost 500,000 people across more than 500 different locations in the United States. (Buchanan, Bui, & Patel, 2020). As of July 2020, the total number of demonstrators reached 15 – 26 million people, which makes BLM protests the most attended civil movement in the U.S. history (Buchanan, Bui, & Patel, 2020). The protests have reached the majority of European countries, as well as the rest of the world while raising awareness towards the global issues of racial inequality, discrimination, and systemic racism.

Not only racial inequality and systemic racism has gained severe attention in recent years, but also there is a growing number of investors recognizing the racial diversity in the company's board (Reeve, 2017). Moreover, it is important to highlight the increasing money inflows in environmental, social, and governance (ESG) funds shortly before the protests (Riding, 2020) and ESG fund managers' plans to devote increased attention to racial diversity in companies (Kishan & Marsh, 2020). Therefore, firms with non-racially diversified leadership could be prone to unfavourable perception by investors compared with minority-inclusive firms. Additionally, as per Brown Brothers Harriman (2020) report, three-quarters of investors intend to invest more into ESG funds, which arguably increases the importance of racial diversity for the company and its shareholders. Also, companies with a racially diverse board are perceived to be more sustainable over the long term due to lower chances of the company being criticized for racial inequality and the ability to spot potential problems beforehand.

Nauman (2020) stressed that many corporations and asset management firms recognize the issue of insufficient racial diversity and start working on inclusion and equal opportunities, especially after the BLM movement has drawn severe attention to this topic. Moreover, investors started to increasingly pay attention and engaging in issues related to racial inequality in the workforce and the company's corporate board. Also, many institutional investors now start to demand disclosure of the board's racial composition (Butler, 2020) and urge companies to disclose this information (Edgecliffe-Johnson & Nauman, 2020). Therefore, the currently raising

awareness of the ethnic inequality issue motivates investors to consider focusing on the board's racial diversity as an investment criterion.

The aim of our thesis is to explore investor reaction to publicly raised issues about racial inequality and systemic racism. Namely, we address the question of whether the information communicated by protestors is not only heard by investors but also actively impounded into stock prices based on observable characteristics of the company, such as racial diversity in their leadership. Thus, we explore the effect of racial protests happening in the United States on the stock returns of the companies with the non-diversified corporate board. The outcome of the paper would help to determine whether investors positively react to the issues raised during the mass racial inequality protests. If more funds are allocated to the companies with the racially diversified corporate board, it will signal that investors favour the companies which recognize the persistent issue of racial inequality and would motivate non-diversified companies to consider more opportunities for minority groups not only from a moral standpoint but financial as well.

The absence of research conducted on this topic, as well as the large magnitude and coverage of worldwide protests, makes the thesis topic both novel and relevant. Currently, there are developed research papers in the field of the board's diversity and financial performance; however, none of them considers mass protests which are raising the awareness of racial inequality. Therefore, our proposed research question is:

RQ: Do stock returns of companies with racially diversified board outperform the stock returns of companies with the racially non-diversified board during the period of mass protests against racial inequality?

2. Literature Review

2.1. Racial diversity and firm performance

2.1.1. *Race, racial inequality, and systemic racism*

Historically, the concept of race has been repeatedly changing; namely, it was often discussed whether race is a biological or self-attributed social concept (Clair & Denis, 2015; Andreassen, 2000). Nowadays, ‘race’ is usually referred to as the presence of certain observable physical characteristics, such as the colour of the skin (Andreassen, 2000). In academia, race and ethnicity are regularly used as substitute terms; however, ethnicity is directly related to ancestral and cultural similarities rather than individual physical appearance (Clair & Denis, 2015).

Even though ‘race’ is currently perceived as a purely social construct without additional biological implications, it nevertheless has a significant influence on modern society (Clair & Denis, 2015). Although race refers solely to the physical characteristics of a person, some people falsely consider it to be correlated with other non-physical characteristics such as intelligence or behaviour (Andreassen, 2000). Thus, not only the attribution of certain non-physical traits and a different attitude but also the existence of biases towards different races would be categorized as racism; however, Clair and Denis (2015) also pointed out that in recent years racist attitudes towards ethnic minorities had been reducing. Additionally, the authors stated that the common racism expression forms had changed into stereotyping and implicit biases. Also, it becomes harder to distinguish whether the person does not have racist beliefs or simply does not admit it to have them; for instance, the authors found that White people who stated that they support racial equality failed to act on enforcing policies aimed at increasing racial equality. Such unconscious perceptions towards minority groups lead to unequal opportunities, policies, and distribution of resources, which is often classified as systemic or institutional racism (Clair & Denis, 2015). Altogether, it is crucial to properly define race, racial inequality, and systemic racism to further analyse the impact and importance of racial diversity in corporations.

2.1.2. *Diversity and corporate board*

According to Erhardt, Werbel, and Shrader (2003), diversity is divided into demographic and cognitive diversity. Since demographic diversity is easily quantifiable (e.g., gender, age, race, etc.), researchers tend to prioritize analysing firm performance based on these criteria. Further, we refer to demographic diversity as “the representation of both ethnic and gender

differences” (Erhardt, Werbel, & Shrader, 2003, p. 103). Thus, the degree of diversity implies the proportion of women and/or ethnic minorities in a particular division of the company.

Since the aim of the research is to analyse the stock reaction to protests with respect to racial diversity in the company, it is crucial to determine the stakeholder group, the diversity of which should be measured. Vafeas (1999) stated that the company’s board of directors main duties include representing shareholders’ interests by choosing appropriate short-term and long-term strategy. Additionally, the corporate board is responsible for ensuring and controlling the quality, decision-making, and performance of managers (Fama & Jensen, 1983). Moreover, during unstable periods such as crises, the efficiency of the board of directors is crucial for shareholders due to the rising importance of communicating and protecting their interests (Vafeas, 1999). Another argument for looking at the racial diversity of corporate board is data availability – for instance, 45% of Fortune 100 companies disclosed the data on board members’ race (Edgecliffe-Johnson & Nauman, 2020), while just 28% of Russell 1000 companies provide at least limited insights about racial diversity statistics of their employees (Green, 2020). Thus, not only the corporate board has the biggest influence on representing shareholder interests, but it is also more feasible to determine the board’s racial diversity for each company.

2.1.3. Boardroom racial diversity and company performance

When measuring the effect of the demographic diversity of the corporate board on the performance of the company, researchers had usually focused on two aspects – gender and racial diversity. Although both aspects refer to diversity, the studies related to gender diversity on corporate boards have significantly outperformed the studies related to racial diversity in terms of quantity. Moreover, in some instances, the findings of the effect of one particular type of diversity (e.g., gender) were assumed to hold for other types of diversity (e.g., racial) (Rhode & Packel, 2014). Therefore, the aim of the following paragraphs is to analyse the effect of racial diversity while explicitly distinguishing it from the effect of other types of diversity. Further, we will build a theoretical framework on how racial diversity affects team performance to have a foundation for assessing the empirical evidence on the effect of a board’s racial diversity on the company’s financial and stock performance.

Firstly, in order to motivate the difference between minority and non-minority board members, the background of directors should be examined. Hillman, Cannella, and Harris (2002)

researched the attribute differences in corporate boards between women, racial minorities, and White men, and concluded that racial minority board representatives are more likely to have a background not related to a traditional business career, as well as be more academically educated, and bring more diverse skills compared to White male directors.

Secondly, it is important to define the channels through which boardroom racial diversity could build up the value for the company. Richard, Murthi, and Ismail (2007) summarized the contradicting claims of whether racial diversity positively or negatively affects company performance. On the one hand, authors refer to the “theory of heterogeneity” (Richard, Murthi, & Ismail, 2007, p. 1214) initially developed by Blau (1977) which states that group racial diversity leads to additional obstacles in communication (due to discrimination, biases, differences in beliefs and values) and facilitates conflicts (Sessa, 1993, as cited in Baugh & Graen, 1997) thus hindering the group’s performance and decision-making efficiency (Richard, Murthi, & Ismail, 2007). On the other hand, “knowledge-based view” (Andreuski et al., 2014, p. 822) supports the idea of racial diversity increasing the variety of viewpoints and opinions (and thus aggregated group knowledge), which consequently leads to superior decision making and better performance (Conner & Prahalad, 1996). Further in the paper, we thoroughly discuss both theories.

Robinson and Dechant (1997) outlined the importance of diversity as a whole, which enhances creativity, variety in approach to business problems, and leadership efficiency. Although the authors found that initially diversity negatively affected communication efficiency and led to more frequent conflicts, it nevertheless increased the ability of the team to have a wider perspective on a particular problem. Additionally, team cultural (racial) diversity was found to be positively associated with better understanding and performance in the global markets. Watson, Kumar, and Michaelsen (1993) argued that due to increased ability to better identify problems and come up with novel solutions, racially diverse teams (4-5 people) had managed to increase performance faster than racially non-diverse teams over the medium run (4 months). However, in the short run, racially non-diverse teams had a competitive edge over the diverse teams. Similarly, Cox (1991) also stressed the importance of racial diversity for better problem solution, innovation, and the firm’s global outreach. On the other hand, a higher representation of racial minorities might stimulate communication problems and conflicts within the group, especially if the group consists mainly of White males. However, Hunt, Layton, and Prince (2015) made a contrary statement and suggested that diversity (although not explicitly

racial) facilitates inter-group communication and teamwork; similar conclusions were drawn by Roberson, Ryan, and Ragins (2017). Andrevski et al. (2014) suggested that racially diverse firms are more likely to stimulate competitiveness by providing new or improved products and better prices, which aligns with the previously mentioned argument about the positive impact of racial diversity on innovation. Also, companies with high racial diversity in leadership tend to respond more efficiently to market volatilities and unprecedented events.

By the information provided in the previous paragraphs, we have built a framework on how and through which channels racial diversity in corporate board might affect firm performance. Although the effect of racial diversity differs depending on the level of diversity (Blau, 1977), time period and industry (Richard, Murthi, & Ismail), as well as diversity management practices and level (e.g., group vs organization) (Richard, 2000), the aim of the summarized literature was to provide a theoretical framework on how racial diversity within corporate board might affect company performance. Besides, due to the lack of such a framework in the existing literature on board racial diversity and company performance, our analysis serves as an additional contribution to the existing literature in this academic field.

Although there is a plenitude of studies examining the effect of the board's gender diversity and firm performance, the following could not be applied to the case of racial diversity (Rhode & Packel, 2014). Moreover, it is even harder to find studies that explicitly measure the effect of the board's racial diversity on firm financial and stock performance. Previously, we outlined how and through which channels racial diversity impacts various performance metrics of the organization. In the following paragraphs, we assess available empirical evidence specifically on the racial diversity of a company's board as an additional driver of firm value.

Carter, Simkins, and Simpson (2003) found that if companies have more than two minority board members, the companies tend to be larger (both in market capitalization and board size), as well as the company boards tend to have a higher share of women and more frequent meetings. Moreover, the findings of the authors suggest that racial diversity in corporate boards positively affects ROA and firm value (measured by Tobin's Q). Furthermore, the effect of board racial diversity was found to be more significant compared to gender diversity. The exact conclusions about (1) the significant correlation between the board's racial diversity and Tobin's Q and (2) the stronger effect of racial diversity compared to gender diversity were drawn

by Ntim (2015). Therefore, a more racially diverse boardroom is positively associated with enhanced shareholder wealth and thus results in higher company valuation and a positive influence on company stock returns. Erhardt, Werbel, and Shrader (2003) also found empirical support for the positive link between board diversity and ROA/ROI (however, board racial diversity was not explicitly distinguished from gender diversity; rather, diversity as a whole was measured).

Roberson and Park (2007) outlined the importance of leaders' racial diversity for investors by observing its positive relationship with book-to-market ratio, revenue, and net income, implying the potential of racial diversity in generating abnormal stock returns. Importantly, the effect of leaders' racial diversity on performance followed a convex pattern, meaning that diversity results in better performance only if there is a moderate to high level of diversity. Otherwise, the performance becomes subject to adverse effects of "tokenism" which refers to the inclusion of racial minorities as a means to satisfy certain inclusion criteria or quota in order to facilitate the perception of the board as "racially diverse" (Rhode & Packel, 2014). Tokenism may lead to decreased incentives of continuous stimulation of racial diversity, reduced influence, decision power, and inclusion of racial minorities, as well as the perception of inferiority and biases towards the appointed director (Rhode & Packel, 2014; Konrad, Kramer, & Erkut, 2008), thus hindering the benefits of racial diversity in the boardroom.

Another implication of the importance of diversity for investors is the findings of McMillan, Aaron, and Cline (2010) which indicate significant and positive CARs and thus favourable investor reaction after the inclusion of the company in DiversityInc index (representing diversity reputation). Hunt, Layton, and Prince (2015), however, found that the board's racial diversity positively and significantly correlates with the EBIT margin; the findings were particularly robust of the sub-sample of North American companies. Moreover, the authors found that company's racial diversity has more than 2 times stronger effect on the financial performance of the company compared to gender diversity. Contrary to previous optimistic findings, Richard (2000) found no evidence supporting the positive relationship between racial diversity (across all organizational levels) and ROE, stock performance, and productivity in the banking industry; however, the relationship becomes positive and significant after controlling for company growth level.

By summarizing the empirical evidence on the effect of racial diversity within the firm's leadership and corporate board on its financial performance, it could be observed that racial diversity indeed often positively and significantly correlates with financial performance indicators. Although more research is needed to measure the robustness, causality, and generalization of these results, the aforementioned empirical findings suggest that the board's racial diversity should be an important aspect of shareholders' investment decisions.

2.2. Protests and company stock performance

2.2.1. Channels through which protests affect company stock performance

Formally, protests are referred to as “social movements” which are caused by “collectively expressed grievance to a perceived social problem or reactively to a threatened change to a way of life” (Tilly, 1978, as cited in King & Soule, 2007, p. 414). King and Soule (2007) outlined that in academia researchers had often focused on the impact of inside (primary) stakeholders on the dynamics of share prices while neglecting the impact of outside (secondary) stakeholders; thus, such events as protests have only occasionally drawn the interest of researchers. Besides, most commonly, academics examine the effect of firm targeted protests (e.g., King & Soule, 2007), political protests (e.g., Acemoglu, Hassan, & Tahoun, 2018), or stock boycotts (e.g., Ding et al., 2014). Although the protests differ by its nature (e.g., political, social, consumer, etc.) and target audience (e.g., government, corporations, etc.), it is nevertheless valuable to examine the effect of such protests on the stock market and find factors which influence the stock market reaction. Thus, we will determine channels through which mass protests against racial inequality might influence company stock performance.

King and Soule (2007) suggested the channels through which protests might affect company stock prices. On the one hand, protests possess a threat to the company's cashflow (i.e., currently around 10% of American consumers are boycotting companies with non-diverse leadership) (Charlotte, 2020). Besides, non-active forms of social movements such as peaceful protests do not threaten the cashflows, but instead “draw attention to existing stakeholder concerns and may cause investors to question the firm's managerial soundness” (Oliver, 1992, as cited in King & Soule, 2007, p. 417). Moreover, investors could perceive dissatisfied external stakeholders as reputational damage to the company, leading to a lower intangible value which impacts firm revenue and thus shareholder wealth (Roberts & Dowling, 2002). Besides, King

(2008) added that the decline in the firm's reputation is a stronger signal for investors than possible threats to future revenue. Bear, Rahman, and Post (2010) found a positive and significant relationship between the board's gender diversity and company reputation (through higher CSR ratings); therefore, as BLM protests are raising awareness towards racial inequality and systemic racism, the movement may potentially lead to increased importance of board's racial diversity for firm's reputation, thus positively affecting the stock prices of companies with a racially diversified board.

On the other hand, the findings of Roberts and Dowling (2002) about the positive effect of firm reputation on financial performance are inconclusive – Rose and Thomsen (2004) argued that the influence is the other way around (financial performance influences reputation). King and Soule (2007) added that protesting crowds are just a small group with no real internal influence and control over resources and rarely result in shocks for business activities; thus, protests are not considered as a viable threat to the company's market value. Additionally, protests do not provide any new information and thus investors have no rationale in responding to the social movement.

2.2.2. Empirical findings about the effect of protests on company stock prices

Acemoglu, Hassan, and Tahoun (2018) examined the link between street protests and stock market performance in Egypt, concluding that protests against a political group lowered the stock returns of companies connected to the political group against which the protests were held. Thus, a potential link could exist between protests and stock returns of companies that possess the criteria which are not favoured by protesters (i.e., racial inequality). As for the more intense form of protests, such as boycotts, researchers found a negative relationship between stock performance and firm-targeted stock boycotts (Ding et al., 2018) as well as consumer boycotts (Tomlin, 2019).

King and Soule (2007) examined the link between targeted firm protests and change in a firm's stock performance and concluded that targeted protests indeed result in negative abnormal returns over the short term. As for long-term effects, Vasi and King (2012) found no evidence supporting the influence of protests on a firm's long-term financial performance. Additionally, Vasi and King (2012) pointed out that protests help to determine the publicly perceived important problems within companies; however, the degree of influence from outside

stakeholders is smaller compared to shareholder activism. Therefore, investors are more likely to react to issues pointed out by primary stakeholders rather than accounting for the opinion of the general public (i.e., people taking part in the protests).

2.2.3. Factors affecting reaction of a company's stock prices to protests

Since there is an absence of specific literature targeting the effect of mass protests on company stock prices, we assess factors that were found to affect market reaction on firm-targeted protests; afterwards, the factors are compared to characteristics of the BLM protests. King and Soule (2007) determined that the company is more likely to have negative abnormal returns during protests if (1) the protests are aimed towards bringing up the issues of employees or customers, (2) protests happen for an extended period of time, and (3) the protests are well-covered in the media or news. Thus, there could potentially exist a relationship between BLM protests and company abnormal stock returns since (1) the protests bring up the issues of all stakeholder groups (including customers and employees), (2) the demonstrations have been actively happening for more than 4 months, and (3) since 1970, no other protests in the United States have generated more media coverage than the current BLM movement (Heaney, 2020).

Although Acemoglu, Hassan, and Tahoun (2018) found a connection between media coverage and higher protest activity, the authors found no connection between media coverage and stock reaction during protests, which contradicts the beforementioned findings of other authors. Also, contrary to conclusions of King and Soule (2007), Van den Broek, Langley, and Hornig (2017) found that online protest size had a significant and negative effect on targeted company's stock price and lead customers to have negative feelings about the company and reduced desire to buy company's products. As BLM protests are arguably the largest protests in the history of the United States (Buchanan, Bui, & Patel, 2020), the protest size could be another factor influencing the relationship between protests and company stock performance.

Additional aspect affecting the effectiveness of protests is their location – in the USA, institutions are shareholder-centred, whereas in Europe companies are more likely to be stakeholder-centred; this implies a weaker influence of outside stakeholders (including protesting employees and customers) (King & Soule, 2007). Additionally, it is important to note that if a targeted company recognizes the demands of protesting people and acts to mitigate the stated problems, the stock price has a significantly smaller drop compared to the case if a company

chooses to ignore the communication with protesting crowd or their demands (Van den Broek, Langley & Hornig, 2017; Chernin & Lahav, 2013).

Although the intention of previous paragraphs is to summarize the existing literature on protests and stock market returns, there is nevertheless a gap of knowledge about the general effect of protests on company stock performance, as well as remaining challenges in determining the causal effect of protests on stock prices (King & Soule, 2007).

Based on the reviewed literature, we propose the following hypotheses in our research:

Hypothesis 1: During the period of BLM protests stock returns of companies with a higher share of African Americans on the board will outperform the stock returns of companies with a lower share of African Americans on the board.

Hypothesis 2: During the period of BLM protests stock returns of companies with a higher share of ethnic minorities on the board will outperform the stock returns of companies with a lower share of ethnic minorities on the board.

3. Data

3.1. Time horizon and sample size

As the aim of this study is to examine the effect of the event (protests) on stock performance during the large-magnitude protests against racial inequality, we chose to closely analyse the 250 largest U.S. publicly traded companies. Initially, we took S&P 500 companies and ranked them by market capitalization as of May 25, 2020 (the date of George Floyd's death and the outbreak of the protests); thus, our data consists of 250 largest U.S. public companies during the start of the protests. The rationale behind focusing on the 250 largest companies in the S&P 500 index is (1) the high popularity and recognition of those companies, as well as (2) relatively high analyst coverage. Thus, if the information about protests would be impounded into company prices, the effect of protests and changes in investment decisions would presumably be observed in the largest companies due to previously mentioned reasons.

We define the beginning and end date of the event study time horizon based on the chronology of the BLM protests and peak interest towards certain search patterns and keywords related to the protests (e.g., “BLM”, “protests”, “racial inequality”, “racial injustice”, etc.) using Google Trends. It allows us to determine the period during which the topic of racial inequality

and diversity gained the most recognition and interest from the general public, and investors had the highest probability to be influenced by the news and alter their investment decisions. The beginning date of the event window is assumed to be May 25, 2020 – the day George Floyd was murdered. After this day, the number of searches for the BLM movement-related keywords skyrocketed and remained high until June 19, 2020, when the search pattern normalized (Appendix A). Also, our chosen time period of 25 days is in line with Chernin and Lahav (2013) analysis method. The authors used a similar time period (21-28 days) as a duration for a particular event window during which to measure abnormal stock returns.

3.2. Data on board racial diversity

The restriction of analysing 250 companies (instead of the whole S&P 500 index companies) is set due to time limitations in the data gathering procedure and emphasis on the quality of collected data rather than its quantity. The name and title of each of the current board members were extracted from Thomson Reuters Datastream in September 2020. As we must consider board composition at the beginning of protests, we manually adjusted board composition as of May 25, 2020. The information about previous board members (i.e., those who left during/after the protests) was available from Thomson Reuters Datastream; these members were added to the board composition which we are analysing since the directors were on the board when the protests started. Also, if the current board member joined the company after the beginning of the protests (e.g., June 24, 2020), the person is removed from our database since he/she was not on the board during the beginning of the protests. Altogether, we adjusted the boardroom composition so that it consists of board members as of May 25, 2020.

To get the most precise data about boardroom racial diversity as of the beginning of the protests, we focused on manual and careful collection of the data on each board member of 250 companies in our sample. This approach allowed us not only to accurately determine the board's racial composition on a specific date but also to assess which companies disclose such type of data. In case the company does not disclose the boardroom racial diversity data or the race of their board members, we used external resources to gather the necessary information.

First, we checked whether the information about the board's racial diversity was available on the company's official website and annual reports (e.g., racial diversity statistics or pictures of board members). Additionally, this approach allowed us to determine whether the

company discloses the data on the boardroom racial diversity. Secondly, in case of the absence of the data on the company's website and annual reports, we used the Notable Names Database (NNDB) to obtain the data about each board member's race; the database contains a brief biography of around 40,000 most popular and noteworthy individuals (including board members of the largest companies) (NNDB, n.d.). Finally, if the information about a particular board member was unavailable both on the company's official website and NNDB, we used other external resources to determine the race of the board member. Similarly to the approach of Carter et al. (2010), the race of each director was determined through external resources such as news articles, LinkedIn, Bloomberg, SEC filings and other sources which directly or indirectly (such as pictures) indicate information on race or ethnicity of the person.

As a last resort, we used pictures of the board members to identify their race. The race of each board member was defined based on the colour of the skin colour and other physical characteristics (e.g., features of facial structure). In case of inability to accurately identify the race, we asked 3 random acquaintances with different background to identify it. The following approach was implemented to provide a collective view and reduce the possibility of biased data. Based on the opinion of the majority (5 people in total), we made the final data entry in our database. Also, this approach would simulate the real-life situation faced by investors when they are looking for similar data.

3.3. Data on stock performance

The data about daily company stock performance was obtained from Thomson Reuters Datastream. To determine the beta coefficient for each company before the protests, we took the 2-year period from January 1, 2018, to December 31, 2019 (since afterwards the stock market was heavily affected by Covid-19 induced economic recession). Although our event window is from May 25 to June 19, 2020, according to Ramelli and Wagner (2020), the most "dramatic" market response to the Covid-19 crisis was over by March 20. In Appendix B we present the Covid-19 pandemics related keyword search popularity in Google trends. It can be observed that the popularity of Covid-19 and crisis-related keywords indeed peaked during March 2020.

For the dual class shares with both share classes listed (5 companies), we kept the company's security with the highest market capitalization. Furthermore, from Thomson Reuters Datastream, we obtained the data on the company industry by GICS classification. The four-

factor returns and risk-free return (the U.S. 3-month Treasury-bill rate) was taken from the official Kenneth R. French website. Finally, the data needed for determining size, book-to-market and profitability were also retrieved from Thomson Reuters Datastream. As a proxy for firm size, we used the natural logarithm of market capitalization at the end of 2019. The book-to-market ratio is equal to the book value of equity divided by the market value of equity at the end of 2019. Profitability is defined as return on assets (trailing 12 months of earnings excluding extraordinary items, divided by total assets at the end of 2019). (Ramelli & Wagner, 2020). Below, in Table 1, we summarize all variables that are used in the methodology part.

Table 1. Description of variables used in the methodology part.

<i>Variable</i>	<i>Description</i>	<i>Source</i>
AR_{it}	Company daily abnormal stock returns	Calculated
R_{it}	Company actual daily stock returns	Datastream
$E(R_{it})$	Expected company stock returns predicted by Carhart's (1997) four-factor model	Calculated
R_f	Market risk-free rate	Damodaran
R_m	Daily average market return (S&P 500 index as a proxy)	Datastream
β_1	Beta coefficient for an individual stock determined using regression analysis during the period 2018-2019	Calculated
SMB	Historical excess returns between small-cap and large-cap companies (Fama & French, 1993)	Kenneth R. French
HML	Historical excess returns between value stocks (high P/B ratio) and growth stocks (low P/B ratio) (Fama & French, 1993)	Kenneth R. French
UMD	Historical excess returns of highest performing stocks over lowest performing stocks (Carhart, 1997)	Kenneth R. French
$CAR_{[t_1; t_2]}$	Company cumulative abnormal stock returns starting from the date t_1 until the corresponding ending date t_2	Calculated
$Diversity_i$	Share of African Americans on board / share of all ethnic minorities on board / share of women on board / at least 1 African American on board	Manual search
$Industry_i$	11 industries according to GISC classification	Datastream
$Size_i$	The natural logarithm (Ln) of market capitalization at the end of 2019 (Ramelli & Wagner, 2020)	Datastream
$Book-to-market_i$	Book value of equity divided by market value of equity at the end of 2019 (Ramelli & Wagner, 2020)	Datastream
$Profitability_i$	Return on assets (trailing twelve months of earnings excluding extraordinary items divided by total assets at the end of 2019)	Datastream

4. Methodology

The research design chosen for our paper is the event study analysis, which is typically used for analysing a limited time period during a specific event (e.g., Chernin & Lahav, 2013). The methodology is based on the approach proposed by Van den Broek, Langley and Hornig (2017) since the authors extensively covered the effect of 164 different protests on company abnormal stock returns. The main reason behind choosing this approach is the high-quality analysis presented in the paper, as well as the relevance and applicability of the paper's methodology to our topic. Also, the exact study approach was used by King and Soule (2007) while analysing the U.S. company stock response to firm-targeted protests from 1962 to 1990.

Initially, we measure daily abnormal stock returns for each company in the chosen period (May 26, 2020 – June 19, 2020). Abnormal stock returns are defined as the difference between actual and expected excess stock returns. We also adjust for abnormal returns related to any earnings or dividend announcements in the event window. In order to determine the most suitable asset pricing model for calculating the expected daily stock returns, we assess the applicability of the most widely used empirical models to our study; namely, Capital Asset Pricing Model (CAPM) (Sharpe, 1964), three-factor model (Fama & French, 1993), four-factor model (Carhart, 1997), and five-factor model (Fama & French, 2015).

Firstly, considering the fact that our event window takes place in the market which was recently affected by the Covid-19 pandemic, concerns about the robustness of market beta as a single risk metric in CAPM and the overall performance of CAPM during the crisis period were drawn by Febrian and Herwany (2010) as well as Desban and Jarjir (2019) thus indicating that CAPM might result in misleading expected daily stock returns in the scope of our study. Besides, Fama and French (1993) found that CAPM does not account for other risk factors thus generating lower predictive power of the model. Even though King and Soule (2007) suggested using CAPM to determine expected daily stock returns, as previously stated, in the case of turbulent market conditions, market beta in CAPM might not precisely capture the idiosyncratic risk of the companies. Therefore, for higher expected return estimation model accuracy, we refer to other models which can better capture individual risk factor exposures. The most widely used models in academia are Fama and French three-factor model (1993), five-factor model (2015), as well as Carhart's four-factor model (1997). Although the existing literature has contradictions

about the performance and predictive power differences between the mentioned models, CAPM was found to underperform the mentioned models in terms of accuracy and capturing individual company risk (e.g., Fama & French, 1993; Carhart, 1997; Bello, 2008).

In the scope of our research, we employ Carhart's (1997) four-factor model since (1) it provides slightly higher model accuracy compared to Fama and French (1993) three-factor model (e.g., Carhart, 1997; Bello, 2008; Awwaliyah & Husodo, 2017; Boamah, 2015), (2) it contains additional momentum (UMD) factor which was proved as significant in various studies (e.g., Gutierrez & Pirinsky, 2007; Blitz et al., 2018; Jegadeesh & Titman, 1993; Boamah, 2015), and (3) Fama and French (2015) five-factor model has additional profitability (RMW) and investment (CMA) factors that are partially captured by the existing value (HML) factor (Fama & French, 2015) which is present in Carhart's (1997) four-factor model. Moreover, Fama and French (2016) argued that profitability and investment factors are important over the long run, thus making the five-factor model more applicable for determining expected stock returns over a longer period. Momentum, however, which is present in Carhart's (1997) four-factor model, was found to be more applicable for the short run (which corresponds to the scope of our study).

According to the Carhart's (1997) four-factor model, the expected returns must be close to the ones which the company would have in the absence of protests. However, we need to outline the potential limitation of this study which is the turbulent conditions of the stock market prior to the event window induced by the Covid-19 pandemic consequences. Although, as previously stated, the initial "shock" to the stock market was over by March 2020 (Ramelli & Wagner, 2020), the authors outlined that market betas captured the systemic risk worse during the Covid-19 crisis compared to the steady market conditions. Partially the authors explained it by the fact that during the Covid-19 induced market turmoil investors started to re-evaluate and assign different levels of market risk for individual companies, therefore market betas might lead to spurious estimates while calculating the expected daily stock returns (Ramelli & Wagner, 2020). Nonetheless, to tackle this issue, we calculate daily expected stock returns based on the data from January 1, 2018, to December 31, 2019, comparably to the approach of Ramelli and Wagner (2020), as well as Pagano, Wagner, and Zacher (2020). Additionally, as suggested by the authors, further in the analysis we control for such year 2019 firm characteristics as profitability, firm size, and book-to-market, as well as industry to account for additional risk factor exposures and reduce the impact of the Covid-19 pandemic consequences on our results.

Hence, summarizing the previous arguments, we use Carhart's (1997) four-factor model for determining the expected company daily stock returns during the event window:

$$AR_{it} = R_{it} - E(R_{it}) = R_{it} - [\hat{\beta}_1(R_{mt} - R_{ft}) + \hat{\beta}_2(SMB_t) + \hat{\beta}_3(HML_t) + \hat{\beta}_4(UMD_t)] \quad (\text{Eq. 1})$$

where SMB is the excess return between small-cap and large-cap companies; HML is the excess return between value stocks and growth stocks, and UMD is the excess return of highest performing stocks over lowest performing stocks (Fama & French, 1993; Carhart, 1997); the detailed explanation of the variables used in equation (1) is summarized in Table 1. Afterwards, daily abnormal stock returns are transformed into the cumulative abnormal stock returns (CAR), which is the sum of daily abnormal stock returns in the given period:

$$CAR_{i[t_1, t_2]} = \sum_{t=t_1}^{t_2} AR_{it} \quad (\text{Eq. 2})$$

As proposed by Ramelli and Wagner (2020), we construct separate regressions for the CARs in the analysed period. Each regression is made for a different event window. The day George Floyd was murdered (May 25, 2020) is referred to as the day from which we start calculating abnormal stock returns. Therefore, all event windows start on May 25, 2020, and end on the corresponding trading day. Since our event window consists of 25 days, we use equation (2) to calculate CARs for 19 different periods (trading days in the event window) starting from May 25 to June 19, 2020. For instance, CAR(5) is the sum of abnormal stock returns from May 26 to June 1, 2020 as there are 5 trading days during the mentioned period.

Further, we consider boardroom diversity as an explanatory variable for cumulative abnormal stock returns, thus determining the effect of board diversity on CARs during the period of mass BLM protests against racial inequality. In order to examine the effect of boardroom diversity on company CARs, we follow the methodology of Van den Broek, Langley and Hornig (2017) which allows us to determine if certain variables are affecting the CARs of the particular company during the period of protests. Thus, we perform the ordinary least squares (OLS) regressions of individual stock cumulative abnormal returns on variables measuring boardroom racial diversity while controlling for company characteristics and industry fixed effects:

$$CAR_{i[t_1, t_2]} = \gamma_0 + \gamma_1 Diversity_i + \gamma_2 Industry_i + \gamma_3 Control_i + n_i \quad (\text{Eq. 3})$$

In the regression above, we use CAR as a left-hand-side (independent) variable, and “Diversity”, “Industry”, and “Control” as right-hand-side (dependent) variables. Our primary variable of interest is “Diversity”; we employed 4 different OLS regression types for each of the “Diversity” variables – (1) share of African American on board, (2) share of all racial minorities on board, (3) share of women on board, and (4) dummy variable of at least one African American on board, as suggested by Carter, Simkins, and Simpson (2003). As we have separate CARs for 19 trading days in the event window and 4 diversity variables, in total there are 76 unique regressions. Thus, we determine which type of diversity in which trading days is correlated with company CARs during the analysed protest period.

To control for Covid-19 induced effect on different industries, we use the factor “Industry” which consists of 11 GISC sectors, as proposed by Ramelli and Wagner (2020). As suggested by the authors, we also control for such year 2019 firm characteristics (“Control”) as profitability, firm size, and book-to-market in order to account for additional risk exposures and validate the robustness of our results. Firm size is defined as the natural logarithm of market capitalization at the end of 2019. Book-to-market is the book value of equity divided by the market value of equity at the end of 2019. Profitability is the return on assets, defined as the trailing 12 months of earnings excluding extraordinary items, divided by total assets at the end of 2019 (Ramelli & Wagner, 2020). Additionally, to further control for the robustness of our results, we account for company earnings and dividend announcements during the event window; the detailed description of conducted robustness check is summarized in section 5.3.

5. Results

5.1. Descriptive statistics

Our sample includes 250 companies with the highest market capitalization as of the beginning of BLM protests. On May 25, 2020, all 250 companies had in total 2882 board members, out of which 2508 were unique individuals. The most underrepresented ethnic group among unique board members was Hispanic (2.07%), followed by Indian (2.51%), Asian (3.07%), and African American (8.81%); the remaining 83.25% of board seats were occupied by White directors. Detailed statistics about the representatives of each ethnic group are summarized in Table 2. In our analysis, we mainly focus on all ethnic minority group (representatives of all ethnicities except White), and African Americans. The rationale behind

focusing our study on those two groups is that (1) our literature review is based on analysing the effect of racial diversity as a whole, and (2) BLM protests were mainly aimed at drawing attention towards systemic racism and inequality issues experienced by African Americans.

Table 2. Summary statistics of the ethnicity of board members for the 250 U.S. public companies with the largest market capitalization as of May 25, 2020.

Ethnicity	Number of board seats in the sample	Proportion
White	2384	82.72%
African American	276	9.58%
Asian	83	2.88%
Indian	72	2.50%
Hispanic	60	2.08%
N/A	7	0.24%
Total	2882	100.0%

Regarding the representation of ethnic minorities across industries in our sample (Appendix C), we find that on average, the highest share of ethnic minority directors is in the Information Technology (IT) industry, where 20.56% of board members are ethnic minorities. Meanwhile, the lowest representation of ethnic minority directors is observed in Real Estate (7.51%), which also has the lowest share of African American directors (3.17%). Additionally, the second lowest representation of African American board members is in the IT industry (4.95%), which has the highest share of minority directors. Such finding could be explained by the high number of Asian and Indian directors in the IT industry. On the other hand, the largest proportion of African American on the board of directors is found to be in Utilities (15.44%) and Materials (12.58%).

Concerning diversity data disclosure (i.e., whether any direct or indirect information about the ethnicity of board members is available on the company's website), we were not able to access information about 6 (out of 250) companies on their website. From our sample 169 (69.26%) companies show at least limited information about the racial composition of their board, and 75 (30.74%) companies do not provide any data about the ethnicity of their board members (Appendix D). The companies which disclose the ethnicity data have on average 9.98% of board seats occupied by African Americans, while in the companies, which do not disclose ethnicity data, the share of African American directors is only 7.81%; the difference is

statistically significant at 5% significance level (Appendix E). Also, on average, each company in our sample has 11.53 board members, 1.96 of which are ethnic minorities and 1.10 African American directors. Detailed representation of racial diversity statistics could be found in Appendix F and G. In Appendix H, I, and J we show that the boardroom gender diversity follows the normal distribution, while the proportion of ethnic minorities and African Americans on the board is non-normally distributed among the companies in our sample.

In Appendix K we present summary statistics on unique directors in our sample. On average, each unique director takes 1.15 board seats – 1.14 board seats per female directors and 1.16 seats per male directors (the difference is not statistically significant). Interestingly, we note that the number of board seats per African American director is 1.25, which is significantly higher than the number of board seats per any other ethnic group. In addition to the main findings presented in Table 3, we summarize the data about average board seats per individual with respect to their gender and ethnicity in Appendix L.

Table 3. The average number of board seats per unique African American director compared to the average number of seats per unique director of other ethnic groups.

			Total	Difference (p-value)
Panel A.				
	African American	Other ethnic groups		
Average number of board seats	1.25	1.14	1.15	0.000***
Number of individuals	221	2,287	2,508	
Panel B.				
	African American (Male)	Other ethnic groups (Male)		
Average number of board seats	1.25	1.13	1.14	0.001***
Number of individuals	148	1,638	1,786	
Panel C.				
	African American (Female)	Other ethnic groups (Female)		
Average number of board seats	1.26	1.15	1.16	0.094*
Number of individuals	73	649	722	

The table demonstrates the average number of board seats held by African American directors, and other ethnic group directors. Panel A shows the comparison between the average number of board seats by ethnic group irrespective of gender. Panels B and C, on the other hand, split the Panel A sample into male and female subsamples. The number of individuals represents the number of unique directors of the respective ethnic group. It can be observed that African American directors occupy on average significantly more board seats compared to directors of other ethnic groups. Moreover, the statistical significance is more profound for male African American directors.

Similarly to the findings of Carter, Simkins, and Simpson (2003), as well as Lemayian, Pownall, and Short (2020), we observe that larger firms (both by market capitalization and board size) have a higher number of ethnic minorities on the corporate board. In Appendix F and G, we present that 9.2% of firms (23 out of 250) have no ethnic minorities on the board and 25.2% of firms (63 out of 250) have no African American directors. These firms have the lowest market capitalization and board size. However, we should emphasize that our sample includes the largest 250 firms included in the S&P 500 index, out of which the smallest firm has a market capitalization of USD 21.6 billion. Moreover, it is worth adding that the firms with no ethnic minorities and African American on the board have the lowest ethnicity data disclosure rate – meaning, if the company has no representatives of racial minorities on the board, the company is less likely to show it on their website.

5.2. Board racial diversity and stock returns during BLM protests

In this section, we present our main results on the effect of racial board diversity on the company performance in the period between May 26, 2020, and June 19, 2020. Based on Carhart's (1997) four-factor model, we calculate abnormal returns (ARs) and cumulative abnormal returns (CARs) for 19 trading days (Eq. 1). Each CAR consists of ARs for trading days starting from May 25 and ending with a corresponding trading day (Eq. 2). Further, as showed in equation (3), CARs for each of 19 periods (trading days) are regressed on (1) 4 separate diversity variables (share of African American, share of ethnic minorities, share of women, and a dummy variable of at least one African American on board), (2) individual firm characteristic control variables as of 2019 (firm size, book-to-market, and profitability), and (3) industry (11 GICS sectors) fixed effects to isolate side effects of Covid-19 pandemic as proposed by Ramelli and Wagner (2020). Thus, using the four-factor adjusted cumulative returns (controlled for individual firm characteristics and industry) on individual stocks, we employ cross-sectional ordinary least squares (OLS) regressions to estimate the effect of the racial diversity of the board on stock performance during the period of BLM protests.

In Table 4, we present the results of 10 OLS regressions (Eq. 3) with a share of African American board members as a diversity variable in the period from May 26 to June 19, 2020. For brevity, in Table 4 we include results of every second trading day (thus, only 10 regressions out of 19 are depicted). In Appendix M we show the effect of the share of African American on

company CARs throughout the entire event window, during which the coefficient on the share of African American is positive and economically significant. A one standard deviation increase in the share of African American directors on the board is associated with an adjusted cumulative abnormal return of 0.94% (0.37%) on, for example, the 9th (19th) event window trading day. The effect is also statistically significant (ranging from 5% to 10% significance level) for most of the days in the event window, in particular – from the 3rd to 12th trading day after the killing of George Floyd. In Appendix N we illustrate the correlation between Google search popularity towards specific BLM movement related keywords and the coefficient before the share of African American in regression depicted in Table 4. We can observe that the largest effect on CARs was during the 3rd and 4th trading day after the peak interest on Google towards the BLM movement.

An alternative measure of racial diversity used in the literature (e.g., Carter, Simkins, & Simpson, 2003) is a dummy variable that equals one if there is at least one minority representative on the board. Panel A of Table 5 shows the results of OLS regressions (Eq. 3) using a dummy variable “At least one African Americans on the board”. The results are even stronger than the ones reported in Table 4, the coefficient on the board diversity dummy is both positive and significant in 12 out of 19 days in our event window. Specifically, the effect of at least one African American director is positive and significant on the 3rd, 5th-12th, and 14th-16th trading days after the killing of George Floyd. Although the effect is not statistically significant during the rest of the days in the event window, the effect is nevertheless positive and economically significant (Appendix O). Firms with at least one African American representative on the board were associated with 2.54% (1.15%) higher adjusted cumulative abnormal returns on, for example, the 9th (19th) event window trading day, compared to firms without African American representation on the board.

Additionally, we determined the effect of other types of board diversity on the stock returns of companies during the BLM protests. The results of OLS regressions (Eq. 3) which uses boardroom gender diversity as a dependent variable for diversity provided no statistically significant results throughout the entire event window (Panel C of Table 5). Regarding the share of all ethnic minorities (including African Americans) on the board, the coefficients are negative (but not significant) during the entire analysed period (Panel B of Table 5).

Table 4. The share of African American in the corporate board and cumulative abnormal stock returns during the BLM protests.

	26-May	28-May	1-Jun	3-Jun	5-Jun	9-Jun	11-Jun	15-Jun	17-Jun	19-Jun
VARIABLES	CAR(1)	CAR(3)	CAR(5)	CAR(7)	CAR(9)	CAR(11)	CAR(13)	CAR(15)	CAR(17)	CAR(19)
Share of African American	0.0143	0.0664**	0.0833**	0.0990**	0.1332**	0.1181*	0.0466	0.0645	0.0488	0.0529
	(-0.0238)	(-0.0331)	(-0.0338)	(-0.0477)	(-0.0667)	(-0.0674)	(-0.0451)	(-0.0534)	(-0.0531)	(-0.0558)
Size	-0.0013	-0.0051*	-0.0095***	-0.0093**	-0.0074	-0.0038	-0.0038	-0.0063	-0.0058	-0.0066
	(-0.0019)	(-0.0026)	(-0.0027)	(-0.0038)	(-0.0053)	(-0.0053)	(-0.0036)	(-0.0042)	(-0.0042)	(-0.0044)
Book-to-market	0.0005	-0.0129	-0.0199**	-0.0337***	-0.0432**	-0.0362**	-0.0046	-0.0194	-0.0197	-0.0125
	(-0.0064)	(-0.0089)	(-0.0091)	(-0.0128)	(-0.0179)	(-0.0181)	(-0.0121)	(-0.0143)	(-0.0142)	(-0.015)
Profitability	-0.0262	-0.0535	-0.0788**	-0.1380**	-0.1961**	-0.1920***	-0.0855	-0.1481**	-0.1466**	-0.1466**
	(-0.028)	(-0.039)	(-0.0399)	(-0.0562)	(-0.0786)	(-0.0794)	(-0.0531)	(-0.0629)	(-0.0626)	(-0.0658)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.15	0.31	0.40	0.31	0.23	0.24	0.26	0.26	0.27	0.17

This table presents the results of the OLS regression of individual stock returns for 10 different time periods. Each period starts on May 25, 2020 (the day of George Floyd killing) and ends at the date identified at the top of each column. The number of trading days included in the time period is specified in the parentheses next to “CAR” for each column. The regression was performed on the share of African American in the firm, firm size, book-to-market ratio, profitability, and industry fixed effects. Cumulative four-factor adjusted abnormal returns are used as a dependent variable. Cumulative abnormal return (CAR) in each column is calculated as a sum of stock abnormal returns in the designated time period. The share of African American is defined by dividing the number of African American by the total number of board members in the company. All models are controlled for GICS group fixed effect indicators. T-statistics based on robust standard errors are presented in parentheses. *p < 0.1; **p < 0.05; ***p < 0.01.

Table 5. The effect of different board diversity indicators on cumulative abnormal stock returns during the BLM protests.

	26-May	28-May	1-Jun	3-Jun	5-Jun	9-Jun	11-Jun	15-Jun	17-Jun	19-Jun
VARIABLES	CAR(1)	CAR(3)	CAR(5)	CAR(7)	CAR(9)	CAR(11)	CAR(13)	CAR(15)	CAR(17)	CAR(19)
Panel A.										
At least one African American	0.0016 (-0.0038)	0.0095* (-0.0053)	0.0127** (-0.0054)	0.0134* (-0.0077)	0.0254** (-0.0107)	0.0226** (-0.0108)	0.0101 (-0.0072)	0.0166* (-0.0085)	0.011 (-0.0085)	0.0115 (-0.0090)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.150	0.309	0.394	0.310	0.232	0.240	0.267	0.270	0.268	0.176
Panel B.										
Share of all ethnic minorities	-0.0235 (-0.0144)	-0.0285 (-0.0202)	-0.0187 (-0.0208)	-0.0246 (-0.0293)	-0.0556 (-0.0408)	-0.0552 (-0.0412)	-0.0480* (-0.0273)	-0.0435 (-0.0325)	-0.0303 (-0.0323)	-0.0191 (-0.0340)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.159	0.306	0.382	0.304	0.219	0.232	0.270	0.264	0.265	0.171
Panel C.										
Share of women	0.0092 (-0.0189)	-0.0256 (-0.0265)	-0.0092 (-0.0273)	0.0058 (-0.0383)	0.0149 (-0.0535)	0.0324 (-0.0540)	0.0059 (-0.0360)	0.0108 (-0.0426)	0.0189 (-0.0424)	0.015 (-0.0445)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.151	0.302	0.380	0.301	0.213	0.227	0.260	0.259	0.263	0.171

This table presents the results of the OLS regression of individual stock returns for 10 different time periods. Each period starts on May 25, 2020 (the day of George Floyd killing) and ends at the date identified at the top of each column. The number of trading days included in the time period is specified in the parentheses next to “CAR” for each column. In Panel A the OLS regression (Eq. 3) uses “At least one African American” as a dummy variable for diversity, which equals 1 if there is at least one African American director on the board. In Panel B, the share of all ethnic minorities is defined by dividing the number of any non-White board member by the total number of board members in the company. In Panel C we use the share of women on the board as another variable for diversity. All models are based on equation (3) and control for profitability, book-to-market, size, as well as GICS industry fixed effect indicators. T-statistics based on robust standard errors are presented in parentheses. *p < 0.1; **p < 0.05; ***p < 0.01.

Overall, our main findings indicate that companies with higher representation of African Americans on the board of directors were able to generate higher cumulative abnormal returns during the period of BLM protests comparing with companies with low representation of African Americans on board. Regarding other types of diversity (share of women and share of all racial minorities), neither economically meaningful nor statistically significant results were observed during the analysed period.

5.3. Robustness check

In order to control the robustness of our model, we account for (1) Covid-19 induced effect on financial markets, as well as (2) company earnings and dividend announcements. Firstly, as mentioned in the methodology section, similarly to the approach of Ramelli and Wagner (2020), in our model we implement firm characteristics as of the end of 2019 (profitability, size, and book-to-market), as well as the industry in order to control for firm-specific effects and Covid-19 related financial consequences on different industries. Thus, we aim to minimize the possibility of omitted variable bias.

Secondly, we control for company earnings and dividend announcements during the event window to eliminate surprises that might influence the stock price during the analysed period (Beaver, 1968). As a result, we gathered data on 42 company earnings or dividend announcements and set abnormal returns of a particular company's stock to 0 on the following day of the announcement. Thus, we ensured that company cumulative abnormal returns are not influenced by the controllable outside factors (i.e., earnings and dividend announcements) during the event window.

In Appendix Q we show the output of equation (3) for the share of African American, the share of all ethnic minorities, and the number of African American on board while controlling for the earnings and dividend announcements. Although the significance of the coefficients is slightly different compared to the results presented in Table 4 and Table 5, the results qualitatively resemble the ones which were described previously. Namely, the effect of the share and number of African American in the boardroom on company CARs remains positive and significant (between 1% and 10% level) for the majority of the trading days during the analysed period.

6. Discussion

In this paper, we focus on exploring the effect of the boardroom racial diversity on the company cumulative abnormal returns (CARs) during the mass protests against racial inequality (i.e., the Black-Lives-Matter movement). Our main findings summarized in the previous section indicate that the companies with a higher share of African American on board have higher cumulative abnormal returns during the examined event window compared to the companies with a low share of African Americans on board (Table 4). Moreover, the effect on CARs is positive and significant if the company has at least one African American on the board (Panel A of Table 5). On the other hand, the impact of the share of ethnic minorities and women on board is found to be economically and statistically insignificant. In the further paragraphs, we focus on arguing (1) why the proportion of African American has a positive and significant effect on stock CARs during the protests, as well as (2) why the proportion of ethnic minorities and women did not have a statistically significant effect on company stock CARs during the period of BLM protests. Additionally, we discuss the main findings from the analysis of the initial dataset which are presented in section 5.1.

6.1. Analysis of descriptive statistics

There are several interesting observations with respect to boardroom racial diversity. First, we observe that racial minorities are underrepresented in the boardrooms of the 250 largest U.S. public companies. In Appendix P we aggregated the U.S. resident population data as of 2019 and found that the proportion of White in the U.S. is 76.32%, while in our sample the proportion of unique White directors is 83.25% (Appendix K). The proportion of African American and Asian in the United States as of 2019 was 13.43% and 5.94%, while in our analysed sample the proportion of African American and Asian directors is 8.81% and 3.07%, respectively (Appendix K). The results go in line with the findings of Clair and Denis (2015) who noticed that although racial biases have been reduced significantly in the last few decades, the consequences of systemic racism are nevertheless present in corporate governance.

While analysing the number of average board seats taken per unique director, we found that African American directors on average take 1.25 board seats, comparing to 1.14 seats taken by all unique directors in our sample; the difference in average seats taken by a unique individual was observed only for African American directors; the difference is statistically significant at 1%

level (Table 3). This observation is in line with the arguments that minority directors are a scarce resource and somewhat similar to the concept of “golden skirts” in the context of gender quotas in Norway. After the introduction of a mandatory (at least) 40% female representation in the corporate boards in Norway from 2005, Huse (2011) discusses the trend of increasing multi-board membership of highly qualified female directors. Hence, we could argue that highly qualified African American directors are highly demanded on company boards.

Contrary to other research papers in the field of board racial diversity, we include the “Disclosure” variable which states whether the company discloses the ethnicity of their directors. In Appendix E we demonstrate that companies that disclose the ethnicity of their directors have on average 16.70% of minority directors, while the share of minority directors in companies that do not disclose their ethnicity is 18.06%; the difference is not statistically significant. However, the average share of African American directors in the companies which do not disclose the board’s ethnic composition is 7.81%, while in companies that disclose this type of data, the average share of African American directors is 9.98%; the difference is statistically significant at 5% level. Although the available literature does not provide an explanation as of why companies which do not disclose board members’ ethnicity have a low share of African American on the board, we can nevertheless provide our subjective interpretation of this finding.

Since the difference is not significant for all ethnic minorities, we could argue that investors during the period of BLM protests value the presence of African Americans on board more than the presence of other ethnic minorities – thus, the companies with a low share of African American directors might choose not to publicly show it. Also, since it is (currently) not mandatory to disclose the board’s racial composition, the companies which have a low share of African Americans on board chooses not to show it in order to avoid negative public perception as a non-diverse and non-inclusive company. Admittedly, we are unable to determine whether there is a correlation or causality between the company’s ethnicity data disclosure and the average share of African American on the corporate board. Thus, we suggest it to be a matter of further research.

Overall, in line with previous literature (e.g., Clair & Denis, 2015; Huse, 2011), we observe that the racial minorities are underrepresented on the boards of the 250 largest U.S. publicly traded companies. Moreover, qualified African American directors are highly demanded

on the boards and are often present on boards of more than one company. Although in recent years the companies have become more diverse and inclusive, we can nevertheless observe that the boards are dominated by White male directors. We believe that the BLM protests raised significant awareness towards the issue of racial diversity, and the companies will accelerate the pace of shifting to being more racially inclusive especially in leadership roles.

6.2. Board diversity and cumulative abnormal returns during BLM protests

The main findings presented in the paper are that the diversity variables based on African American presence in the corporate board (“share of African American” and “at least one African American”) have a positive and significant effect on company cumulative abnormal stock returns during the period of Black-Lives-Matter protests (Table 4; Panel A of Table 5), which is in line with *Hypothesis 1*. The findings are consistent with the claims of King and Soule (2007), who argued that protests are more likely to influence company stock prices if the protests are well-covered in the media and bring up the issues of employees and customers (i.e., systemic racism and racial injustice towards African Americans). On the other hand, our findings somewhat contradict the arguments of Acemoglu, Hassan, and Tahoun (2018) who claimed that media coverage of the protests does not correlate with stock reaction. In Appendix N we present the correlation between BLM related keyword search popularity and company CARs during the event window; in the graph, we observe that both variables are correlated (although not perfectly) and the highest CARs are on the 3rd and 4th trading day after the peak popularity towards the movement (in other words, investors do not react immediately to the spike in popularity towards the BLM protests). However, it is worth adding that although media coverage and Google search popularity are closely related and interdependent (i.e., higher popularity results in higher media coverage and vice versa), both factors are not substituting each other. Thus, we cannot fully contradict the findings of Acemoglu, Hassan, and Tahoun (2018) since Google search popularity is arguably just a proxy variable for media coverage.

Additionally, we observe that both the share of women and the share of all ethnic minorities had neither positive nor significant effect, which rejects *Hypothesis 2*. The absence of statistically significant effects regarding the share of women on board is in line with arguments mentioned in the literature; namely, the protests targeted the issue of racial inequality; thus, the effect concerning other types of diversity (besides racial diversity) should not be observed.

That share of all minorities had a statistically insignificant relationship with stock returns could be explained by the fact that the BLM movement attracted interest only to the racial inequality towards African Americans while disregarding the inequality issues of other ethnic groups (such as Asian, Indian, and Hispanic). Although previously we argued that other minority groups are also underrepresented in corporate boards of U.S. companies (in the analysed sample), this criterion is absent in investor decision making during the BLM protests. Rather, the investors focus more on (1) the share of African Americans on board and (2) whether there is at least one African American representative on the board.

As previously stated, the significant effect of the “share of African American” on company CARs was observed from the 3rd to 12th trading day after the killing of George Floyd, while the most profound effect was observed from the 9th to 11th trading day (Appendix N). Regarding the presence of at least one African American director on board, the effect was significant from the 3rd to 16th trading day (excluding 4th and 13th trading day) after the beginning of protests. The strongest effect was observed during the period from 9th to 11th trading day (Appendix O), similarly to the effect of the share of African American on board. The findings could be explained by the fact that during the first few days of the protests, investors were not fully aware of the underlying problem of racial inequality and whether/how it could affect the financial market. After the peak interest towards the BLM movement on June 2, 2020, in the following days, the companies with the highest inclusion of African Americans in the boardroom had the highest abnormal returns. While the effect was statistically significant in the majority of the days during the event window, the investors did not react within the first few days of the protests and the positive reaction diminished after the 12th trading day after the killing of George Floyd. These findings demonstrate that (1) investors are aware of the problems raised by the protesting crowds, and (2) the importance of the issue raised during protests correlates with the popularity of the protests.

Although our findings indicate that during the BLM protests investor decisions were correlated with the African American director representation on the board of a particular company, we do not precisely determine why and through which channels stock prices were impacted. Based on the available literature, we conjecture that the main channel through which the protests impacted stock prices was associated with the threat to the company’s reputation due to dissatisfied external stakeholders (Roberts & Dowling, 2002; King, 2008). Since the protests

targeted the problem of systemic racism (particularly centred towards Black people), the companies with low inclusion of Black people in the boardroom were perceived as less inclusive and not stimulating racial diversity. Moreover, Vasi and King (2012) argued that outside stakeholders have a low degree of influence in investor decision making; therefore, there is a high probability that the issues of racial inequality were also noticed by primary stakeholders such as investment funds and other institutional investors, thus influencing the stock prices of companies with low inclusion of African Americans.

Overall, several important findings emerge from our research. First, we confirm the findings of other authors that racial minorities are underrepresented on the boards of the largest U.S. companies. Secondly, the issues raised by mass BLM protests against racial inequality are taken into investor decision making during the period of protests. Although in the analysed event window the S&P 500 index grew by 5% and the protests did not impact the market as a whole, the difference in cumulative abnormal stock returns was observable after taking into consideration the African American representation in the boardroom of individual companies. As we focused only on differences in the stock returns over the short term, we outline the possibilities for further research in the next section.

6.3. Limitations and suggestions for further research

Since the sample analysed in this paper includes 250 largest U.S. public companies as of May 25, 2020, the most prominent limitation of this study is a generalization of our findings. Although we conclude that the African American representation on the boards correlates with cumulative abnormal returns of the companies in the analysed event window, these findings could only be applied to the largest U.S. public companies. On the one hand, due to the relatively small sample size presented in this study, the significance levels of the beforementioned factor could be even higher if a larger sample (e.g., full list of S&P 500 companies) would be analysed. On the other hand, the largest companies are better covered by analysts and are well-known by the general public, thus the companies are arguably more influenced by reputational concerns (i.e., not meeting certain inclusion and diversity criteria). Hence, we suggest using a larger sample of companies as a matter for further research. Besides, the sample could also include non-US companies to examine whether the protests influenced cumulative abnormal returns of companies with respect to certain diversity criteria outside the United States (e.g., Europe).

As we analysed only short-term stock returns during the event window, another prospect for further research is the analysis of the long-term effect of boardroom racial diversity on company abnormal stock returns. Although there are previous studies that examine the effect of racial diversity on company financial performance (e.g., Carter, Simkins, & Simpson, 2003; Erhardt, Werbel, & Shrader, 2003; Ntim, 2015; Hunt, Layton, & Prince, 2015), there is nevertheless a lack of research on this particular topic (Rhode & Packel, 2014). Moreover, none of the mentioned papers were published after one of the largest protests against racial inequality in the history of the United States. Besides, after the BLM protests, asset management firms have increased their attention to racial inequality and have started to include the minority inclusion/diversity factor in their investment criteria (Nauman, 2020). Thus, the analysis of the long-term impact of the board's racial diversity (not only the African American representation on the board) might bring promising results since the diversity factor becomes more important for both retail and institutional investors in the aftermath of the BLM movement.

7. Conclusion

The aim of the paper is to explore the relationship between the Black-Lives-Matter (BLM) protests against racial inequality and company abnormal stock returns with respect to racial diversity in the boardroom.

The main findings that emerge from the analysis of the sample of 250 largest S&P 500 companies are in line with previous research in the field of racial diversity in the corporate board. As of May 2020, racial minorities are still underrepresented on the boards of the largest U.S. public companies. Additionally, we find that African American directors on average take a significantly higher number of seats per each unique director, which signals about the scarcity and demand for highly qualified African American directors. Although in recent years relatively high public attention has been devoted to combating racial inequality and systemic racism in the corporate environment (especially within company leadership), there is clearly room for improvement.

Regarding the main objective of our study and answering the proposed research question, we find that during the BLM protests the companies with a higher share of African American on board had significantly higher cumulative abnormal stock returns. We also demonstrate that the

severity of the positive effect on cumulative abnormal stock returns partially correlates with the Google search popularity towards the BLM protests. Moreover, the positive and significant effect on cumulative abnormal returns is also observed for the companies that had at least one African American director. On the other hand, the effect is not significant for other diversity measures such as gender diversity and the proportion of all ethnic minorities on board. Thus, we conclude that despite the relatively low influence of external stakeholders on investor decision making, the BLM protests have raised investor awareness towards the inequality issues faced by Black people. We suggest that the effect is mainly driven by the threat to company reputation and the recognition of racial diversity issues by primary stakeholders.

This paper contributes to the relatively scarce literature in the field of protests, racial diversity, and stock returns. The existing literature on the relationship between protests and stock returns usually focuses on firm-targeted protests, political protests, or consumer streaks/boycotts; however, our paper provides an insight on how non-firm-specific mass protests are affecting the company stock prices based on the issues expressed by the protesting crowds.

The topics of racial diversity and racial inequality have undoubtedly gained attention in the aftermath of BLM protests and have influenced the decision making of investors during that timeframe. Therefore, as an implication for further research we suggest (1) analysing a larger sample size to determine whether the effect was observable for all or just the largest U.S. public companies, and (2) analyse the long-term effect of the BLM protests on the company stock returns with respect to boardroom racial diversity. We expect that the BLM protests have raised awareness in academia towards the topic of racial diversity in corporate governance, therefore the insights provided in this paper could greatly contribute to further studies in this field.

8. References

- Acemoglu, D., Hassan, T.A., & Tahoun, A.T. (2018). The power of the street: evidence from Egypt's Arab Spring. *Review of Financial Studies*, 31(1), 1-42.
- Andreasen, R. (2000). Race: biological reality or social construct? *Philosophy of Science*, 67(1), 653-666.
- Andrevski, G., Richard, O.C., Shaw, J.D., & Ferrier, W.J. (2014). Racial diversity and firm performance: the mediating role of competitive intensity. *Journal of Management*, 40(3), 820-844.
- Awwaliyah, I.N, & Husodo, Z.A. (2017). The extended Fama-French three factor model: revisited. *Indonesian Capital Market Review*, 9, 128-145.
- Baugh, S.G., & Graen, G.B. (1997). Effects of team gender and racial composition on perceptions of team performance in cross-functional teams. *Group & Organization Management*, 22(3), 366-383.
- Bear, S.E., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics*, 97(2), 207-221.
- Beaver, W.H. (1968). The information content of annual earnings announcements. *Journal of Accounting Research*, 6, 67-92.
- Bello, Z.Y. (2008). A statistical comparison of the CAPM to the Fama-French three factor model and the Carhart's model. *Global Journal of Finance and Banking*, 2(2), 14-24.
- Blau, P.M. (1977). A Macrosociological theory of social structure. *The American Journal of Sociology*, 83(1), 26-54.
- Blitz, D., Hanauer, M. X., Vidojevic, M., & Vliet, P. (2018). Five concerns with the five-factor model. *The Journal of Portfolio Management*, 44(4), 71-78.
- Boamah, N.A. (2015). Robustness of the Carhart four-factor and the Fama-French three-factor models on the South African stock market. *Review of Accounting and Finance*, 14(4), 413-430.

- Brown Brothers Harriman (2020). 2020 global ETF investor survey. Retrieved from <https://www.bbh.com/resource/blob/41560/9b92ebaaa441a7ba393ccddf7b5d677d/2020-etf-survey-pdf-data.pdf>
- Buchanan, L., Bui, Q., & Patel, J.K. (2020, July 3). Black Lives Matter may be the largest movement in US history. *The New York Times*. Retrieved from <https://www.nytimes.com/interactive/2020/07/03/us/george-floyd-protests-crowd-size.html>
- Butler, K. (2020, October 28). Investors overseeing \$3 trillion push for board racial diversity. *Bloomberg*. Retrieved from <https://www.bloomberg.com/amp/news/articles/2020-10-28/investors-overseeing-3-trillion-push-for-board-racial-diversity>
- Carhart, M.M. (1997). On persistence in mutual fund performance. *Journal of Finance*, 52(1), 57-82.
- Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5), 396-414.
- Carter, D.A., Simkins, B.J., & Simpson, W.G. (2003). Corporate governance, board diversity, and firm value. *The Financial Review*, 38(1), 33-53.
- Charlotte, N.C. (2020, July 20). Nearly 4 in 10 consumers are currently boycotting a company. *Yahoo*. Retrieved from <https://money.yahoo.com/nearly-4-10-consumers-currently-183400628.html>
- Chernin, Y., & Lahav, Y. (2013). "The people demand social justice" a case study on the impact of protests on financial markets. *Accounting, Economics, and Law: A Convivium*, 4(2), 99-121.
- Clair, M., & Denis, J.S. (2015). Sociology of racism. In *The International Encyclopedia of the Social and Behavioral Sciences* (2nd ed., p. 857-863), London, LDN: Elsevier. Retrieved from https://projects.iq.harvard.edu/files/deib-explorer/files/sociology_of_racism.pdf
- Conner, K.R., & Prahalad, C.K. (1996). A resource-based theory of the firm: knowledge versus opportunism. *Organization Science*, 7(5), 477-501.
- Cox, T. (1991). The multicultural organization. *The Executive*, 5(2), 34-47.

- Desban, M., & Jarjir, S. (2019). Asset pricing of individual stocks in periods of crisis. In S. Boubaker & D.K. Nguyen (Ed.), *Handbook of global financial markets: transformations, dependence, and risk spillovers* (p. 671-688). Singapore, SG: World Scientific Publishing Co. Pte. Ltd.
- Ding, N., Parwada, J.T., Shen, J., & Zhou, S. (2014). When does a stock boycott work? Evidence from a clinical study of the Sudan divestment campaign. *Journal of Business Ethics*, 163(11), 507-527.
- Edgecliffe-Johnson, A., & Nauman, B. (2020, July 12). ISS urges companies to disclose ethnicity of directors. *Financial Times*. Retrieved from <https://www.ft.com/content/b45f6a13-c8e6-484b-a75f-bb578178e87f>
- Erhardt, N.L., Werbel, J.D., & Shrader, C. (2003). Board director diversity and firm financial performance. *Corporate Governance: An International Review*, 11(2), 102-111.
- Fama, E.F., & French, K.R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), 3-56.
- Fama, E.F., & French, K.R. (2015). A five-factor asset pricing model. *Journal of Financial Economics*, 116(1), 1-22.
- Fama, E.F., & French, K.R. (2016). Dissecting anomalies with a five-factor model. *The Review of Financial Studies*, 29(1), 69-103.
- Fama, E.F., & Jensen, M.C. (1983). Separation of ownership and control. *The Journal of Law & Economics*, 26(2), 301-325.
- Febrian, E., & Herwany, A. (2010). The performance of asset pricing models before, during, and after an emerging market financial crisis: evidence from Indonesia. *The International Journal of Business and Finance Research*, 4(1), 85-97.
- Green, J. (2020, July 28). Big companies track workforce diversity but won't share the results. *Bloomberg*. Retrieved from <https://www.bloomberg.com/news/articles/2020-07-27/big-companies-track-workforce-diversity-but-won-t-share-the-results?sref=ehUZgvfo>
- Gutierrez, R.C., & Pirinsky, C.A. (2007). Momentum, reversal, and the trading behaviors of institutions. *Journal of Financial Markets*, 10(1), 48-75.

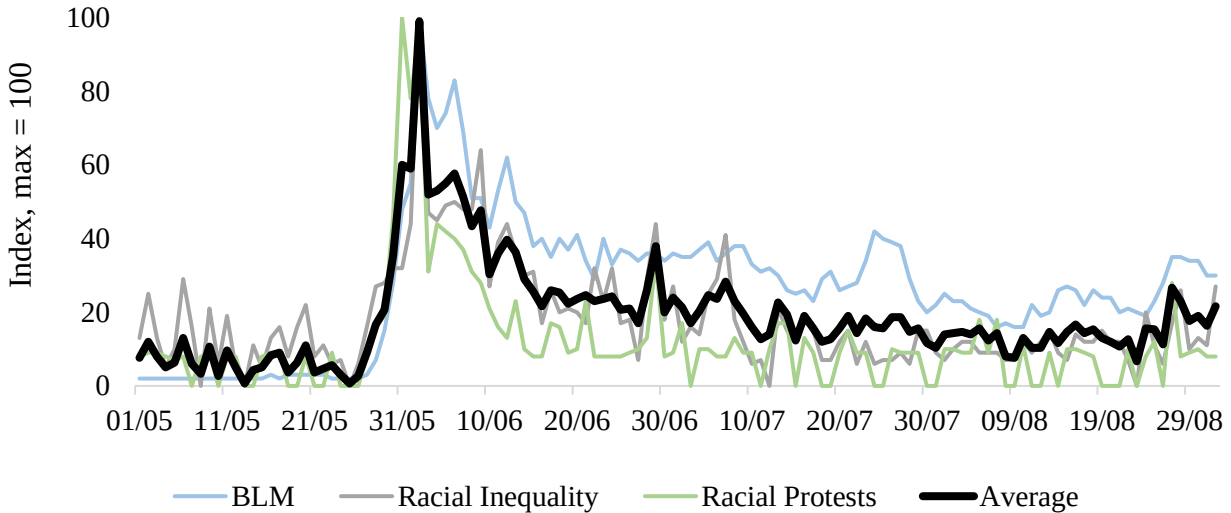
- Heaney, M.T. (2020, July 6). The George Floyd protests generated more media coverage than any protest in 50 years. *The Washington Post*. Retrieved from <https://www.washingtonpost.com/politics/2020/07/06/george-floyd-protests-generated-more-media-coverage-than-any-protest-50-years/>
- Hillman, A.J., Cannella, A.A., & Harris, I.C. (2002). Women and racial minorities in the boardroom: how do directors differ? *Journal of Management*, 28(6), 747-763.
- Hunt, V., Layton, D., & Prince, S. (2015). Diversity matters. *McKinsey&Company*. Retrieved from <http://www.insurance.ca.gov/diversity/41-ISDGBD/GBDEExternal/upload/McKinseyDivmatters-201501.pdf>
- Huse, M. (2011, December). *The “Golden Skirts:” changes in board composition following gender quotas on corporate boards*. Presented at the Australian and New Zealand Academy Meeting (Best Paper Award), Wellington, New Zealand. Retrieved from https://www.anzam.org/wp-content/uploads/pdf-manager/473_ANZAM2011-148.PDF
- Jegadeesh, N., & Titman, S. (1993). Returns to buying winners and selling losers: implications for stock market efficiency. *The Journal of Finance*, 48(1), 65-91.
- King, B.G. (2008). A political mediation model of corporate response to social movement activism. *Administrative Science Quarterly*, 53(3), 395-421.
- King, B.G., & Soule, S.A. (2007). Social movements as extra-institutional entrepreneurs: the effect of protests on stock price returns. *Administrative Science Quarterly*, 52(3), 413-442.
- Kishan, S., & Marsh, A. (2020, June 24). ESG investors are confronting a race problem of their own. *Bloomberg*. Retrieved from <https://www.bloomberg.com/news/articles/2020-06-24/esg-investors-are-confronting-a-race-problem-of-their-own>
- Konrad, A.M., Kramer, V., & Erkut, S. (2008). Critical mass: the impact of three or more women on corporate boards. *Organizational Dynamics*, 37(2), 145-164.
- Lemayian, Z, Pownall, G. & Short, J. (2020). Why are us corporate boards under-diversified among genders and races? *SSRN working paper* (April 29, 2020). Retrieved November 30, 2020, from <https://ssrn.com/abstract=3567420>

- McMillan, A., & Aaron, J.R., Cline, B.N. (2010). Investor reactions to diversity reputation signals. *Corporate Reputation Review*, 13(3), 184-197.
- Nauman, B. (2020, July 27). US investors demand data in fight against racial discrimination. *Financial Times*. Retrieved from <https://www.ft.com/content/1dffa98-fd4e-4288-8683-8f84e236d335>
- NNDB. (n.d.). What is NNDB. Retrieved from <https://www.nndb.com/>
- Ntim, C.G. (2015). Board diversity and organizational valuation: unravelling the effects of ethnicity and gender. *Journal of Management and Governance*, 19(1), 167-195.
- Pagano, M., Wagner, C., & Zechner, J. (2020). Disaster resilience and asset prices. *Covid Economics, Vetted and Real-Time Papers*, (22), 1-39.
- Ramelli, S., & Wagner, A. F. (2020). Feverish stock price reactions to Covid-19. *Review of Corporate Finance Studies*, 9(3), 622-655.
- Reeve, N. (2017, November 16). Ethnic diversity on boards is growing in importance, survey finds. *IPE Magazine*. Retrieved from <https://www.ipe.com/ethnic-diversity-on-boards-is-growing-in-importance-survey-finds/10021764.article>
- Rhode, D.L., & Packel, A.K. (2014). Diversity on corporate boards: how much difference does difference make? *Delaware Journal of Corporate Law*, 39(2), 377-426.
- Richard, O.C. (2000). Racial diversity, business strategy, and firm performance: a resource-based view. *Academy of Management Journal*, 43(2), 164-177.
- Richard, O.C., Murthi, B.P.S., & Ismail, K. (2007). The impact of racial diversity on intermediate and long-term performance: the moderating role of environmental context. *Strategic Management Journal*, 28(12), 1213-1233.
- Riding, S. (2020, August 10). ESG funds attract record inflows during crisis. *Financial Times*. Retrieved from <https://www.ft.com/content/27025f35-283f-4956-b6a0-0adbfd4c7a0e>
- Roberson, Q., Ryan, A.M., & Ragins, B.R. (2017). The evolution and future of diversity at work. *Journal of Applied Psychology*, 102(3), 483-499.

- Roberson, Q.M., & Park, H.J. (2007). Examining the link between diversity and firm performance: the effects of diversity reputation and leader racial diversity. *Group & Organization Management*, 32(5), 548-568.
- Roberts, P.W., & Dowling, G.R. (2002). Corporate reputation and sustained superior financial performance. *Strategic Management Journal*, 23(12), 1077-1093.
- Robinson, G., & Dechant, K. (1997). Building a business case for diversity. *The Academy of Management Executive*, 11(3), 21-31.
- Rose, C., & Thomsen, S. (2004). The impact of corporate reputation on performance: some danish evidence. *European Management Journal*, 22(2), 201-210.
- Sharpe, W.F. (1964). Capital asset prices: a theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425-442.
- Statista (n.d.). *Resident population of the United States by race from 2000 to 2019*. Retrieved January 25, 2021, from <https://www.statista.com/statistics/183489/population-of-the-us-by-ethnicity-since-2000/>
- Tomlin, K.M. (2019). Assessing the efficacy of consumer boycotts of U.S. Target firms: a shareholder wealth analysis. *Southern Economic Journal*, 86(2), 503–529.
- Vafeas, N. (1999). Board(meeting frequency and firm performance. *Journal of Financial Economics*, 53(1), 113-142.
- Van den Broek, T., Langley, D., & Hornig, T. (2017). The effect of online protests and firm responses on shareholder and consumer evaluation. *Journal of Business Ethics*, 146(1), 279-294.
- Vasi, I.B., & King, B.D. (2012). Social movements, risk perceptions, and economic outcomes: the effect of primary and secondary stakeholder activism on firms' perceived environmental risk and financial performance. *American Sociological Review*, 77(4), 573-596.
- Watson, W.E., Kumar, K., & Michaelsen, L.K. (1993). Cultural diversity's impact on interaction process and performance: comparing homogeneous and diverse task groups. *Academy of Management Journal*, 36(3), 590-602.

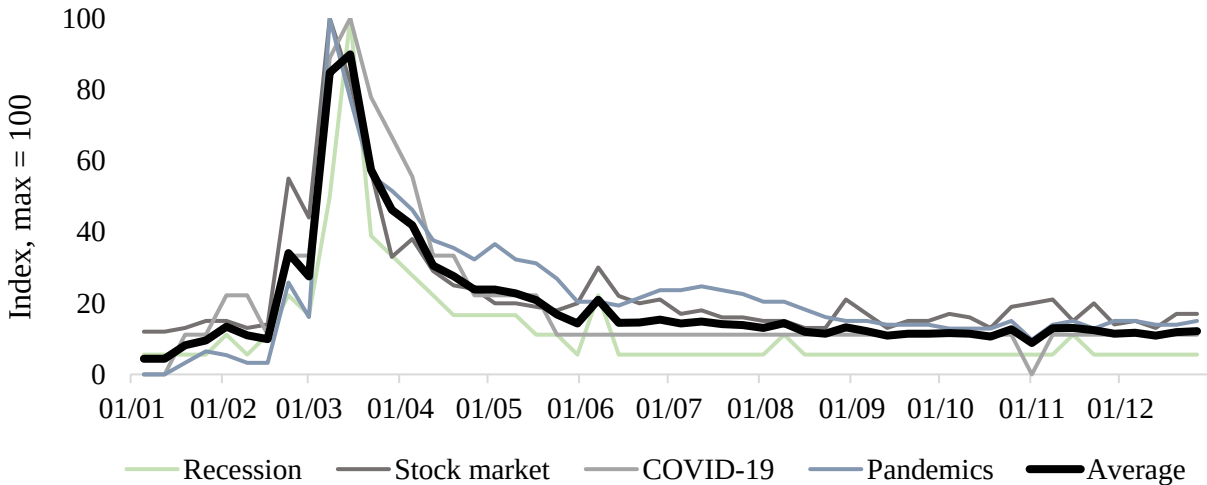
9. Appendices

Appendix A. BLM protests related keyword search popularity in Google trends



The trendline shows the peak interest towards terms associated with BLM protests during the period from 01.05.2020 until 01.09.2020. The data is extracted from Google Trends. The graph is created by thesis authors.

Appendix B. Normalized Covid-19 induced market turmoil related keyword search popularity in Google trends



The trendline shows the peak interest towards terms associated with Covid-19 induced market turmoil during the period from 01.01.2020 until 31.12.2020. Since the popularity of certain keywords was lower compared to other keywords (e.g., people more frequently searched “Covid-19” compared to “Recession”), we used the index of 100 as the measure for the peak popularity of each keyword. Thus, we were able to determine the peak popularity towards the keywords assuming an equal amount of Google searches. The graph is created by thesis authors.

Appendix C. Racial diversity in 11 GISC industries in the analysed sample

Industry	Number of companies	Average share of ethnic minorities on the board	Average share of African American on the board
Communication Services	12	20.06%	11.34%
Consumer Discretionary	23	18.67%	11.83%
Consumer Staples	25	17.77%	9.15%
Energy	10	12.17%	10.46%
Financials	33	16.63%	10.22%
Health Care	39	17.32%	9.09%
Industrials	34	13.78%	9.80%
Information Technology	41	20.56%	4.95%
Materials	9	17.70%	12.58%
Real Estate	9	7.51%	3.17%
Utilities	15	18.89%	15.44%
Total/Average	250	16.46%	9.82%

Appendix D. Racial diversity data disclosure on the company's website in the analysed sample

Disclosure of board's racial composition	Number of companies	Average board size	Average share of ethnic minorities on the board	Average share of African American
Does not disclose	75	10.93	18.06%	7.81%
Discloses	169	11.78	16.70%	9.98%
Website not accessible	6	12.00	17.49%	11.88%

Appendix E. Share of African American and ethnic minorities on the board with respect to board racial diversity data disclosure by the company

			Total	Difference (p-value)
	Disclose	Do not Disclose		
Average share of ethnic minorities	16.70%	18.06%	17.12%	0.436
Average share of African American	9.98%	7.81%	9.25%	0.032**
Number of companies	169	75	244	

This table demonstrates the average number of board seats of African American directors, and all ethnic minority directors with respect to whether the company discloses the ethnicity of directors on their website. The last column demonstrates a statistical significance of the difference in the average share of African American directors and the share of directors of other ethnic groups with respect to whether the company discloses ethnicity data on their website. We observe that the share of African American directors is significantly higher (at 5% level) at companies that disclose the ethnic composition of their board.

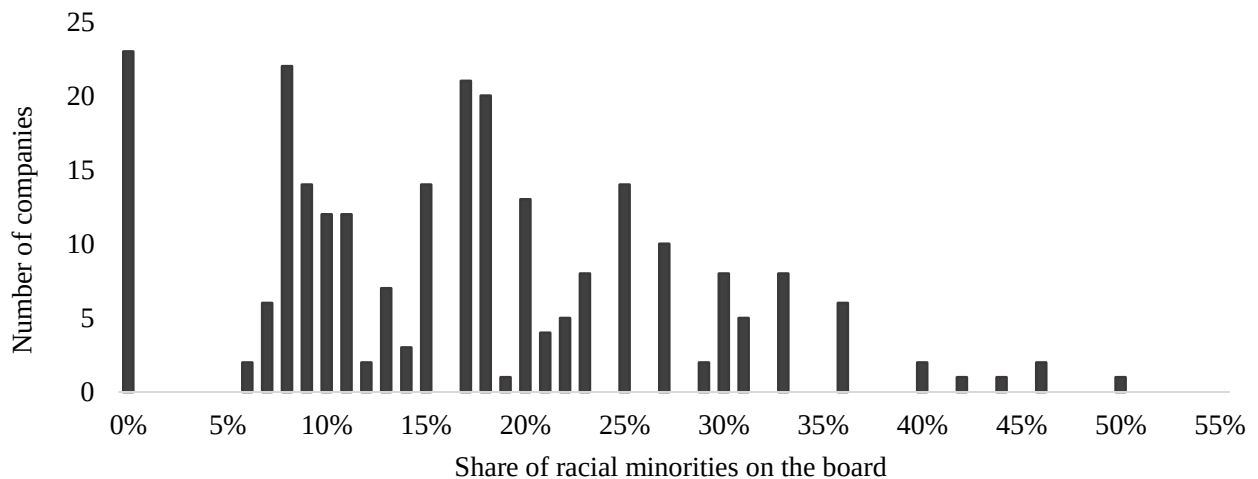
Appendix F. Average number of board seats, firm size, and racial diversity data disclosure per minority seats in the board

Number of ethnic minorities in the board	Number of companies in the sample	Average number of board members	Average firm size, Ln (Market Cap)	Average share of companies that disclose the ethnicity of directors
0	23	10.30	10.39	50.00%
1	71	11.14	10.81	67.61%
2	85	11.72	11.13	80.25%
3	44	11.93	10.94	63.64%
4	22	12.36	11.26	71.43%
5	1	12.00	12.22	100.00%
6	3	11.67	10.80	0.00%
7	1	14.00	12.62	100.00%

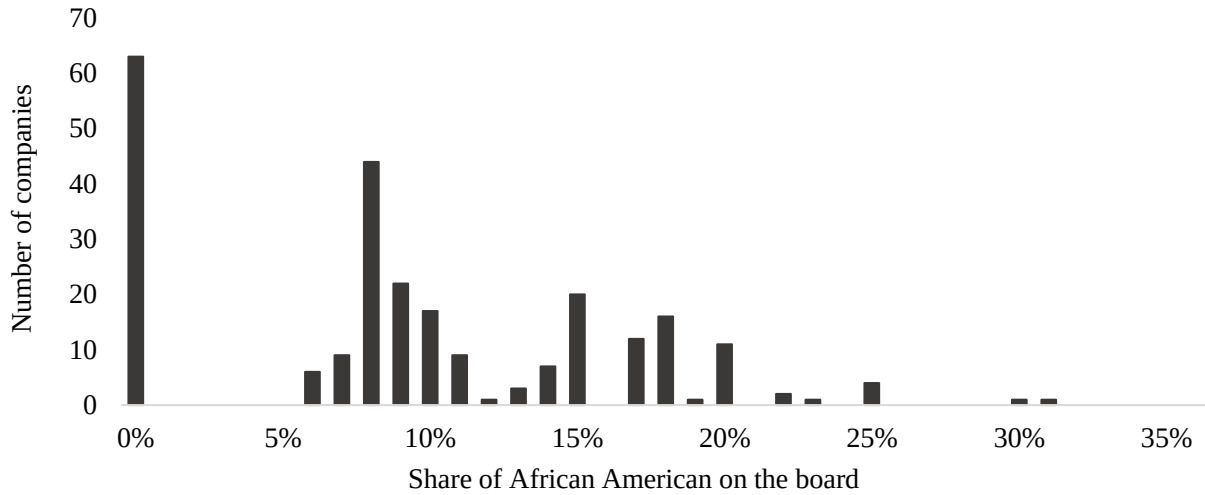
Appendix G. Average number of board seats, firm size, and racial diversity data disclosure per African American seats in the board

Number of African American on the board	Number of companies in the sample	Average number of board members	Average firm size, Ln (Market Cap)	Average share of companies that disclose the ethnicity of directors
0	63	10.27	10.55	53.23%
1	109	11.79	11.13	72.90%
2	70	12.06	11.04	77.61%
3	7	13.29	10.76	71.43%
4	1	13.00	11.94	100.00%

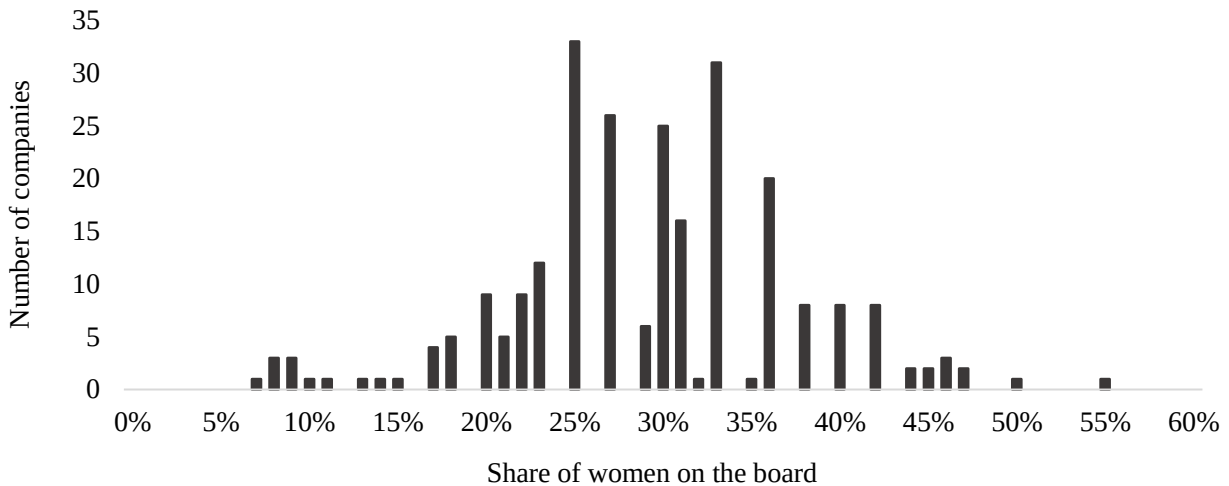
Appendix H. Number of companies with the same share of racial minorities on the board



Appendix I. Number of companies with the same share of African American on the board



Appendix J. Number of companies with the same share of women on the board



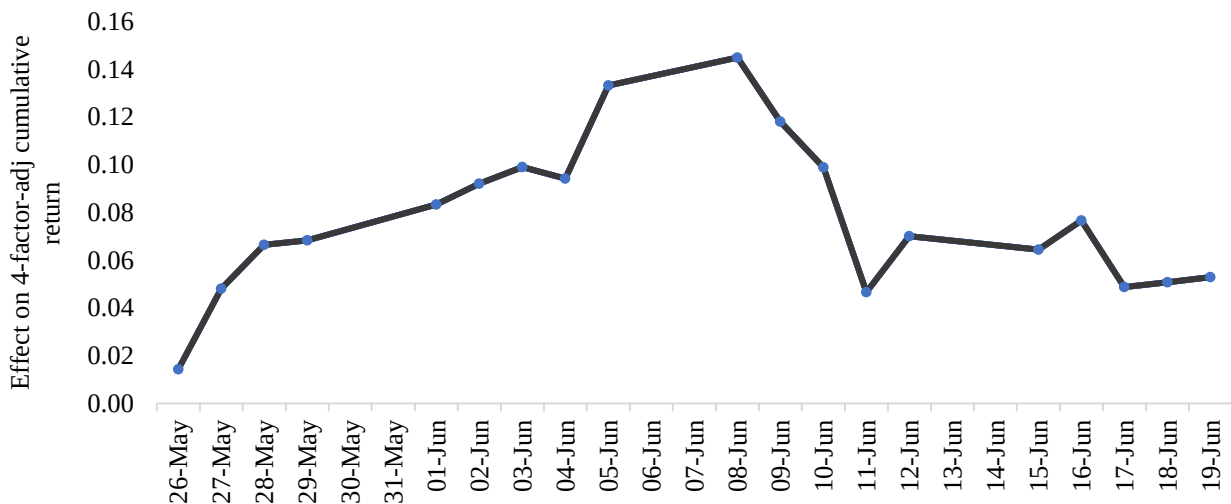
Appendix K. Summary statistics of the ethnicity of unique board members for 250 companies with the largest market capitalization as of May 25, 2020

Ethnicity	Number of unique directors in the sample	Proportion
White	2088	83.25%
African American	221	8.81%
Asian	77	3.07%
Indian	63	2.51%
Hispanic	52	2.07%
N/A	7	0.28%
Total	2508	100.0%

Appendix L. Number of unique board members with respect to gender and ethnicity

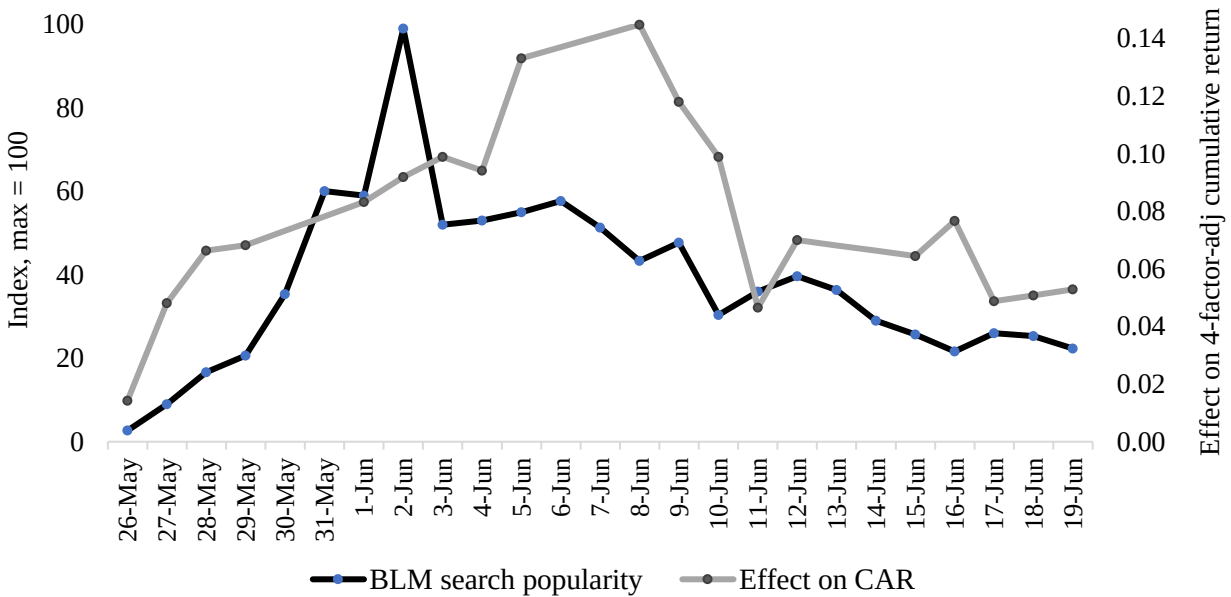
Unique board members	Number of people	Share of total unique directors	Average board seats per individual
Female	722	28.79%	1.16
Asian	32	1.28%	1.13
African American	73	2.91%	1.26
Hispanic	12	0.48%	1.17
Indian	19	0.76%	1.00
White	586	23.37%	1.16
Male	1786	71.21%	1.14
Asian	45	1.79%	1.07
African American	148	5.90%	1.25
Hispanic	40	1.59%	1.13
Indian	44	1.75%	1.14
N/A	7	0.28%	-
White	1502	59.89%	1.14
Total	2508	100.00%	1.15

Appendix M. The effect of the share of African American in the corporate board on cumulative abnormal stock returns during the BLM protests



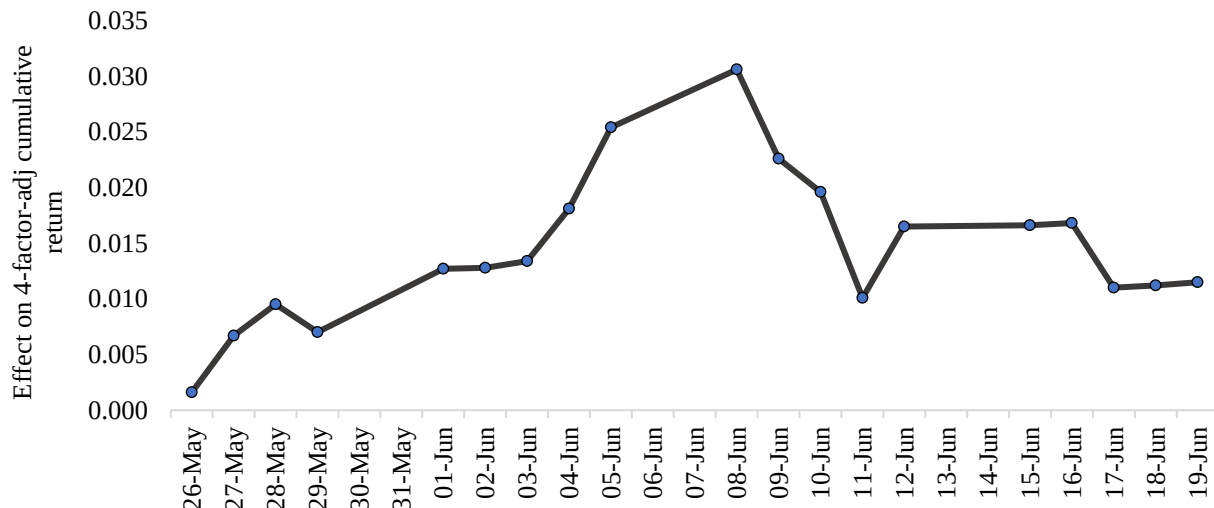
The graph demonstrates the impact of the board racial diversity on cumulative four-factor adjusted abnormal returns for each trading day during the BLM protest period between May 26, 2020 and June 19, 2020. The graph represents the share of African American board members in the firm as an indicator for the board's racial diversity. The regressions are controlled for GICS industry group fixed effects and firm characteristics. The sample used for the regression consists of the largest 250 companies by market capitalization (as of May 25, 2020) listed in the S&P 500 index. It can be observed that the share of African American directors positively influences the four-factor adjusted cumulative abnormal returns during the entire event window (19 trading days). The effect is statistically significant for 10 trading days from May 28 to June 10. From May 28 to June 5 the effect is significant at a 5% significance level, and from June 6 to June 10 at 10% significance level.

Appendix N. Correlation between Google search popularity towards specific BLM movement-related keywords and the effect of the share of African American in board on CARs of the companies during BLM protests



The graph represents the correlation between the BLM movement-related Google search popularity and the effect of the share of African American in the board on company CARs during the protest period. The “BLM search popularity” is the average search popularity of BLM movement-related keywords (presented in Appendix A). “CAR” is the impact of the board racial diversity on cumulative four-factor adjusted abnormal returns for each trading day during the BLM protests between May 26, 2020 and June 19, 2020 (presented in Appendix M and Table 4). The gaps in the “Effect on CAR” graph are due to the absence of data during non-trading days (i.e., weekend).

Appendix O. The effect of at least one African American in the corporate board on cumulative abnormal stock returns during the BLM protests



The graph demonstrates the impact of the board racial diversity on cumulative four-factor adjusted abnormal returns for each day during the BLM protests between May 26, 2020 and June 19, 2020. The graph represents the “At least one African American board member in the firm” as an indicator for the board’s racial diversity. The regressions are controlled for GICS industry group fixed effects and firm characteristics. The sample used for the regression consists of the largest 250 companies by market capitalization (as of May 25, 2020) listed in the S&P 500 index. It can be observed that if the firm has at least one African American director, it positively influences the four-factor adjusted cumulative abnormal returns during the entire event window (19 trading days). The effect is statistically significant for 10 trading days from May 28 to June 10, 2020. From June 1 to June 10 the effect is significant at a 5% significance level; meanwhile, from June 12 to June 16, as well as on May 28 the effect is significant at 10% level.

Appendix P. United States resident population by ethnicity as of 2019

Ethnicity	Population (million)	Proportion
White	250.52	76.32%
African American / Black	44.08	13.43%
American Indian / Alaska Native	4.19	1.28%
Asian	19.50	5.94%
Native Hawaiian	0.81	0.25%
Two or more races	9.14	2.78%
Total	328.24	100.00%

The table represents the number of US residents per each ethnic group at the end of 2019 (Statista, n.d.).

Appendix Q. Regression output after controlling for company earnings announcements

	28-May	29-May	01-Jun	02-Jun	03-Jun	04-Jun	05-Jun	08-Jun	09-Jun	10-Jun
VARIABLES	CAR(3)	CAR(4)	CAR(5)	CAR(6)	CAR(7)	CAR(8)	CAR(9)	CAR(10)	CAR(11)	CAR(12)
Panel A.										
Share of African American	0.0631* (-0.0331)	0.0736** (-0.0324)	0.0884** (-0.0341)	0.0971*** (-0.0363)	0.1040** (-0.0478)	0.0991* (-0.0532)	0.1369** (-0.0667)	0.1486* (-0.0792)	0.1219* (-0.0674)	0.1027* (-0.0560)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.311	0.329	0.392	0.355	0.314	0.255	0.229	0.210	0.238	0.258
Panel B.										
At least one African American	0.0093* (-0.0053)	0.0076 (-0.0052)	0.0133** (-0.0055)	0.0133** (-0.0059)	0.0139* (-0.0077)	0.0186** (-0.0085)	0.0255** (-0.0107)	0.0307** (-0.0127)	0.0228** (-0.0108)	0.0200** (-0.0090)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.309	0.321	0.390	0.350	0.310	0.259	0.234	0.218	0.242	0.263
Panel C.										
Share of all ethnic minorities	-0.0289 (-0.0203)	-0.0133 (-0.0199)	-0.0202 (-0.0210)	-0.0208 (-0.0224)	-0.0263 (-0.0294)	-0.0273 (-0.0326)	-0.0556 (-0.0409)	-0.0626 (-0.0485)	-0.0551 (-0.0412)	-0.0470 (-0.0342)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	248	248	248	248	248	248	248	248	248	248
R-squared	0.306	0.316	0.377	0.338	0.303	0.246	0.221	0.204	0.234	0.253

This table presents the results of the OLS regression of individual stock returns for 10 different time periods. Each period starts at May 25, 2020 (the day of George Floyd killing) and ends at the date identified in the top of each column. The number of trading days included in the time period is specified in the parentheses next to “CAR” for each column. In Panel A the OLS regression (Eq. 3) uses the share of African American on board as a variable for diversity. In Panel B we use “At least one African American” as a dummy variable for diversity, which equals 1 if there is at least one African American on the board. In Panel C, the share of all ethnic minorities is defined by dividing the number of any non-White board member by the total number of firm board members. All models are based on equation (3) and control for profitability, book-to-market, size, and GICS industry fixed effect indicators. Additionally, the regressions are controlled for 42 company earnings and dividend announcements during the examined event window. For brevity, we do not include the regression results of the trading days during which the effect of diversity variables on company cumulative abnormal returns was not significant (i.e., until May 28, 2020, and after June 10, 2020). T-statistics based on robust standard errors are presented in parentheses. *p < 0.1; **p < 0.05; ***p < 0.01.