Department of Finance
Faculty of Business and Economics

Working Paper Series

Is Blockholder Diversity Detrimental?

Miriam Schwartz-Ziv and Ekaterina Volkova

Working Paper No. 19/21
May 2021

Is Blockholder Diversity Detrimental?

Miriam Schwartz-Ziv and Ekaterina Volkova[1]

Abstract

We find that diversity among large blockholders is detrimental to firm performance. Specifically, we show that lagged disclosure, on exogenous predetermined dates, revealing an increase in block diversity, is followed by a negative market reaction. Similarly, an unexpected decrease in block diversity, due to an individual's death or retirement, or to the 2003 mutual fund scandal, is followed by an increase in firm performance. Overall, firms held by a heterogeneous blockholder base consistently perform worse than firms held by homogeneous blockholders. Disagreement among shareholders (e.g., as reflected in shareholder votes) increases when the blockholder base is diverse.

[1] Miriam Schwartz-Ziv is at the Hebrew University of Jerusalem and Ekaterina Volkova is at the University of Melbourne. We thank Ian Appel, Alon Brav, Alan Crane, Andrew Ellul, Yaniv Grinstein, Patrick Kelly, Michelle Lowry, Roni Michaely, Ernst Maug, Benjamin Segal, Yishay Yafeh, and participants at the IE HU Workshop, American Finance Association, FIRN virtual seminar series, Financial Management Association, FIRN Annual Conference, Frontiers of Finance, Queensland Corporate Finance Conference, and seminars at the Bank of Israel, Ben Gurion University, Binghamton University, Cornell University, Copenhagen Business School, Emory University, the Hebrew University of Jerusalem, Higher School of Economics, University of Hong Kong, London Business School, University of Melbourne, Michigan State University, New Economic School, and the University of Technology, Sydney, for helpful comments and discussions. A previous version of this paper was circulated under the title "Blockholders Diversity: Effect of Polyphony on the Power of Monitoring."

1. Introduction

Different types of blocks frequently coexist within a company. The literature on blockholders typically investigates how the presence of one or more specific type of blockholders is related to firm performance and governance.[2] In addition, recent literature has investigated the impact of multiple financial shareholders/blocks on firm performance and governance.[3] Our paper focuses on a different element of the shareholder base: we investigate the relation between block diversity (i.e., firm ownership by multiple types of blocks) and firm value. To the best of our knowledge, this is the first paper to do so.

Holderness (2003), Cronqvist and Fahlenbrach (2009), and Edmans and Holderness (2017) all point out that blockholders can be of different types, and govern in different ways. For example, while governance can be conducted via both exit and voice (Edmans 2009; Admati and Pfleiderer 2009), financial institutions frequently monitor through exit (Parrino, Sias, and Starks 2003; McCahery, Sautner, and Starks 2016) whereas other non-financial block types may tend to govern via voice (see, e.g., Brav, Jiang, Partnoy, and Thomas (2008) and Klein and Zur (2009) with respect to hedge funds).

Because blockholders' governance may vary depending on the type of block, block diversity can enhance firm performance, potentially because different types of blocks complement each other or cross-monitor each other (Edmans and Manso 2011; Dhillon and Rossetto 2015). Alternatively, block diversity can be detrimental to firm performance. Hadlock and Schwartz-Ziv (2019) show that different types of blocks may repel each other, suggesting that block heterogeneity may be costly. Levit, Malenko, and Maug (2021) and Li, Maug, and Schwartz-Ziv (2021) demonstrate how shareholder votes can contribute to the shareholder base becoming more homogeneous before and after the shareholder meeting, respectively, suggesting that the benefits of a homogeneous shareholder base prevail.

We find support for the latter possibility: firms with a diverse blockholder base, which we measure by the number of types of blockholders holding the firm, have weaker financial performance,

[2] For example, Admati and Pfleiderer (1994), Kahn and Winton (1998), Shleifer and Vishny (1986), and Edmans (2009) theoretically explore the impact of a single large block on performance and/ or governance. Konijn, Kraussl, and Lucas (2011) and Laeven and Levine (2008) empirically investigate how block concentration relates to firm value.

[3] See, e.g., He and Huang (2017), Azar, Schmalz, and Tecu (2018), Dennis, Gerardi, and Schenone (2021), and Lewellen and Lowry (2021).

and are at increased risk of experiencing conflict. Figure 1 illustrates the intuition for this relation. It is based on the Russian fable of "The Swan, the Pike, and the Crawfish" (written by Ivan Krylov in 1814), which portrays how a swan, a fish, and a crawfish attempt to work as a team to pull a wagon. Each of these three animals attempts to pull the wagon in a different direction (up in the air, down in the water, and backwards on the ground, respectively). Due to the conflicting actions taken by each of the animals, they are not able to move the wagon together, and thus performance (in their case, moving the wagon) suffers. In the context of blockholders, Figure 1 illustrates that when different types of blocks have different opinions on how the firm should proceed, conflict arises and performance suffers.

To investigate the impact of block diversity and create a measure for it, we manually assemble a unique panel dataset that covers the universe of blockholders (i.e., shareholders holding at least 5% of the firm's outstanding shares) of all publicly traded firms in the U.S. during the 1998–2016 period for which CRSP/Compustat data is available. Our dataset is based on the universe of 13D and 13G filings (further details are provided in Appendix A). We measure block diversity by the number of different types of blockholders. Block positions are classified into four types depending on whether they are owned by a financial institution, hedge fund, individual, or other private entity.

These four block types also correspond to other dimensions of block diversity, namely, the average block size (e.g., financial institution blocks hold on average 8% of a firm, while individual blocks hold on average 16.2%), the average number of blocks held simultaneously (e.g., 21 for financial institution blocks versus only 1 for individual blocks), and the frequency with which blocks self-identify as active blockholders (e.g., 1.44% for financial institution blocks versus 34.21% for individual blocks). The above-noted dimensions of block diversity have also been shown to correspond to different incentives, economic motivations, monitoring skills, and investment strategies.[4] Thus, while our measure for block diversity focuses on block types, our measure can also be viewed as a proxy for other elements of block diversity.

[4] Shareholders with large blocks are more likely to monitor (Shleifer and Vishny 1986); blockholders identifying as active blockholders are more likely to govern via voice than to exit (Brav, Jiang, Partnoy, and Thomas 2008; Klein and Zur 2009); blockholders holding simultaneously a large number of blocks are more likely to engage in risky investments (Faccio, Marchica, and Mura 2011).

Our data document that U.S. firms frequently have a diverse blockholder base: on average, 47% of the firms have at least two types of blocks. However, while the average number of block positions in a firm has been increasing over time, the average number of block types has been decreasing over time. These somewhat conflicting trends motivate us to ask our primary research question: Is block diversity detrimental to firm performance? We address this question by examining three distinct settings in which events/legal requirements exogenous to the firm alter block diversity, or expose such diversity for the first time.

In our first setting, which we consider our primary analysis, we exploit the fact that blockholders purchasing a block usually disclose their block purchase for the first time in a 13G filing, which is filed from 45 to 410 calendar days after the actual block purchase date, on a random predetermined date (February 14), i.e., on average, months after the actual purchase date.[5] Generally, an analysis of the market response to a filing revealing a recent block purchase does not allow disentangling the market's response to the filing from its response to other events that may have triggered the blockholders' entry (e.g., CEO resignation), because these events are essentially concurrent. However, in our analysis we are able to identify the specific response to the revelation of the new blockholder base revealed on the filing date because we focus on the filing date that reveals the block purchase, a date that typically occurs many months after the actual purchase occurred. The analysis also accounts for the number of blockholders in the firm to assure that the results are not driven by this potentially omitted variable.

We find that when an increase in block diversity is revealed in a filing made on the above-noted predetermined date, the market response is 0.97% more negative (during the [0, 5] window) than when a filing reveals that a homogenous blockholder base has been maintained. This finding suggests that the market views an increase in block diversity as being detrimental to firm performance. Our result

[5] The SEC webpage (https://www.sec.gov/divisions/corpfin/guidance/reg13d-interp.htm) specifies which shareholders are permitted to file a 13G form (rather than a 13D). Additionally, the Legal Information Institute page (https://www.law.cornell.edu/cfr/text/17/240.13d-1) tracks the historic changes of these regulations. Essentially, to be eligible to file a 13G filing, a blockholder is required to hold at most 20% of the firm's outstanding shares and to be a broker, bank insurance company, investment company, investment advisor, employee benefit plan, individual (after 1998), or foreign financial institution (after 2010), and not to self-identify as an active shareholder.

holds when we limit the sample to entries of a particular block type, or when we limit the sample to firms that already have a particular block type at the time a new block joins the blockholder base (i.e., financial institution, hedge fund, individual, or other private entity). Thus, the results are not driven or limited to a particular block type altering or maintaining the firm's block diversity.

The results also demonstrate that the market responds particularly negatively to an increase in blockholder diversity when such an increase is revealed in a high-volatility (as opposed to a low-volatility) firm. This result suggests that block diversity is particularly costly in uncertain environments, where a clear and consistent monitoring approach may be especially beneficial.

To provide additional insights into the relation between block diversity and firm performance, we conduct two additional tests. In our second test, we focus on the departure of individual blockholders for exogenous reasons. We follow an extensive literature in defining an exogenous block departure as a departure resulting from the death or retirement of an individual blockholder (i.e., an individual who is at least 65 years old at the time the block dissolves).[6] Consistent with the above-noted findings, the results demonstrate that when a decrease in block diversity occurs as a result of such an exogenous departure, Tobin's Q, profit margin, and ROA increase during the following 1–3 years. Thus, firm performance improves when block diversity decreases, further supporting the conclusion that block diversity is detrimental to firm performance.

The third test also examines block dissolution due to an exogenous shock, but focuses on blocks held by a financial institution that was one of the 25 institutions accused of illegal trading in the 2003–04 mutual fund scandal. Here, too, we follow prior literature, which has demonstrated and exploited this exogenous shock.[7] The scandal-tainted institutions suffered from large outflows, which led to the dissolving of some of the blocks and, in turn, the shifting toward a less diverse shareholder base of the corresponding firms. We find that following such exogenous departures, Tobin's Q and the

[6] See, e.g., Slovin and Sushka (1993), Nguyen and Nielsen (2010), Fee, Hadlock, and Pierce (2013), and Hadlock and Schwartz-Ziv (2019) who all assume that the death of a senior executive is an exogenous event, and Shivdasani and Yermack (1999) and Fracassi and Tate (2012) who assume that the departure of an individual executive from a firm around retirement age is in fact a retirement, and thus may be considered an exogenous event..

[7] Houge and Wellman (2005), Qian (2009), and Kisin (2011) show that the accused institutions experienced large outflows following the scandal..

profit margin increase, consistent with our prior findings demonstrating that firm performance improves as block diversity decreases.

With respect to our second and third tests, which both examine exogenous block departures that decrease block diversity, we note that if such departures were to some extent strategic rather than completely exogenous, strategic departures should occur when firm performance is expected to *deteriorate*. Thus, if the block departures we examine were not entirely exogenous, we should expect to see firm performance deteriorate following these departures. However, we find the opposite pattern: firm performance improves following block departures, which further supports our argument that an exogenous block departure that increases block homogeneity improves firm performance.

Some of the studies cited above suggest that when different types of blocks co-exit, disagreement and conflict may arise.[8] We find evidence supporting this narrative also in our setting. First, aggregate vote outcomes of shareholder votes demonstrate that as block diversity increases, shareholders are significantly less likely to vote in agreement with each other, or with management. In addition, when examining votes cast at the mutual fund level, we find that funds are more likely to vote against management when a non-financial block is present, indicating that the presence of a blockholder that is not of your own type enhances disagreement. In a second analysis we assemble a unique dataset that documents lawsuits filed by shareholders that involve a blockholder. We find that such lawsuits are significantly more likely to be filed when the blockholder base is diverse. This finding also suggests that when different types of blockholders coexist in the blockholder base, shareholders are more likely to experience conflict.

Examining settings that allow for exogenous changes to block diversity (revelations) enables us to isolate factors that may affect both (de)formations of blocks and firm performance. However, we also examine whether the complete sample indicates that a diverse blockholder base is associated with detrimental firm performance. While such an analysis does not address endogeneity concerns, it enables

[8] We refer here to the findings of Hadlock and Schwartz-Ziv (2019), Levit, Malenko, and Maug (2021), and Li, Maug, and Schwartz-Ziv (2021).

us to observe general patterns in the complete sample, and is not confined to a subset of observations of firms that experienced an exogenous change to block diversity.

To conduct such an analysis, we create portfolios for which we take a long position on firms that have a diverse blockholder base (i.e., that are held by at least two different types of blockholders) and a short position on firms that have a homogeneous blockholder base (i.e., that are held by only one type of blockholder). We find that such value-weighted (equal-weighted) portfolios produce a nonnegligible annual abnormal return equal to 3.5% (10.8%). In addition, in a separate analysis, we examine (for all firm and year observations) firm performance one, two, and three years following an observed blockholder composition. We find that, relative to firms with a homogeneous blockholder base, firms with a heterogeneous blockholder base have a smaller Tobin's Q, profit margin, and ROA one to three years following the observed blockholder base. At minimum, these results demonstrate that firms with a heterogeneous blockholder base are in fact less profitable than firms with a homogeneous blockholder base. One may well wonder why firms with a diverse blockholder base exist in the first place. As Hadlock and Schwartz-Ziv (2019, Table 2) show, blockholders consider a large number of factors when determining in which firms to invest, e.g., the company's industry, characteristics, and location. The composition of the blockholder base is only one of several important factors considered by (potential) blockholders deciding in which companies they wish to hold block positions.

To conclude, in our study, we manually construct a unique dataset covering every block position in all U.S. public companies between 1998 and 2016. To the best of our knowledge, this dataset is the most comprehensive and up-to date dataset documenting block-level ownership in publicly listed firms in the United States that has been used in an academic study related to block ownership.[9] We make this dataset publicly available for all researchers, and our hope is that this data will facilitate other studies investigating topics related to block ownership.[10] Using this dataset, we make two additional

[9] Hadlock and Schwartz-Ziv (2019) construct a dataset on blockholder ownership for approximately 3,200 firms during the 2001–2014 period. The current dataset offers coverage of approximately 10,436 companies during the 1998-2016 period, i.e., a larger number of firms and a longer period.
[10] The data is available at this link: https://www.dropbox.com/s/yp2r7graixxus7r/Blocks.csv?dl=0 .

contributions. The first and main one is to demonstrate that (the revelation of) diversity among blockholders is followed by a negative market response/firm performance. To the best of our knowledge, our study is the first to investigate the relation between block diversity and firm performance. Our second contribution is to demonstrate that firms with a diverse blockholder base are more likely to experience disagreement among shareholders. We show this by examining shareholder votes and lawsuits filed by shareholders. This increased level of conflict among shareholders and blockholders may explain why firm performance suffers when block ownership is diverse.

2. Hypothesis and Data

2.1. Literature and Hypothesis

Holderness (2003), Cronqvist and Fahlenbrach (2009), and Edmans and Holderness (2017) all point out that blockholders can be of different types, and govern in different ways.[11] Perhaps a simple distinction that demonstrates block diversity is financial versus non-financial blocks. Edmans (2009) and Admati and Pfleiderer (2009) emphasize that governance can occur through voice (i.e., monitoring and intervention) or, alternatively, exit or the threat of exit (i.e., trade). Parrino, Sias, and Starks (2003) and McCahery, Sautner, and Starks (2016) find that financial institutions tend to use exit as their governance mechanism. By contrast, non-financial blocks frequently govern via voice; see, e.g., Brav, Jiang, Partnoy, and Thomas (2008) and Klein and Zur (2009) with respect to hedge funds). Israelsen, Schwartz-Ziv, and Weston (2021) provide further support for the conclusion that that financial blocks tend to govern via exit, while non-financial blocks tend to govern via voice. In Section 2.3 we discuss and demonstrate finer categories of block types and a corresponding measure of block diversity.

Thus, different types of blockholders may govern using different mechanisms and have different philosophies on how to govern. Following this observation, our paper addresses the question of whether block diversity is detrimental to firm performance. Two possibilities emerge. The first

[11] Likewise, different types of blocks may prefer to govern in different ways, have different preferences and opinions, and offer different advantages. For example, outside blockholders can potentially restrain agency problems (e.g., Shleifer and Vishny 1986; Winton 1993; Pagano and Röell 1998), while large inside blockholders can be beneficial when it is valuable to align their interests with those of the firm (e.g., Morck, Shleifer, and Vishny 1988).

possibility is that block diversity enhances firm performance, potentially because different types of blocks complement each other; i.e., firm value increases as the number of block types increases. For example, Dhillon and Rossetto (2015) show that block diversity can enhance firm value if different types of blocks cross-monitor each other. Edmans and Manso (2011) demonstrate that multiple blocks, which can be of different types, monitor effectively because they compete to collect valuable information that they use for their trading decisions, thereby contributing to a stock price with higher precision. Brav, Dasgupta, and Mathews (2019) demonstrate that block diversity, which, in their context, consists of an activist hedge fund teaming with institutional investors to form a "wolf pack" led by the activist, can collectively and effectively engage with management.[12]

The second and opposite possibility is that block diversity is detrimental to firm performance. For example, Cronqvist and Fahlenbrach (2009) and Edmans and Holderness (2017) argue that different types of blocks may have different preferences and beliefs. These studies suggest that blockholders may disagree on what goals the firm should aim to achieve, and which actions it should take to achieve those goals.[13] An example that illustrates this possibility can be found in Barnea and Rubin (2010), who show that individual ownership is negatively related to Corporate Social Responsibility (CSR) ratings, while institutional ownership is unrelated to CSR ratings. They interpret these findings as demonstrating that different types of shareholders have conflicting goals.[14] Additionally, Hadlock and Schwartz-Ziv (2019) show that different types of blocks, in particular, financial and non-financial blocks, repel each other, suggesting that coexistence of different block types may be costly.

Indeed, several studies have documented a negative relation between a certain element of shareholder diversity and profitability. For example, Maury and Pajuste (2005) show that a relatively (un)equal distribution of votes among large blockholders has a (negative) positive effect on firm value.

[12] An additional example of block diversity synergy is demonstrated in the findings of Appel, Gormley, and Keim (2019) who show that passive institutional ownership increases the chances of activists gaining board representation.
[13] Bloch and Hege (2003) and Gomes and Novaes (2006) echo this sentiment, and highlight that a trade-off exists between the inefficient monitoring of outside shareholders and the net bargaining costs associated with a governance structure with (multiple) inside controlling shareholders.
[14] While CSR investments can increase insiders' private benefits, these investments are not likely to increase firm value. Thus, insiders who own only a small stake in the firm tend to make a large CSR investment. By contrast, institutions have a stronger commitment to maximizing profitability regardless of the magnitude of their investment, and therefore no pattern is found between the magnitude of their investment and CSR investments.

Laeven and Levine (2008) document a negative relationship between cash-flow rights dispersion and Tobin's Q. Kandel, Massa, and Simonov (2011) show that Swedish companies whose small investors are of similar age, wealth, and location have higher profitability and returns. Levit, Malenko, and Maug (2021) demonstrate that trading aligns the shareholder base with the expected outcome, thereby suggesting that shareholders with similar governance preferences tend to cluster together. Li, Maug, and Schwartz-Ziv (2021) show that after shareholders observe vote outcomes, they are more likely to sell their shares if they disagree with the vote outcome, implying that shareholder diversity is costly.

Thus, diversity entails both potential costs and benefits.[15] We point out that such costs and benefits are also echoed in the extensive literature on team diversity and on board diversity.[16] In our context, the studies surveyed above lead to two competing hypotheses: the first is that block diversity is detrimental to firm performance, and the second is that block diversity enhances firm performance.

2.2. Data

We construct a unique panel dataset that records block positions for U.S. publicly listed firms, for the 1998–2016 period. A block position is defined as a position that is equal to at least 5% of the firm's outstanding shares. Shareholders who purchase a block are required to file either a 13D form, if they self-identify as active shareholders or are not eligible to file the simpler 13G filing,[17] or a 13G form, if they self-identify as passive shareholders or are eligible to file a 13G. Eighty-five percent of all blockholders file a 13G form, as opposed to a 13D form. Amendments to both types of forms must be

[15] Burkhart, Gromb, and Panunzi (1997), Bolton and von Thadden (1998), Bloch and Hege (2003), Gomes and Novaes (2006), and Song (2017) analyze different factors that can determine optimal shareholder structure, and indirectly touch upon block diversity.

[16] We point here to some of these studies. With respect to team diversity, on the one hand, Jehn, Northcraft, and Neale (1999) and Bowers, Pharmer, and Salas (2000) show that when faced with a complex task requiring a diverse skill set, a diverse group frequently outperforms a homogeneous one. On the other hand, Pelled, Eisenhardt, and Xin (1999) and Brief, Umphress, Dietz, Burrows, Butz, and Scholten (2005) find that increasing diversity (e.g., in terms of race and tenure) can increase conflict among group members and therefore be detrimental to group performance. The literature on board diversity is surveyed comprehensively by Ferreira (2010) who points out the advantages of diversity, e.g., different perspectives and more connections, but also the potential costs, e.g., conflict, lack of cooperation, and insufficient communication. Accordingly, it is perhaps not surprising that some of the board diversity literature has documented a positive relation between board diversity and financial performance (e.g., Erhardt, Werbel, and Shrader 2003; Bernile, Bhagwat, and Yonker 2018) while other studies have documented a negative relation, or shown that board diversity can hurt board performance (e.g., Adams, Akyol, and Verwijmeren 2018; Donaldson, Malenko, and Piacentino 2020).

[17] For more information on who is eligible to file a 13G please see https://www.law.cornell.edu/cfr/text/17/240.13d-1.

filed at least once a year if substantial changes occur.[18] The 13D, 13G, and their amended filings are all filed through the Electronic Data Gathering, Analysis, and Retrieval system (EDGAR).

The start year of the sample coincides with the earliest available reliable data on block positions. More specifically, EDGAR required electronic filings starting from 1994; however, from a comparison we conducted between the blockholders documented in the EDGAR 13G and 13D filings and the blockholders documented in the Compact Disclosure dataset (available from 1992–2006) we conclude that the EDGAR dataset is reliable starting only from 1998, and therefore start our sample from that year.

We construct our dataset by first downloading from EDGAR all the 13D and 13G forms and their amendments filed between 1998 and 2016, and removing all duplicated filings and filings triggered by stock buybacks. The 13D and 13G filings follow SEC guidance and have a similar structure; however, the exact wording of the form may vary across filings. We develop a set of custom parser scripts that account for this variation in filings' templates, which allow us to extract the name and CUSIP of the company, the blockholder name, the size of the block position, and the filing date. We then construct a panel dataset that records the position of every blockholder at the end of each calendar year.[19] Appendix A provides further details on the construction of the dataset.

We make the data on block ownership publicly available, and we hope this dataset will be useful for other researchers. The data is at the blockholder-company-year level, and can be obtained at this link: https://www.dropbox.com/s/yp2r7graixxus7r/Blocks.csv?dl=0. The data documents for each observation the blockholder CIK, company CIK, year, and percent of the company held by the blockholder.

We match the data to the CRSP/Compustat Merged Database. We include only firms traded on the NYSE, NASDAQ, or AMEX exchanges that file at least one annual report with the SEC during the sample period. In addition, we require that the firms have non-missing values for total assets, sales,

[18] For more information please see https://www.law.cornell.edu/cfr/text/17/240.13d-2.
[19] A more detailed description of the data collection with codes is available upon request.

total liabilities, total equity, net income, and operating income in both the observation year and in the following year. We use the CRSP Daily Stock File to estimate company returns during the previous year and idiosyncratic volatility. In total, our data includes 19,597 unique blockholders in 10,436 unique companies.

Finally, we obtain total institutional ownership information from Thomson Reuters, shareholder voting from ISS voting analytics, and data on lawsuits filed from the Westlaw dataset.

2.3. Measuring Block Diversity and Summary Statistics

Our measure of block diversity is the number of different types of blockholders that hold a block that is equal to at least 5% of the firm's outstanding shares. Prior literature has suggested different categories for defining different types of blocks (e.g., Cronqvist and Fahlenbrach 2009; Holderness 2009; Hadlock and Schwartz-Ziv 2019). Inspired by these prior studies that each use somewhat different block type categories that, nevertheless, do have certain similarities, we define four distinct types of blocks that prevail, at least to some extent, in these prior studies: (1) *Financial institution*—blockholders that file a 13F form, but are not hedge funds as defined in the next category, (2) *Hedge fund*—blockholders identified as hedge funds in Brav, Jiang, and Kim (2009) and Brav, Jiang, and Kim (2015),[20] (3) *Individual*—blockholders identified as individuals by filing under items 12 and 14 in 13G and 13D forms, respectively, and (4) *Other private entity*— blockholders that do not file a 13F form and are not classified as individuals.

Each of these block types may include a diverse mix of shareholders/blockholders (e.g., financial institution blocks may be comprised of both active and passive funds, and individual blocks may be comprised of both insiders and outsiders). Nevertheless, as we will show, each of these block types has unique characteristics relative to the other block types. In addition, prior studies have highlighted the unique characteristics of each of these four types of blocks. For example, financial institutions frequently tend to govern via exit (McCahery, Sautner, and Starks 2016; Parrino, Sias, and Starks 2003), while hedge funds are more likely to have intense discussions with management, and

[20] We are grateful to Alon Brav for sharing with us data on hedge funds; the data we received has been updated up until 2016 by Brav, Jiang, and Kim.

promote the appointment of directors who represent their interests (Brav, Jiang, and Partnoy 2008; Klein and Zur 2009). Individuals face fewer agency problems since they invest their own assets in the firm and are likely to be more hands-on and involved in the daily operations of the firm (Agrawal and Knoeber 1996; Himmelberg, Hubbard, and Palia 1999; Andres 2008). The last group of blockholders, "other private entities," consists primarily of private and public firms. Prior research suggests that such types of blocks are often formed as part of a product–market relationship (Allen and Phillips 2000; Fee, Hadlock, and Thomas 2006).

Panel A of Table 1 reports summary statistics at the block-firm-year level, and demonstrates that the blockholder types we define correspond to other aspects of block diversity, examined in prior literature, that capture shareholders' preferences and governance styles (as detailed below).

For example, we observe that the average block size of different block types varies: it is equal to 8.04% and 10.51% for financial institutions and hedge funds, respectively, but it is substantially larger—16.21% and 15.43%—for individuals and other private entities, respectively. In addition, while only 1.44% of the financial institution blocks self-identify as active shareholders by filing a 13D filing (as opposed to a 13G filing), this figure is equal to 28.5%–34.2% for the other block types. Similarly, financial institutions and hedge funds are rarely insiders, i.e., directors, officers, or blockholders holding at least 10% of the firm's outstanding shares (0.44% and 4.25% of the blocks, respectively), while individuals and to a lesser extent other private entities are more likely to be insiders (31.99% and 10.63% of the blocks, respectively). Finally, in a given year, the average financial institution and hedge fund hold 21 and 8 blocks, respectively, while the average individual and other private entity hold only 1 and 2 blocks, respectively.[21]

These figures indicate that the different blockholder types we use also correspond to other dimensions of block diversity that have been examined in prior studies: namely, *block size*: shareholders with large blocks are more likely to monitor (Shleifer and Vishny 1986); *active versus passive*: blockholders

[21] The median number of blocks held by a financial institution and a hedge fund is 3 and 4, respectively, while the comparable number for individuals and other private entities is one. Thus, these findings also demonstrate a difference (albeit smaller) in the number of block types held by different types of blocks.

identifying as active blockholders are especially likely to govern via voice (Brav, Jiang, Partnoy, and Thomas 2008; Klein and Zur 2009); *insiders*: insider blockholders are more likely to align their interests with those of the firm, thereby maximizing firm value (Morck, Shleifer, and Vishny 1988); *number of blocks*: as the number of blocks a blockholder simultaneously holds increases, he is less likely to devote attention to each block (Kempf, Manconi, and Spalt 2017), and more likely to engage in risky investments (Faccio, Marchica, and Mura 2011). These differences further imply that each of the four types of blockholders defined has distinct characteristics, preferences, and governance patterns that are not necessarily in sync with those of the other block types.

Panel B of Table 1 reports summary statistics at the firm-year level. As reported, our sample includes 80,542 firm-year observations between 1998 and 2016. All variables are defined in the Glossary of Variables, and are winsorized at the 1% level. Panel B of Table 1 reports that the average (median) number of blocks in a firm is 2.87 (3), demonstrating that firms usually have multiple blocks. In fact, as reported in Panel B of Table 1, 71.3% (52.0%) of the firms are held by at least two (three) blocks. Figure 2 reports the distribution of the average number of blocks per firm by year. Panel A of Figure 2 demonstrates that, overall, the average number of blocks in U.S. public companies has been gradually increasing over the years from 2.6 in 1998 to 3.5 in 2016. Panel B of Figure 2 reports an overall increase in terms of the average total block ownership from 30.6% of the firm's outstanding shares in 1998 to 36.2% in 2016. Both panels of Figure 2 also demonstrate that financial institution and hedge fund blocks have become more common, while individual and other private entity blocks have become less common.

Panel A of Figure 3 demonstrates the overall trend in block diversity over time. This figure demonstrates that the prevalence of block diversity is quite common throughout our sample, and that the median number of block types is close to 2. Panel B of Figure 3 shows that the average number of block types tends to be quite stable over the firm's life cycle. Figure 4 portrays a richer story. Specifically, this figure reports for each sample year the number of firms that have exactly one block versus those that have at least two blocks; Panels A, B, and C of Figure 4 restrict the comparison to firms that have at least two, three, and four blocks, respectively.

Panels A, B, and C of Figure 4 demonstrate that block diversity has been decreasing over time, especially in firms with a large number of blockholders. For example, Panel B, which is dedicated to firms with at least three blocks (52% of the sample according to Panel B of Table 1), clearly shows that firms with a heterogeneous blockholder base (i.e., firms held by at least 2 block types) are becoming less common, while firms with a homogeneous blockholder base (i.e., firms held by exactly one block type) are becoming more common. An even stronger trend is reported in Panel C of Figure 4, which is dedicated to firms that have at least four blocks. The trend observed in Figure 4 suggests that blockholders of one type avoid cohabiting with blockholders of other types, a conclusion supported by the findings of Hadlock and Schwartz-Ziv (2019) with respect to financial and non-financial blocks.

In sum, while the number of blocks in firms has been increasing over time, block diversity has been decreasing. This seemingly conflicted trend motivates us to investigate whether a more homogeneous blockholder base enhances firm performance. We address this question in the next section.

3. Block Diversity and Firm Performance

In this section we address the question whether a diverse blockholder base is detrimental to firm performance. To investigate this question, we examine three distinct settings in which an exogenous variation due to (the revelation of) changes in block diversity, potentially, effects firm performance.

3.1. Abnormal Returns around the Revelation of Block Diversity

The first setting we examine to understand whether block diversity boosts or hurts firm performance focuses on the abnormal returns around the filing dates of 13G schedules. Each shareholder who becomes a blockholder by acquiring at least 5% of the firm's outstanding shares is required to disclose such an acquisition by filing either a 13G form if he self-identifies as a passive shareholder (and is permitted to file a 13G schedule)[22] or a 13D form if he self-identifies as an active shareholder. Our

[22] See footnote 8 above.

dataset includes 200,741 blocks disclosed in 13G filings and 31,567 blocks disclosed in 13D filings. Thus, the majority of the blockholders self-identify as passive shareholders.

Blockholders who hold at most 10% of the firm's outstanding shares are permitted to file a 13G schedule up to 45 days after the end of the calendar year in which they bought the stock, i.e., up to February 14 of the following year, which may create a reporting lag of up to 13.5 months. Panel A of Figure 5 reports the number of 13G schedules filed during the 1998–2016 period, broken down by week. As this figure demonstrates, around weeks 5–7 we observe a peak in the number of 13G schedules filed. Since these weeks are all in February, in Panel B of Figure 5 we focus on the month of February, and break down the number of 13G filings broken down by day. Here we observe that the frequency of the 13G filings builds up toward February 14, at which point it peaks, and drops shortly thereafter. In fact, as Panels A and B of Figure 5 demonstrate, approximately two-thirds (61.34%) of all the 13G filings are filed around February 14, i.e., between February 1–17, hereafter termed the "February window." We include February 15–17 in our window because we observe in Panel B of Figure 5 that 13G schedules are still filed relatively frequently during these dates; however, we note that excluding these dates does not significantly alter our results. Thus, we indeed observe a clustering of the filings on, or around, the February 14 deadline, which we consider to be an exogenously predetermined date. Moreover, 90.6% of the blockholders file *all* their filings either during the February window or, alternatively, immediately after the block purchase, demonstrating that blockholders typically do not strategically select when to file the 13G filing depending on the specific firm.

Put differently, while blocks are purchased throughout the year, the 13G schedules are frequently filed only months later during the February window, on a random predetermined date. Thus, blockholders are permitted to disclose their new position with a delay that varies between 45 and 410 (45+365) calendar days. Most companies (88%) do not disclose the exact date they actually purchased the block, but if block purchases are reasonably equally distributed throughout the year, the average reporting lag would equal 227.5 calendar days ((45+410)/2), which is a substantial lag.

Due to this lag, we can attribute the market response to the 13G schedules filed in the February window specifically to the revelation of the new blockholder structure (if this information has

not been disclosed in a prior filing). Thus, the unique setting analyzed in Panel A of Table 2 is particularly advantageous for disentangling the market's response to the discovery that a new blockholder composition exists from other events (e.g., a significant regulatory change) that may have not only endogenously triggered the entry of the new block, but also affected firm performance.

Of these filings filed in the February window, we focus in Figure 6 on the subset of blocks that reveal for the first time a block position. Therefore, we exclude from our analysis blocks that have revealed their block position in a prior block filing, namely, financial blocks (since they are required to disclose their holding in a 13F schedule filed once a quarter), executives and insiders (since they are required to disclose their positions in Forms 3, 4 and 5),[23] blocks holding more than 10% of the firm's outstanding shares (since they are required to disclose their holding in a 13G filing within a month of the block purchase), and blocks held by firms that filed a proxy within three months preceding the 13G filing date (since they are required to disclose ownership in proxy filings). Thus, our sample essentially includes 13G schedules filed by hedge funds that do not file a 13F filing, non-executive individual blocks, and other private entity blocks, all of which hold at most 10% of the firm's outstanding shares.

Figure 6 reports the cumulative abnormal return (CAR) around 13G schedules filed during the February window by blockholders revealing for the first time their block position, broken down according to whether their filings reveal that block diversity has increased or not. We measure abnormal returns by subtracting from the firm's return the DGTW returns of the matched portfolio based on the firm's market equity, market book, and prior one-year return quintiles (following Daniel, Grinblatt, Titman, and Wermers 1997). The figure reports CARs separately for filings revealing that block diversity has remained consistent and filings revealing that block diversity has increased.

This figure demonstrates that when a block entry is reported for the first time during the prespecified February window, the market responds significantly more negatively when block diversity has increased than when block diversity has been maintained. Figure 6 and the table included there show that, in a [-10, +10] window around the 13G filing, firms revealing no change in block diversity

[23] Section 16 of the 1934 Security and Exchange Act defines who is considered an insider and is required to file Form 3/4/5; see https://www.sec.gov/smallbusiness/goingpublic/officersanddirectors.

experience an abnormal return of 0.53%, while firms revealing an increase in block diversity experience a -0.94% abnormal return. Consequently, the difference in the CARs between these two groups is 1.47%, significant at the 1% level.

The t-statistics reported in Figure 6 demonstrate that only during the post-13G filing period are the CARs of firms revealing an increase in block diversity statistically different from those of firms not revealing such an increase, indicating that the information revealed in the 13G filing leads to differences in the CARs. Specifically, columns 1–4 in the Figure 6 table report that during the pre-13G filing period the CARs of these two groups are not statistically different from each other. By contrast, the t-statistics reported in columns 5–10 show that during the post-filing period the CARs are significantly different, and generally increase as the post-13G filing period is extended. This indicates that the information revealed in the 13G filing leads to differences in the CARs.

Panel A of Table 2, which analyzes the same data as Figure 6, reports a more formal analysis of the CARs, using a regression framework. The Table 2 specifications control for the number of blocks, to address the possibility that the CARs observed are due to the number of blocks rather than the changes in block diversity. In addition, we include a vector of firm controls: past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, number of blocks, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, the Amihud illiquidity measure, and industry fixed effects (for brevity these are not reported). These specifications also include a constant that captures the market response for the mere disclosure of a 13-D filing. To address potential concerns of the errors being correlated at the cross-sectional level (i.e., across a firm) or across a period/date (i.e., across a given calendar date), we follow the recommendations of Gow, Ormazabal, and Taylor (2010) and cluster errors both at the company level and at the date level.

The primary variable of interest in Table 2 is the variable *Block diversity increases*, which is an indicator variable equal to one if the entering block increases block diversity, i.e., if the type of block entering the firm did not already exist in the firm's blockholder base, and zero otherwise.

In columns 1–6 of Panel A of Table 2, we report CARs for different windows, ([0, 0], [0, 2], [0, 5], [0, 10], [-10, 10], and [-5, 5], respectively). Column 3 (4) reports that when *Block diversity increases* by one unit (i.e., one additional type of block enters the blockholder base), the abnormal return during the [0, 5] ([0, 10]) window around the filing date is 0.9% (0.932%) larger, significant at the 1% (5%) level. Thus, these results formally demonstrate that when 13G filings reveal that block diversity has increased, the market responds significantly more negatively, compared to when such filings reveal that block diversity has been maintained. When firms have only one block, block diversity is not possible. Thus, to compare more similar firms, we repeat the analysis but limit it to firms that have at least two blocks, which is a sufficient number of blocks for a diverse blockholder base to prevail. We obtain almost identical results (untabulated).

In Panel B of Table 2 we address the question of whether the trend just described pertains to block compositions that include all block types, or whether it is driven by block compositions that include only certain block types. Accordingly, in Panel B we break down the 13G filings according to whether a specific block type was the block filing the 13G filing (columns 1–3), or whether a specific block type was present in the firm's blockholder's base at the time the 13G was filed (columns 4–7). Columns 1–3 are dedicated to hedge funds, individuals, and other private entities filing a 13G, respectively, while columns 4–7 are dedicated to firms that, at the time the 13G was filed, had a financial, hedge fund, individual, or other private entity, respectively. Abnormal returns for the [0, 5] window are reported. We note that the analysis does not include a specification for financial blockholders filing a 13G because the analysis excludes blocks that have revealed their positions in a prior filing, and financial blocks reveal their positions in their quarterly 13F filings.

Of the seven coefficients reported in Panel B of Table 2, six are significant and, as expected, these coefficients all have a negative sign for *Block diversity increases*. These coefficients indicate that, depending on the block type entering/present, CARs are expected to be from 0.759% to 1.706% lower when 13G filings reveal that block diversity has increased, relative to when such filings reveal that block diversity has remained constant. In this panel, only regression 1 (dedicated to hedge funds' 13G filings) is insignificant, but this specification also includes a relatively small number of observations. Column 5,

which is dedicated to firms that already have a hedge fund block at the time the 13G is filed, reports a significant -0.845 CAR when *Block diversity increases*. Taken together, our results indicate that essentially for all block types examined, the market responds significantly more negatively when it is revealed that block diversity has increased.

Demsetz and Lehn (1985) hypothesize that the benefits of close monitoring, especially by a shareholder holding a concentrated ownership stake, are likely elevated in high-risk and uncertain environments. Following this line of reasoning, in our context, in a high-risk environment it may be particularly costly to have a diverse blockholder base comprised of several block types that may each have a different take on how monitoring should be conducted. Such a situation may ultimately result in coordination problems, diminishing the unity and quality of shareholders' monitoring, which may be particularly costly in a high-risk and uncertain environment.

To address this possibility, in Panel C we repeat the Panel A analysis, but split the sample depending on whether the firm belongs to an industry with an above-median or below-median idiosyncratic volatility, i.e., whether the firm is in an uncertain or certain environment, respectively. Idiosyncratic volatility is first estimated for each firm-year observation, and then for each of the 48 Fama–French industries across the complete sample. The top (bottom) part of Panel C is restricted to firms with above-median (below-median) volatility. As can be seen, the coefficient for the variable *Block diversity increases* is essentially significant only for the subset of firms with above-median volatility. The Z-scores reported at the bottom of Panel C of Table 2 indicate that the difference between the coefficients for the variable *Block diversity increases* for each of the two subsets is significant at the 5% level for the [0, 2], [0, 5], and [0, 10] windows. Thus, these results demonstrate that, indeed, block diversity is particularly costly in uncertain environments where a clear and consistent monitoring approach may be particularly beneficial.

In Panel D we report a placebo test in which we repeat Panel A (once again, for 13G filings filed during the February window), but restrict the sample to blocks that have *already* disclosed in a prior filing their block position. Here we find no significant market response around the 13G filing, further supporting the conclusion that the market response we document in Panel A of Table 2 is indeed due

to the market learning for the first time new information on the firm's block composition. Thus, we conclude that our evidence indicates that when the market learns that a firm's blockholder base has become more diverse, the market responds significantly more negatively as compared to when it learns that a homogeneous block composition has been maintained.

3.2. Firm Performance Following a Decrease in Block Diversity Due to a Blockholder's Death or Retirement

In this section we focus on an exogenous shock to individual block ownership (of both insiders and non-insiders) that alters block diversity. Specifically, we consider the dissolution of a block held by an individual who dies, or else likely retires as he is at least 65 years old when the block dissolves. Our identification strategy follows a long literature that considers the death of an individual, such as an executive, a director, or a shareholder, as an exogenous event (e.g., Slovin and Sushka 1993; Nguyen and Nielsen 2010; Fee, Hadlock, and Pierce 2013; Falato, Kadyrzhanova, and Lel 2014; Hadlock and Schwartz-Ziv 2019). We also follow the literature that assumes that an individual, such as a director, executive, or shareholder, departing from a company around retirement age is indeed retiring because he has reached retirement age (e.g., Shivdasani and Yermack 1999; Fracassi and Tate 2012; Hadlock and Schwartz-Ziv 2019).

Following the identification strategy of Hadlock and Schwartz-Ziv (2019), we define a treated group as a group that was affected by the exogenous shock, and a control group as a group not affected by the exogenous shock, and examine how the performance of these two groups differs. In our setting, we require that both the treated and the control group include only firms held in year $t=0$ by at least two types of blocks, one of which was an individual blockholder. The treated group includes firms that experienced the exogenous shock (i.e., firms held by an individual blockholder who in year $t=0$ either passed away or is assumed to have retired since he was at least 65 years old in the departure year) and, consequently, the firm's block diversity decreases. We identify 134 such exogenous blockholder

departures.[24] The control group includes firms in which the individual blockholder did not depart between years t and $t + 1$, and block diversity did not decrease during this period. Accordingly, we define the following model to estimate the difference between the treated versus control firms' performance:

(1) $Performance_{i,t+y} - Performance_{i,t} = \beta_1 \cdot Block\ diversity\ decreases\ following\ death\ or\ retirement_{i,t} + \beta_2 \cdot Number\ of\ Blocks_{i,t} + B \cdot X_{i,t} + h_{ind} + f_t + \varepsilon_{i,t}$

$Performance_{i,t+y} - Performance_{i,t}$ estimates the difference in the performance of firm i between the observation year t and the next 1, 2, and 3 years (as measured by y). $Performance_{i,t}$ represents one of several possible performance measures ($Tobin's\ Q$, $Profit\ Margin$, or ROA) of firm i in year $t + y$. The binary variable $Block\ diversity\ decreases\ following\ death\ or\ retirement_{i,t}$ is equal to one if the observation pertains to a treated firm, i.e., an individual blockholder departing from firm i in year t experienced an exogenous shock (i.e., death or retirement), and following his departure the firm's block diversity decreases. $Number\ of\ Blocks_{i,t}$ is the number of blockholders holding a block in the firm. $X_{i,t}$ is a vector of firm controls: number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, and the Amihud illiquidity measure (which for brevity are not reported). h_{ind} and f_t control for industry and year fixed effects, respectively. Variables are defined in the Glossary of Variables. Robust errors are double-clustered at the firm-year level.

Table 3 reports the result of these specifications. Columns 1–3 report the change in $Tobin's\ Q$, columns 4–6 report the change in $Profit\ Margin$, and columns 7–9 report the change in ROA. We examine the changes in these variables over different periods: one year (models 1, 4, and 7), two years (models 2, 5, and 8), and three years (models 3, 6, and 9) following the shock. We observe that in all nine specifications reported in Panel A of Table 3, the coefficients for the variable $Block\ diversity\ decreases\ following\ death\ or\ retirement$ are positive and significant, and 6 (8) of these variables are

[24] Of the 134 exogenous departures, 21 are due to death, and 113 are due to retirement.

significant at least at the 5% (10%) level, indicating that firm performance improves following the decrease in block diversity.

For example, model 1 (3) estimates that if block diversity decreases following death or retirement, one (three) year(s) following such an exogenous shock, $Tobin's\ Q$ is expected to change by 0.099 (0.153) relative to the values of the base year (year t). Given that the average $Tobin's\ Q$ in our sample is equal to 1.859 (as reported in Panel B of Table 1), these figures represent an increase of 5.32% (8.23%) relative to the average $Tobin's\ Q$. Similarly, model 4 (7) estimates that if $Block\ diversity\ decreases\ following\ death\ or\ retirement$, then one (one) year after such an exogenous shock, $Profit\ Margin$ (ROA) is expected to increase by 1.7% (0.9%), which is nonnegligible relative to the mean $Profit\ Margin$ (ROA) equal to 21.5% (-1.8%).

We point out that if the departure of a blockholder whose retirement decreases block diversity were strategic (for example, the retirement of the blockholder was timed to coincide with a regulatory change expected to affect the firm's industry), such a departure would likely occur precisely when the firm is expected to *underperform*. However, we find the opposite pattern, which further supports our argument that when a blockholder's departure from the firm decreases block homogeneity, firm performance improves.

In Panel B of Table 3 we report a placebo analysis that repeats Panel A of Table 3, but (incorrectly) assumes that the exogenous change in blockholder diversity occurred in year $t-3$, rather than in year t (at which time the shock occurred in reality). None of these specifications report a significant coefficient for $Block\ diversity\ decreases\ following\ death\ or\ retirement,$ providing further support for the conclusion that the results we document in Panel A of Table 3 are indeed due to the exogenous change in the diversity of the firm's blockholder base.

3.3. Firm Performance Following an Increase in Block Diversity Due to the Mutual Fund Scandal

In this section we focus on an exogenous shock to a different type of block: a financial block. We examine how financial performance changes following the dissolution of a financial block caused by an exogenous shock to the firm. To define such an exogenous shock, we follow Anton and Polk (2014),

Koch, Ruenzi, and Starks (2016), and Crane, Koch, and Michenaud (2018) and exploit the September 2003–04 mutual fund scandal in which financial institutions were accused of illegal trading.

As Houge and Wellman (2005), Qian (2009), and Kisin (2011) illustrate, the accused institutions experienced large outflows following the scandal. Thus, if the block of a scandal-tainted institution ceased to exist in the year the institution was accused of being part of the scandal, we consider such a departure to be an exogenous one. As in the previous analysis, we follow the identification strategy of Hadlock and Schwartz-Ziv (2019) who also examine this shock, and we include in the analysis a treated and a control group. Both groups include only firms held in year t by at least two types of blocks, one of which was a financial block. The treated group includes firms that were affected by the exogenous shock (i.e., firms held in year t by a scandal-tainted financial institution blockholder who, following the scandal, ceased to exist as a blockholder in the firm in year $t+1$) and, consequently, the firms' block diversity decreases (i.e., the $Number\ Block\ Type$ decreases). The control group includes firms in which a non-scandal tainted financial block is present in year t, and is still present in year $t+1$, and whose block diversity did not decrease between years t and $t+1$.

To identify scandal-tainted financial institutions, we use the data provided by Houge and Wellman (2005), Qian (2009), McCabe (2009), and Zitzewitz (2009), who, combined, identify 25 financial institutions accused of such illegal trading. We identify the exact accusation date mostly using the dates reported in Houge and Wellman (2005), and in some cases supplement these dates using online news sources. To examine how the financial performance of treated firms changes following the mutual fund scandal, we define model (2), which is very similar to model (1):

(2) $Performance_{i,t+y} - Performance_{i,t} = \beta_1 \cdot Block\ diversity\ decreases\ following\ scandal_{i,t} + \beta_3 \cdot Num\ Blocks_{i,t} + B \cdot X_{i,t} + h_{ind} + f_t + \varepsilon_{i,t}$

We define the variable $Block\ diversity\ decreases\ following\ scandal_{i,t}$ as a binary variable equal to one if the observation pertains to a treated firm. A treated firm is defined as a financial blockholder who was accused of illegal trading in the 2003 mutual fund scandal and whose block position decreased to no more than 2.5% of the outstanding shares during the 12 months following the accusation, and whose block diversity decreased in the fiscal year following its departure.

Table 4 reports the changes in financial performance depending on whether $Block\ diversity\ decreases\ following\ scandal$. The model estimates the difference in performance 1, 2, and 3 years after the scandal year t, relative to the scandal year. For example, columns 3, 6, and 9 examine the difference in the indicated performance measure 3 years after the observation year relative to the scandal year. Financial performance is measured in columns 1–3 using $Tobin's\ Q$, in columns 4–6 using $Profit\ Margin$, and in columns 7–9 using ROA. The binary variable $Block\ diversity\ decreases\ following\ scandal$ is equal to one if the observation pertains to a treated firm (i.e., the departing financial blockholder was accused of illegal trading in the 2003 mutual fund scandal and, and following his departure, the firm's block diversity decreased). In Panel A of Table 4, the coefficients for the variable $Block\ diversity\ decreases\ following\ scandal$ indicate that, following an exogenous shock that led to a decrease in the firm's block diversity, $Tobin's\ Q$ (columns 1–3) and $Profit\ Margin$ (columns 4–6) improve in the year following the exogenous shock. For example, column 1 (4) reports that one year after the scandal, firms in which $Block\ diversity\ decreases\ following\ scandal$ experienced an increase of 0.305 (.044) in $Tobin's\ Q$ ($Profit\ Margin$), which represents a nonnegligible increase of 16.29% (20.46%) relative to the mean values of these variables. Similar results are found for two years after the scandal (columns 2 and 5).

While the results in columns 7–9 of Table 4 do not demonstrate a significant relation between *Block diversity decreases following scandal* and *ROA*, as noted, they do show a negative relation between this variable and *Tobin's Q* and *Profit Margin*. Thus, we conclude that Table 4 provides further evidence for a negative relation between block diversity and subsequent firm performance.

Additionally, in unreported specifications we conduct a similar analysis to the one reported in Table 4, but define an exogenous shock as an increase in block diversity due to the creation of a new block as a result of a merger of two financial institutions. We follow here, among others, He and Huang (2017) and Lewellen and Lowry (2021) who analyze mergers of financial institutions as an exogenous shock to firm ownership. We find in eight of the nine specifications parallel to those reported in Table 4 a negative and significant coefficient for the variable capturing an increase in block diversity due to of the merging of two financial institutions. This finding indicates, once again, a negative relation

between block diversity and firm performance. We do not report these specifications because Lewellen and Lowry (2021) argue that such analyses should be robust to excluding the 2008–09 crisis period, and we are unable to conduct this robustness test since most of our observations pertain to the crisis period. Nevertheless, these results add to our confidence that an increase (decrease) in block diversity is followed by reduced (enhanced) financial performance.

Finally, in Panel B of Table 4 we report a placebo analysis that repeats Panel A of Table 4, but (incorrectly) assumes that the exogenous change in blockholder diversity occurred in year $t-3$, rather than in year t (at which time the shock occurred in reality). All specifications report insignificant results for the coefficient $Block\ diversity\ decreases\ following\ scandal$. These insignificant results provide further support for the conclusion that the results we document in Panel A of Table 4 are indeed due to the exogenous change in the diversity of the firm's blockholder base.

4. Is Block Diversity Associated with Increased Conflict?

The studies surveyed in Section 2.1 suggest that block diversity can potentially increase conflict. This possibility is further supported by the results reported in Panel C of Table 2, which demonstrate that especially in uncertain environments, which likely require extensive coordination among shareholders, block diversity is detrimental. In this section we further explore this possibility via two distinct analyses: the first focuses on shareholder votes, and the second on lawsuits filed by shareholders.

4.1. Block Diversity and Disagreement at Shareholder Votes

The first setting we investigate to address the question of whether block diversity increases conflict among shareholders is shareholder votes. Each year at least one shareholder meeting is held in which shareholders are requested to vote on various topics. We examine whether shareholders' votes indicate that they are more likely to disagree with each other, and also with management, as the blockholder base becomes more diverse. As we demonstrate in this section, we find support for this possibility.

We start by examining how consensus among shareholders with respect to votes cast at shareholder meetings varies depending on block diversity. For any given vote, the percentage of votes cast consistent with management recommendation can range between 0% to 100%. At these exact two

extreme points, shareholders are in complete consensus, since all shareholders cast an identical vote. As the votes shift away from these two extreme points, consensus decreases, and reaches the lowest possible point when half of the voted shares conflict with the other half of the voted shares, i.e., 50% of the votes cast are consistent with management recommendation, while 50% are not.

Following this rationale, we create a *Consensus among shareholders* measure. As Panel A of Figure 7 demonstrates, this measure is defined as the absolute value of the (fraction that voted with management - 0.5). This measure ranges from 0.5 (complete consensus) to 0 (complete disagreement). For example, if 95% of the votes are consistent with management recommendation, the *Consensus among shareholders* measure would be equal to: Absolute (0.95-0.5)=0.45, indicating high consensus. By contrast, if only 40% of the votes are consistent with management recommendation, the *Consensus among shareholders* measure would be equal to: Absolute (0.4-0.5)=0.1, indicating relatively low consensus among shareholders.

In column 1 of Table 5, we examine how the number of blocks is related to the *Consensus among shareholders* measure, which is the dependent variable in this specification. This analysis is conducted at the proposal level; i.e., each observation pertains to one proposal for which shareholders voted at a shareholder meeting. The primary independent variable of interest is *Number of block types*. In addition, the specification (as well as the other Table 5 specification) control for the number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, the Amihud illiquidity measure, whether the ISS recommendation is consistent with the management recommendation, dummies controlling for the type of proposal using ISS's ItemOnAgendaID identifiers, and industry and year fixed effects. The analysis is restricted to the 2003–16 period.

The coefficients of the column 1 specification show that a one unit increase in the *Number of block types* is expected to decrease the *Consensus among shareholders* by 0.21%. Given that the corresponding unconditional mean for the latter variable is 44.71%, reported at the bottom of Table 5, the above-noted coefficient demonstrates that an addition of one new type of blockholder is expected to decrease

the *Consensus among shareholders* by 3.96%.[25] Thus, this result indicates that when the blockholder base is diverse, shareholders are less likely to vote in consensus.

We next focus on the relation between block diversity and shareholders voting against management, since block diversity may also contribute to such disagreement. In columns 2 of Table 5, we repeat the analysis reported in column 1 of Table 5, but following prior literature (e.g., Iliev and Lowry 2015) we define the dependent variable as the *Fraction of votes cast in support of management*. We obtain very similar results as those reported in column 1, indicating that when block diversity increases, shareholder agreement with management decreases.[26] Thus, our findings indicate that block diversity boosts both disagreement among shareholders, and also between shareholders and management.

Panel B of Figure 7 reports the number of votes cast, broken down by the fraction of voted shares consistent with management recommendation. As this figure demonstrates, the majority of the vote outcomes are highly consistent with management recommendation, but some variation does exist. Thus, most of the disagreement captured in the *Consensus among shareholders* measure is driven by votes that are close to being completely supportive of management (mostly above 90% support rate), but are not completely supportive of management. Accordingly, it is not surprising that the results in columns 1 and 2 of Table 5 are similar.

In column 3 of Table 5 we focus on the question of whether a proposal is more likely to be submitted by a shareholder when the blockholder base is diverse. The submission of a shareholder proposal can serve as an indicator for increased disagreement between shareholders and management, since submitting a proposal indicates that shareholders were not able to resolve in private the issue pertaining to the proposal. This specification is at the firm-year level. Indeed, column 3 demonstrates that if the *Number of block types* increases by one unit, shareholders are expected to submit an additional

[25] Since the average value for *Consensus among shareholders* in column 1 is 44.71%, and the maximum possible value for this variable is 50%, the average complementary value for disagreement among shareholders equals 5.29% (=50%-44.71%). Therefore, a 0.21% decrease in the *Consensus among shareholders* measure corresponds to a 3.96% (=0.21%/5.29%) increase in the extent to which shareholders disagree with each other.

[26] We demonstrate here the magnitude of these specifications. Given that in column 2 of Table 5 the average value of the *Fraction of votes cast in support of management* is 93.48%, as reported at the bottom of this table, the average disagreement rate with management equals 6.52% (= 100%-93.48%). Thus, the -0.2% change in the *Fraction of votes cast in support of management* when the number of block types increases by one unit is equivalent to a 3.06% (=0.2%/6.52%) increase in the frequency of votes cast by shareholders against management.

0.033 proposals, which relative to the mean annual number of shareholder proposals submitted (0.231 proposals per year) reflects a 14.28% increase. Hence, this result indicates that an increase in block diversity is expected to lead to shareholders attempting to publicly resolve governance-related issues.

In column 4 of Table 5, we zoom in our analysis to the shareholder level, and analyze votes cast by mutual funds. We investigate whether funds are more likely to vote against management when a block that is of a different type, i.e., a non-financial block, is present in the firm's blockholder base. We conduct this analysis because if block diversity indeed increases disagreement, we expect to find that when financial institutions vote (even when they are not blockholders), more disagreement will prevail when a different type of blockholder is present, i.e., a non-financial block. Thus, we examine how the presence of a non-financial block is related to a fund voting against management recommendation, which we have shown above, is also a close proxy for shareholders disagreeing with each other.

Accordingly, we define the dependent variable *Fund voted with management* as an indicator variable equal to one if the fund voted in line with the management recommendation. The primary independent variable, *Non-financial block*, is an indicator variable equal to one if the firm's blockholder base includes a non-financial block. In addition to the above-noted controls, the specification includes fund fixed effects, and it is conducted at the fund-proposal level. As reported in column 4, we find a negative and significant coefficient for *Non-financial block,* indicating that when a non-financial block is present, funds are more likely to vote against management. Specifically, column 4 reports that a fund voting for a proposal of a firm that has a non-financial block is 0.43% less likely to vote in line with management, relative to a fund voting for a proposal of a firm that does not have a non-financial block. The average frequency with which funds voted with management is equal to 0.9025 (as reported at the bottom of column 4) and, accordingly, the unconditional average frequency with which funds voted against management is equal to 0.0975 (=1-0.9025). Thus, the magnitude documented for the coefficient *Non-financial block* indicates that when a nonfinancial block is present, funds are 4.41% (0.0043/0.0975) more likely to oppose management, relative to funds' average tendency to vote against management. Put differently, this finding demonstrates that shareholders, in this case financial institutions, are

significantly more likely to disagree with management, and therefore also with each other, when a different type of blockholder is present in the firm's blockholder base.

4.2. Block Diversity and Lawsuits Filed by Shareholders

The second setting we investigate to address the question of whether increased conflict arises as block diversity increases is the legal setting. We examine whether lawsuits filed by a shareholder involving blockholders are more common when the blockholder base is diverse. If block diversity induces disagreement, we should observe that blockholders are more likely to sue the firm when its blockholder base is diverse. Our reasoning is that if the firm sides with the views of a first type of blockholder, and a second type of blockholder disagrees with the views of the first type of blockholder, the blockholders are more likely to find themselves in conflict and, ultimately, one of the blocks, or shareholders affected by the conflict, will sue the firm. We note that from our own analysis of the lawsuits included in the legal dataset described below, and from discussions with legal experts, we have observed and learned that when shareholders disagree with each other they will sue the firm (which apparently sides with the views of one of the shareholders), but that shareholders are not likely to sue each other. For this reason, our analysis focuses on blockholders and shareholders suing the firm.

To analyze whether blockholders and shareholders are more likely to sue the firm when the blockholder base is diverse and a blockholder is involved in the dispute, we manually assemble a unique dataset documenting such lawsuits. We assemble this dataset using the legal Westlaw database, which includes data on lawsuits filed, and is widely used by law academics. To identify potential lawsuits filed by a shareholder and/or a blockholder we focus on the opinion documents. A judicial opinion is a legal document written by a judge or a judicial panel in the course of resolving a legal dispute, providing a description of the facts leading to the dispute, the decision reached to resolve the dispute, and an analysis of the law used to support the decision.

To select lawsuits filed by shareholders, we follow two screening steps. In the first screening step we define an algorithm that identifies lawsuits that potentially involve shareholders and/or blockholders. The algorithm was defined after reading and analyzing several dozens of lawsuits, and

identifying words that frequently appear in lawsuits filed by shareholders that involve a blockholder. The algorithm requires that the judicial opinion mention the company name in the title of the lawsuit, and the term "fiduciary duty" or "fiduciary duties" at least once in the judicial opinion itself.[27] This filter allows us to select a manageable number of judicial opinions and download them for further analysis. We obtain 2,574 such lawsuits. In the second screening step, we manually examine each of the lawsuits identified in the first step, and verify that the lawsuit was indeed filed by a shareholder. We also require that at least one of the blockholder's names be mentioned in the judicial opinion document, since this indicates that the blockholder is involved in the lawsuit. We identify 368 lawsuits that fall under the algorithm's definition. We acknowledge that our algorithm may be too stringent, and that, therefore, we may not have identified all lawsuits filed by shareholders. However, this limitation should bias our results downward, as we are not identifying all shareholder-initiated lawsuits that involve a blockholder.

The lawsuits filed by shareholders can revolve around different issues, but perhaps two themes are particularly prevalent in these lawsuits. The first and most common theme is shareholders alleging that violations of SEC regulations occurred. These violations are often labeled as fraud, breach of fiduciary duty, or negligent misrepresentation. An example of such a lawsuit is the lawsuit filed initially by Lester Goldstein (a shareholder) against Cendant Corporation. In this lawsuit, the shareholders allege that the corporation and its directors conducted fraud. The shareholders argue that this fraud ultimately led to the financial reports being restated and to a sharp decrease in the stock price. A second theme that appears in these lawsuits is that of minority shareholders suing majority shareholders for illegally using their collective power to cancel out the voice of minority shareholders. An example of such a lawsuit is the lawsuit filed by Rebecca Proctor (a shareholder) against Vishay Intertechnology, Inc., in which the minority shareholder claim that the majority shareholders breached their fiduciary duty, leading to a "waste [of] corporate assets," and that minority shareholders did not receive the fair value of the stocks they held when the company was acquired.

[27] If a firm's name has changed, we repeat this search for each of the firm's prior names.

To further provide a sense of the issues addressed by the lawsuits identified as lawsuits filed by shareholders, and involving blockholders, using the word-cloud technique we report in Figure 8 the frequent words mentioned in these opinion documents. Figure 8 displays words mentioned more frequently in larger fonts. Figure 8 shows that words related to companies such as stock, company, directors, business, corporation, and shareholders appear quite frequently, as do words related to disagreement such as fiduciary, allegations, and fraud, consistent with the above examples.

In Table 6 we report our analysis of whether firms with a more diverse blockholder base are more likely to have a shareholder filing a lawsuit against the firm, as is revealed in the judicial opinion written by the judge. The analysis is conducted at the firm-year level. The dependent variable in this table is *Lawsuit filed*, which is an indicator variable that is equal to one if an opinion (i.e., a verdict) was written by the judge on a lawsuit filed by a shareholder, and zero otherwise. Our primary variable of interest is *Number of block types*, which is equal to the number of different types of blocks in the firm. The following vector of controls is included: number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, and the Amihud illiquidity measure. In addition, the regressions include 48 Fama–French industry and year fixed effects.

Our specifications estimate whether a lawsuit is filed by a shareholder (as defined above) one, two, or three years (columns 1–3, respectively) after the observed levels of block diversity. We examine these windows because from our discussions with legal experts, it typically takes 1 to 3 years from the time a lawsuit is filed until a judicial opinion is produced. As column 1 (3) reports, a one unit increase in *Number of block types* is expected to increase the likelihood that a lawsuit is filed one (three) years after the observed levels of block diversity by 0.12% (0.15%), respectively. Given that the average frequency a lawsuit is filed by a shareholder is equal to 0.2%, this increase is significant.

Two potential concerns may arise: (a) block diversity can exist only if firms have at least two blocks, and (b) it is not clear whether firms with no blocks should be defined as firms with a diverse or non-diverse blockholder base. To address these concerns, in unreported specifications, we repeat the analysis but restrict it to firms that have exactly one block, or alternatively, at least two blocks,

respectively. We obtain almost identical results. Thus, the results demonstrate that in firms with a diverse blockholder base, disagreement is more likely to arise, as reflected in the elevated frequency of lawsuits filed by shareholders.

5. Block Diversity and Firm Performance in the Full Sample

Thus far, we have focused on various settings in which exogenous shocks to firms alter or reveal block diversity, in order to isolate factors that affect firm performance from factors that affect blockholder composition. In the present section we investigate the relation between block diversity and financial performance in the complete dataset, rather than focusing our attention on a subset of observations of firms experiencing an exogenous shock from (the revelation of) block ownership. While such an analysis does not point to a causal relation, it does demonstrate the relation between block diversity and financial performance for the full dataset, and thus, at minimum, it allows us to conclude whether block diversity is associated with weaker financial performance.

5.1. Portfolio Returns

In this section we examine the possibility that firms with a diverse blockholder base underperform relative to firms with a homogeneous blockholder base, by constructing portfolios that are designed to profit from this possibility. Thus, we construct portfolios that take a long position on firms with a homogeneous blockholder base (i.e., firms held by exactly one type of block) and a short position on firms with a heterogeneous blockholder base (i.e., firms held by at least two types of blocks). We exclude from this analysis firms not held by any type of block at all, even though including such firms by defining them as firms with a homogeneous blockholder base would not alter the results substantially. We construct the portfolios based on the block composition at the beginning of each calendar year, and determine the weights in the portfolios based on the market capitalization at the beginning of each calendar year. Each specification is estimated using monthly returns. The average abnormal returns are constructed as the intercept (alphas) of a time-series regression of portfolio returns based on the Fama–French four-factor model. In the reported results, *Market premium* is the market premium, *SMB* is small

market capitalization minus big, *HML* is high book-to-market ratio minus low, and *UMD* is the monthly momentum. Robust standard errors are reported.

The results are reported in Table 7. Columns 1–3 report results for value-weighted portfolios, while columns 4–6 report results for equal-weighted portfolios. As the results in model 1 (4) indicate, a value-weighted (equal-weighted) portfolio that takes a long position in firms with a homogeneous blockholder base (as described above) yields a monthly alpha equal to an insignificant 0.02% (significant 0.35%) abnormal return. Column 2 (5) reports results for a portfolio that takes a short position in firms with a heterogeneous blockholder base, and reports a significant -0.27% (-0.65%) abnormal monthly return indicating that firms with a heterogeneous blockholder base underperform in a four-factor model. Column 3 (6) reports estimates for a portfolio that combines the corresponding long/short portfolios reported in columns 1–2 (4–5). Such a portfolio is expected to yield a significant monthly abnormal return equal to 0.29% (0.84%), equivalent to a 3.53% (10.55%) annual abnormal return. Once again, in unreported specifications we repeat the analysis for firms that have exactly one block and at least two blocks and obtain economically very similar results.

While these results do not necessarily point to a causal relation between block diversity and firm performance, they do clearly demonstrate that an investment strategy that takes a long position in firms with a homogeneous blockholder base, and a short position in firms with a heterogeneous blockholder base, is expected to yield substantial returns. This finding suggests that, at minimum, the former firms are more profitable than the latter.

5.2. Future Performance

To further examine the association between block diversity and firm performance we estimate the relation between block diversity and future performance using the same long-term performance measures as in Sections 3.1 and 3.2: *Tobin's Q*, *Profit margin*, and *ROA*. To estimate this relation, we use the following multivariable panel regression, which is very similar to equations (1) and (2):

(3) $$Performance_{i,t+y} = \beta_1 \cdot Num.Block\ Types_{i,t} + \beta_2 \cdot Num\ Blocks_{i,t} + B \cdot X_{i,t} + h_{ind} + f_t + \varepsilon_{i,t}$$

Results are reported in Table 8 for three profitability measures, namely, one, two, and three years following the observed blockholder composition. Of the nine coefficients reported for *Number of blocks*

types, 7 (5) are significantly negative, at least at the 10% (5%) level, indicating once again a consistent negative relation between block diversity and firm performance. For example, model 1 (3) estimates that if the *Number of block types* increases by one unit (i.e., the firm's blockholder base includes one additional type of block), *Tobin's Q* is expected to decrease in year *t*+1 (*t*+3) by 0.084 (0.528). Given that the average *Tobin's Q* is equal to 1.83, such a decrease is equivalent to a 4.60% (28.85%) relative to the average Tobin's Q, i.e., significant in terms of economic magnitude.

Similarly, model 4 (7) reports that the *Profit margin (ROA)* is expected to decrease in year *t*+1 (*t*+1) by 1.9% (0.7%) if the *Number of block types* increases by one unit, which is substantial relative to the mean *Profit margin (ROA)* of 0.215 (-0.018). Once again, in unreported specifications we repeat the analysis for firms that have exactly one type of block and obtain even stronger and more significant results: 8 (6) of the specifications are negative and significant at the 10% (5%) level. We also repeat the analysis for firms that have at least two types of blocks, and obtain economically similar albeit somewhat weaker results: 7 (3) of the specifications are negative and significant at the 10% (5%) level. All coefficients in these two analyses are negative. Thus, we conclude that block diversity and firm performance maintain a negative relation.

6. Conclusions

We document that firms frequently have diverse types of blockholders in the firm's blockholder base. Our analysis consistently demonstrates that block diversity is associated with, and leads to, weaker financial performance. In addition, we document increased disagreement among shareholders when different types of blockholders are present in the firm's blockholder base. Taken together, our results suggest that maintaining a heterogeneous blockholder base can be costly.

Glossary of Variables

Variable Name	Variable Description	Data Source
Block variables:		
Block	A shareholder who holds at least 5% of the firm's outstanding shares, and thus files a 13D, 13DA, 13G, or 13GA.	EDGAR
Block size	Fraction of firm held by blockholder.	EDGAR and by authors.
Financial	A blockholder who filed at least one 13F filing in the observation year, and who is not a hedge fund as defined below.	EDGAR
Hedge fund	A blockholder identified by Brav, Jiang, and Kim (2009) and Brav, Jiang, and Kim (2015) as a hedge fund. The data that Alon Brav has kindly provided us with was updated up to 2016 by Brav, Jiang, and Kim.	EDGAR and data of Brav, Jiang, and Kim
Individual	In the 13D/G filing the blockholder is identified as an individual in items 12 and 14 of schedules 13G and 13D, respectively.	EDGAR
Other private entity	All blocks that do not fall under the prior three categories, i.e., non-financial, non-individual, and non-hedge fund blocks.	EDGAR
Dependent variables:		
Annual number of shareholder proposals submitted	The number of proposals submitted by shareholders voted upon at the shareholder meeting.	ISS voting analytics
Consensus among shareholders	Measure that ranges from 0.5 (indicating complete consensus among shareholders) to 0 (indicating complete disagreement among shareholders), as further detailed in Figure 7	ISS voting analytics
Cumulative abnormal returns	Cumulative abnormal returns around the filing date of the schedule 13G estimated as the firm's return minus the DGTW portfolio return.	CRSP
Fraction of votes cast in support of management	Fraction of shareholders' votes cast that are consistent with the management's recommendation.	ISS voting analytics
Fund voted with management	An indicator variable that equals one if the fund voted in line with the management's recommendation. The latter variable is equal to one if: (1) management recommends "For" and fund votes "For," (2) management recommends "Against" and fund votes "Against" or "Abstain," or (3) Management recommends "One Year," "Two Years," or "Three Years," and the fund votes in line with the management's recommendation.	ISS voting analytics
Lawsuit	This variable equals one if a company had a shareholder-initiated lawsuit in a given year. To identify such a lawsuit, we require that the company name appear in the title of the lawsuits. We also require that the judicial opinion mention the company name in the title of the lawsuit, and the term "fiduciary duty" or "fiduciary duties" at least once in the judicial opinion. We then manually check each of the lawsuits identified in the previous steps, and keep only the ones filed by a shareholder and that mention the blockholder's name in the judicial opinion.	Estimated by authors using data from Westlaw
Profit margin	$\text{Profit Margin} = (\text{sale} - \text{cogs})/\text{sale}$, where *sale* represents the net annual sales and *cogs* represents the costs of goods sold (variable names correspond to the Compustat variable names).	Compustat
ROA	$\text{ROA} = \text{ni}/\text{at}$, where *ni* is the net income, and *at* is assets total (variable names correspond to the Compustat variable names).	Compustat
Tobin's Q	$\text{Tobin's Q} = \frac{\text{MVE} + \text{at} - (\text{ceq} + \text{txdb})}{\text{at}}$, where *MVE* is the market of value of equity, *at* is assets total, *ceq* is the book value of common equity, and *txdb* are the deferred taxes on the balance sheet (variable names correspond to the Compustat variable names).	Compustat, CRSP

Independent variables:		
Abnormal returns	Abnormal returns are the difference between the company's returns and the corresponding DGTW portfolio returns.	CRSP
Amihud illiquidity	$$\text{Amihud} = 10^6 \cdot \sum_{i=1}^{D} \left(\frac{\lvert \text{Ret}_i \rvert}{\text{Vol}_i \cdot \text{Prc}_i} \right) \cdot \frac{1}{D}$$ The Amihud illiquidity measure is estimated at the company-year level, where Ret_i is the daily stock return, Vol_i is the daily volume, Prc_i is the end of the day stock price, and D is the number of trading days per year.	CRSP
Block diversity increases	An indicator variable equal to one if the entering block increases block diversity, i.e., if the type of block entering the firm did not already exist in the firm's blockholder base, and zero if it did.	
Capital expenditures	$\text{Capital expenditures} = \text{capxv/at}$, i.e., *capxv* is the capital expenditure and *at* is assets total (variable names correspond to Compustat variable names).	Compustat
Firm age	$\text{Firm age} = \log(1 + \text{Current year} - \text{IPO year})$, where Age is the natural logarithm of the difference between the current year and the company IPO year. IPO year is defined as the first year the firm appears on CRSP.	CRSP
Fixed assets	$\text{Fixed assets} = \text{ppegt/at}$, where *ppegt* is the gross value of property, plant and equipment and *at* is assets total (variable names correspond to Compustat variable names).	Compustat
Idiosyncratic volatility	Idiosyncratic volatility is measured at the company-year level as the standard deviation of the residuals from the following regression: $$r_s - r_f = \alpha + \beta \cdot (r_m - r_f) + \varepsilon$$ where r_s is the company's daily returns during the observation year, r_f is the risk-free rate (obtained from the Fama–French data accessed at: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#Research), and r_m is the value-weighted market return.	CRSP
Leverage	$\text{Leverage} = (\text{dlc} + \text{dltt})/\text{at}$, where *dlc* is the debt in current liabilities, *dltt* is the long-term debt, and *at* is assets total (variable names correspond to Compustat variable names).	Compustat
Market capitalization	Market capitalization is the log of *shrout *prc*, i.e, the log of the number of shares outstanding multiplied by the stock price, all at the end of calendar year (variable names correspond to CRSP variable names).	CRSP
Number of block types	The total number of types of blockholders in the company at the end of the calendar year. We define four blocks types: financial, individual, hedge fund, and other private entity.	Author's calculation
Number of blocks	Total number of blockholders each holding at least 5% of the firm's outstanding shares, at the end of the calendar year.	Author's calculation
Total percentage of block ownership	Total percentage of shares held by all blockholders, each holding at least 5% of the firm's outstanding shares, at the end of calendar ye99ar. Estimated by authors using the blockholder database constructed using Edgar filings.	EDGAR
Total percentage of institutional ownership	Total percentage of shares held by institutional investors at the end of the calendar year.	Thompson Reuters

Bibliography

Adams, Renée B., Ali C. Akyol, and Patrick Verwijmeren, 2018. Director skill sets, *Journal of Financial Economics*, *130*(3), 641–662.

Admati, Anat R., and Paul Pfleiderer, 2009. The 'Wall Street Walk' and shareholder activism: Exit as a form of voice, *Review of Financial Studies*, *22*(7), 2645–2685.

Admati, Anat R., Paul Pfleiderer and Josef Zechner, 1994. Large shareholder activism, risk sharing, and financial market equilibrium, *The Journal of Political Economy*, *102*(6), 1097–1130.

Agrawal, Anup, and Charles R. Knoeber, 1996. Firm performance and mechanisms to control agency problems between managers and shareholders, *Journal of Financial and Quantitative Analysis*, *31*(3), 377–397.

Allen, Jeffrey W., and Gordon M. Phillips, 2000. Corporate equity ownership, strategic alliances, and product market relationships, *The Journal of Finance*, *55*(6), 2791–2815.

Andres, Christian, 2008. Large shareholders and firm performance—an empirical examination of founding-family ownership, *Journal of Corporate Finance*, *14*(4), 431–445.

Antón, Miguel, and Christopher Polk, 2014. Connected stocks, *The Journal of Finance*, *69*(3), 1099–1127.

Appel, Ian R., Todd A. Gormley, and Donald B. Keim, 2019. Standing on the shoulders of giants: The effect of passive investors on activism, *The Review of Financial Studies*, *32*(7), 2720–2774.

Azar, José, Martin C. Schmalz, and Isabel Tecu, 2018. Anticompetitive effects of common ownership, *The Journal of Finance*, *73*(4), 1513–1565.

Barnea, Amir, and Amir Rubin, 2010. Corporate social responsibility as a conflict between shareholders, *Journal of Business Ethics*, *97*(1), 71–86.

Bernile, Gennaro, Vineet Bhagwat, and Scott Yonker. (2018). Board diversity, firm risk, and corporate policies, *Journal of Financial Economics*, *127*(3), 588–612.

Bloch, Francis, and Ulrich Hege, 2003. Multiple shareholders and control contests, *Available at SSRN 2273211*.

Bolton, Patrick, and Ernst-Ludwig Von Thadden, 1998. Blocks, liquidity, and corporate control, *The Journal of Finance*, *53*(1), 1–25.

Bowers, Clint A., James A. Pharmer, and Eduardo Salas, 2000. When member homogeneity is needed in work teams: A meta-analysis, *Small Group Research*, 31, 305–327.

Brav, Alon P., Wei Jiang, Frank Partnoy, and Randall Thomas, 2008. Hedge fund activism, corporate governance, and firm performance, *The Journal of Finance*, *63*(4), 1729–1775.

Brav, Alon, Amil Dasgupta, and Richmond Mathews, 2019. Wolf pack activism. *European Corporate Governance Institute (ECGI) - Finance Working Paper* No. 501/2017.

Brav, Alon, Wei Jiang, and Hyunseob Kim, 2009. Hedge fund activism: A review, *Foundations and Trends in Finance*, *4*(3), 1–66.

Brav, Alon, Wei Jiang, and Hyunseob Kim, 2015. The real effects of hedge fund activism: Productivity, asset allocation, and labor outcomes, *The Review of Financial Studies*, *28*(10), 2723–2769.

Brief, Arthur P., Elizabeth E. Umphress, Joerg Dietz, John W. Burrows, Rebecca M. Butz, and Lotte Scholten, 2005. Community matters: Realistic group conflict theory and the impact of diversity, *Academy of Management Journal*, *48*(5), 830–844.

Burkhart, Mike, Denis Gromb, and Fausto Panunzi, 1997. Large shareholders, monitoring, and the value of the firm, *Quarterly Journal of Economics*, *112*(3), 693–728.

Crane, Alan D., Andrew Koch, and Sébastien Michenaud, 2018. Institutional investor networks and governance mechanisms, *Journal of Financial Economics*, *133*(1), 175–197.

Cronqvist, Henrik, and Rüdiger Fahlenbrach, 2009. Large shareholders and corporate policies, *Review of Financial Studies* 22, 3941–3976.

Daniel, Kent, Mark Grinblatt, Sheridan Titman, and Russ Wermers, 1997. Measuring mutual fund performance with characteristic-based benchmarks, *The Journal of Finance*, *52*(3), 1035–1058.

Demsetz, Harold, and Kenneth Lehn (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, 93(6), 1155–1177.

Dennis, Patrick J., Kristopher Gerardi, and Carola Schenone, 2021. Common ownership does not have anti-competitive effects in the airline industry, *Available at SSRN 3063465*.

Dhillon, Amrita, and Silvia Rossetto, 2015. Ownership structure, voting, and risk, *Review of Financial Studies*, *28*, 521–560.

Donaldson, Jason, Nadya Malenko, and Giorgia Piacentino, 2020. Deadlock on the board, *The Review of Financial Studies*, 33(10), 4445-4488..

Edmans, Alex, 2009. Blockholder trading, market efficiency, and managerial myopia, *The Journal of Finance*, *64*, 2481–2513.

Edmans, Alex, and Clifford G. Holderness, 2017. Blockholders: A survey of theory and evidence, *The Handbook of the Economics of Corporate Governance*. Vol. 1. Benjamin Hermalin and Michael Weisbach (eds.), North-Holland, pp. 541–636.

Edmans, Alex, and Gustavo Manso, 2011. Governance through trading and intervention: A theory of multiple blockholders, *The Review of Financial Studies*, *24*(7), 2395-2428.

Erhardt, Niclas L., James D. Werbel, and Charles B. Shrader, 2003. Board of director diversity and firm financial performance, *Corporate Governance: An International Review*, *11*(2), 102–111.

Faccio, Mara, Maria-Teresa Marchica, and Roberto Mura, 2011. Large shareholder diversification and corporate risk-taking, *The Review of Financial Studies*, *24*(11), 3601–3641.

Falato, Antonio, Dalida Kadyrzhanova, and Ugur Lel, 2014. Distracted directors: Does board busyness hurt shareholder value?, *Journal of Financial Economics*, *113*(3), 404–426.

Fee, C. Edward, Charles J. Hadlock, and Joshua R. Pierce, 2013. Managers with and without style: Evidence using exogenous variation, *The Review of Financial Studies*, *26*(3), 567–601.

Fee, C. Edward, Charles J. Hadlock, and Shawn Thomas, 2006. Corporate equity ownership and the governance of product market relationships, *Journal of Finance*, *61*(3), 1217–1251.

Ferreira, Daniel, 2010. Board diversity. Chapter 12 in *Corporate Governance: A Synthesis of Theory, Research, and Practice*, Ronald Anderson and H. Kent Baker (eds.), John Wiley & Sons, pp. 225–242.

Fracassi, Cesare, and Geoffrey Tate, 2012. External networking and internal firm governance, *The Journal of Finance*, *67*(1), 153–194.

Gomes, Armando, and Walter Novaes, 2006. Sharing of control versus monitoring as corporate governance mechanisms, *Unpublished working paper*.

Gow, Ian D., Gaizka Ormazabal, and Daniel J. Taylor, 2010. Correcting for cross-sectional and time-series dependence in accounting research, *The Accounting Review*, *85*(2), 483–512.

Hadlock, Charles J., and Miriam Schwartz-Ziv, 2019. Blockholder heterogeneity, multiple blocks, and the dance between blockholders, *The Review of Financial Studies, 32*(11), 4196–4227.

He, Jie, and Jiekun Huang, 2017. Product market competition in a world of cross ownership: Evidence from institutional blockholdings, *Review of Financial Studies*, *30,* 2674–2718.

Himmelberg, Charles P., R. Glenn Hubbard, and Darius Palia, 1999. Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics*, *53*(3), 353–384.

Holderness, Clifford G., 2009. The myth of diffuse ownership in the United States. *The Review of Financial Studies*, *22*(4), 1377–1408.

Holderness, Clifford G., 2003. A survey of blockholders and corporate control, *Economic Policy Review*, *9*(1), 1–14.

Houge, Todd, and Jay Wellman, 2005. Fallout from the mutual fund trading scandal, *Journal of Business Ethics*, *62*(2), 129–139.

Iliev, Peter, and Michelle Lowry, 2015. Are mutual funds active voters? *The Review of Financial Studies, 28(2)*, 446-485.

Israelsen, Ryan D., Miriam Schwartz-Ziv, and James Weston, 2021. Block Diversity and Governance. Available at SSRN 3810532.

Jehn, Karen A., Gregory B. Northcraft, and Margaret A. Neale, 1999. Why differences make a difference: A field study of diversity, conflict, and performance in workgroups, *Administrative Science Quarterly*, *44*(4), 741–763.

Kahn, Charles, and Andrew Winton, 1998. Ownership structure, speculation, and shareholder intervention, *The Journal of Finance*, *53*, 99–129.

Kandel, Eugene, Massimo Massa, and Andrei Simonov, 2011. Do small shareholders count?, *Journal of Financial Economics*, *101*, 641–665.

Kempf, Elisabeth, Alberto Manconi, and Oliver G. Spalt, 2017. Distracted shareholders and corporate actions, *Review of Financial Studies*, *30*(5), 1660–1695.

Kisin, Roni, 2011. The impact of mutual fund ownership on corporate investment: Evidence from a natural experiment, *Available at SSRN 1828183*.

Klein, April, and Emanuel Zur, 2009. Entrepreneurial shareholder activism: Hedge funds and other private investors, *The Journal of Finance*, *64*(1), 187–229.

Koch, Andrew, Stefan Ruenzi, and Laura Starks, 2016. Commonality in liquidity: A demand-side explanation, *The Review of Financial Studies*, *29*(8), 1943–1974.

Konijn, Sander J. J., Roman Kraussl, and Andre Lucas, 2011. Blockholder dispersion and firm value, *Journal of Corporate Finance*, *17*, 1330–1339.

Laeven, Luc, and Ross Levine, 2008. Complex ownership structures and corporate valuations, *Review of Financial Studies*, *21*, 579–604.

Levit, Doron, Nadya Malenko, and Ernst G. Maug, 2021. The voting premium, European Corporate Governance Institute, Finance Working Paper.

Lewellen, Katharina, and Michelle Lowry, 2021. Does common ownership really increase firm coordination?, forthcoming in *Journal of Financial Economics*.

Li, Sophia Zhengzi, Ernst G. Maug, and Miriam Schwartz-Ziv, 2021. When shareholders disagree: Trading after shareholder meetings, forthcoming in *Review of Financial Studies*.

Maury, Benjamin, and Anete Pajuste, 2005. Multiple large shareholders and firm value, *Journal of Banking & Finance*, *29*, 1813–1834.

McCabe, Patrick E., 2009. The economics of the mutual fund trading scandal. *FEDS Working Paper* No. 2009-06

McCahery, Joseph A., Zacharias Sautner, and Laura T. Starks, 2016. Behind the scenes: The corporate governance preferences of institutional investors, *The Journal of Finance*, *71*(6), 2905–2932.

Morck, Randall, Andrei Shleifer, and Robert W. Vishny, 1988. Management ownership and market valuation: An empirical analysis, *Journal of Financial Economics*, *20*, 293–315.

Nguyen, Bang Dang, and Kasper Meisner Nielsen, 2010. The value of independent directors: Evidence from sudden deaths, *Journal of Financial Economics*, *98*(3), 550–567.

Pagano, Marco, and Ailsa Röell, 1998. The choice of stock ownership structure: Agency costs, monitoring, and the decision to go public, *The Quarterly Journal of Economics*, *113*(1), 187–225.

Parrino, Robert, Richard W. Sias, and Laura T. Starks (2003). Voting with their feet: Institutional ownership changes around forced CEO turnover. *Journal of Financial Economics* 68(1), 3-46.

Pelled, Lisa Hope, Kathleen M. Eisenhardt, and Katherine R. Xin, 1999. Exploring the black box: An analysis of work group diversity, conflict and performance, *Administrative Science Quarterly*, *44*(1), 1–28.

Qian, Meijun, 2009. Whom can you trust? A study on mutual fund *governance, Available at SSRN: https://ssrn.com/abstract=685543 or http://dx.doi.org/10.2139/ssrn.685543*.

Shivdasani, Anil, and David Yermack, 1999. CEO involvement in the selection of new board members: an empirical analysis, *The Journal of Finance*, *54*(5), 1829–1853.

Shleifer, Andrei, and Robert W. Vishny, 1986. Large shareholders and corporate control, *Journal of Political Economy*, *94*(3), 461–488.

Slovin, Myron B., and Marie E. Sushka, 1993. Ownership concentration, corporate control activity, and firm value: Evidence from the death of inside blockholders, *The Journal of Finance*, *48*(4), 1293–1321.

Song, Fenghua, 2017. Blockholder short-term incentives, structures, and governance. *European Corporate Governance Institute (ECGI)-Finance Working Paper* 513.

Westphal, James D., and Edward J. Zajac, 1995. Who shall govern? CEO/board power, demographic similarity, and new director selection, *Administrative Science Quarterly*, *40*(1), 60–83.

Winton, Andrew, 1993. Limitation of liability and the ownership structure of the firm, *The Journal of Finance*, *48*(2), 487–512.

Zitzewitz, Eric W., 2009. Prosecutorial discretion in mutual fund settlement negotiations, 2003–7, *The BE Journal of Economic Analysis & Policy*, *9*(1), Article 24.

Figure 1: The Swan, the Pike, and the Crawfish

This figure portrays a picture based on the Russian fable "The Swan, the Pike, and the Crawfish," written by Ivan Krylov (1814), demonstrating how a swan, a fish, and a crawfish team up to pull a wagon. Because each animal pulls/pushes the wagon in a different direction (air, sea, and ground, respectively) they are not able to move the wagon and their performance (in their case—moving the wagon) suffers. Similarly, in our context, we hypothesize that when the blockholder base is diverse, different types of blockholders will have different preferences and opinions on where and how the company should proceed, and thus conflict is more likely to arise, and performance to suffer.

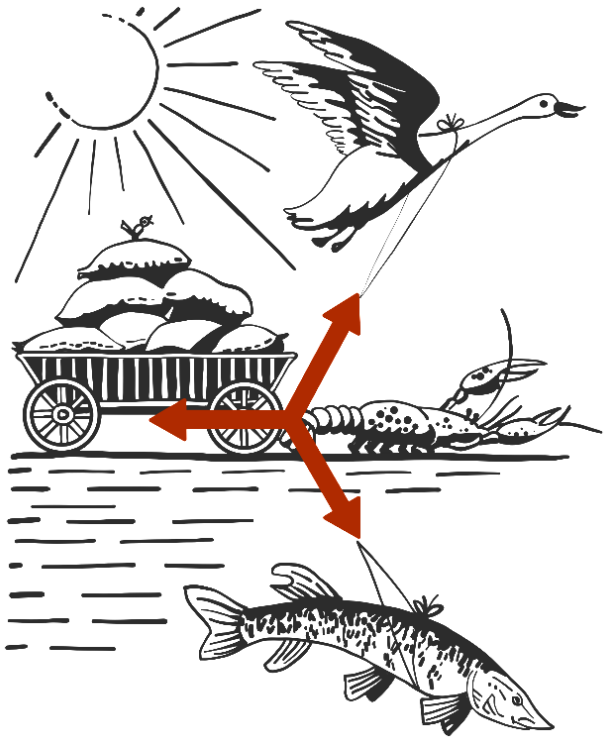
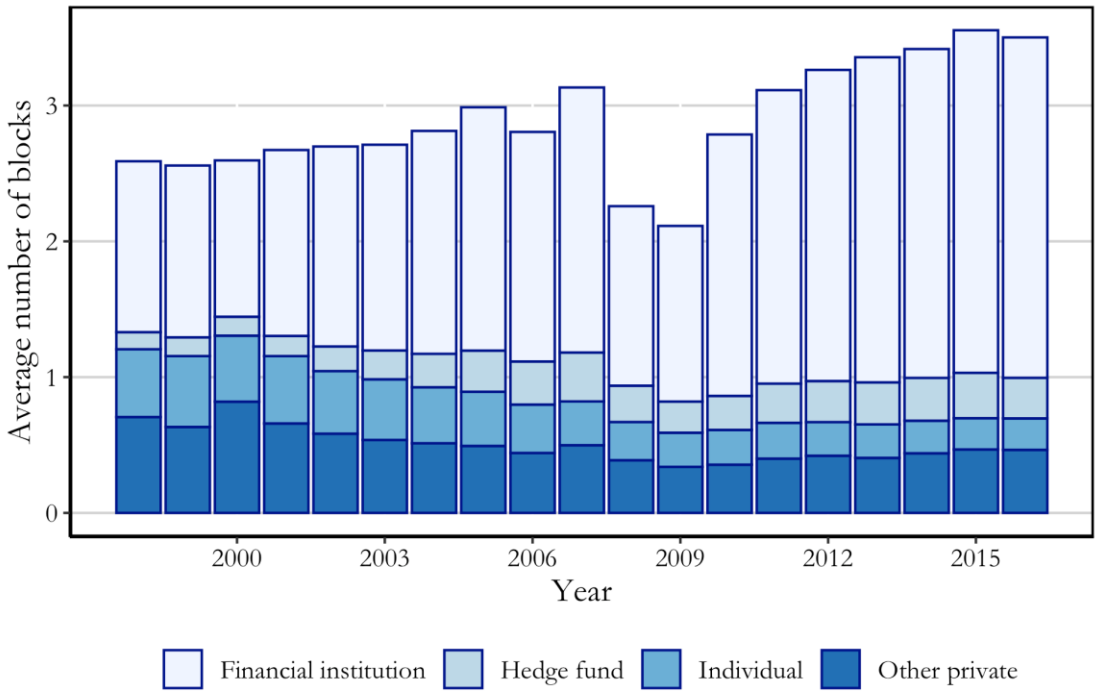


Figure 2: Time Trend of Block Ownership

This figure demonstrates the evolution of block ownership between 1998 and 2016. We classify each block into one of the following four categories: *Financial institution* (i.e., blockholders that file a 13F form, but are not a hedge fund as defined in the next category), *Hedge fund* (i.e., blockholders that Brav, Jiang, and Kim (2009) and Brav, Jiang, and Kim (2015) identify as hedge funds), *Individual* (i.e., blockholders identified as individuals by filing under items 12 and 14 in 13G and 13D forms, respectively), and *Other private entity* (i.e., blockholders that do not file a 13F form and are not classified under one of the prior three categories). Block ownership data is manually collected from 13D and 13G filings. The sample is based on the merged CRSP/Compustat database and consist of 80,542 firm-year observations. Panel A plots firms' average number of blocks, broken down by block type and year. Panel B plots firms' average total block ownership (in percentage), broken down by block type and year.

Panel A. Time Trend in the Number of Blocks



u

Panel B: Time Trend in Block Ownership

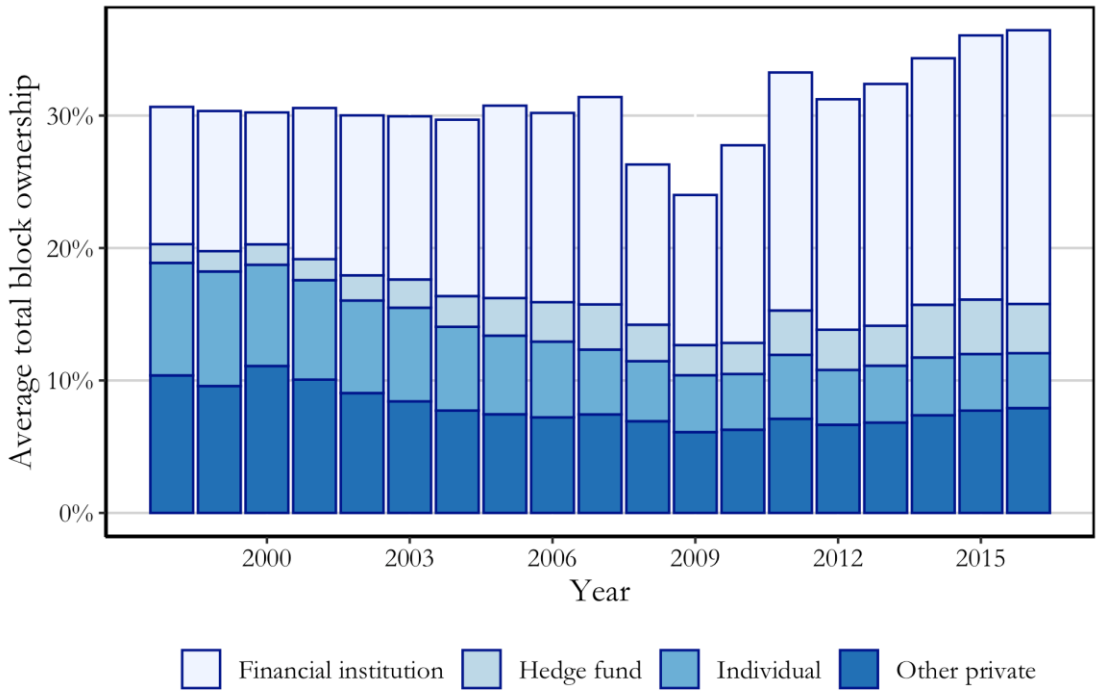
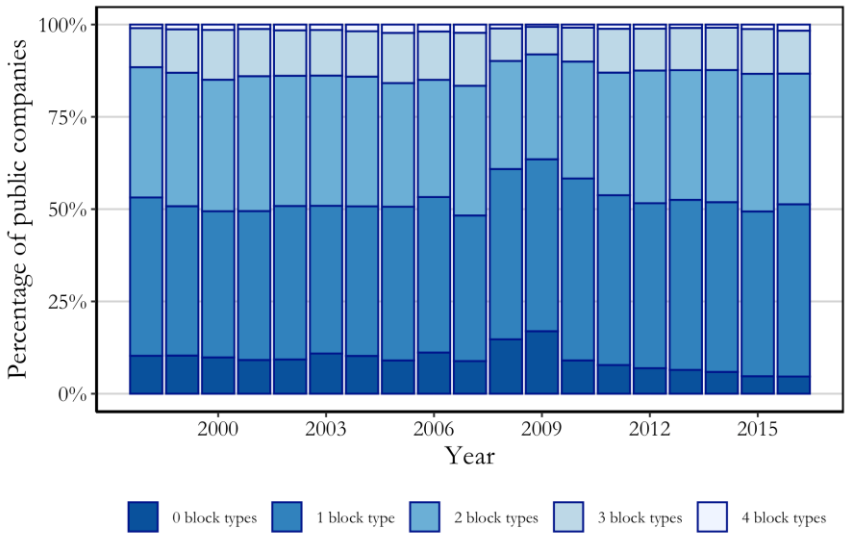


Figure 3: Time Trend of Block Ownership Composition

We classify each block into one of following four categories: *Financial institution* (i.e., blockholders that file a 13F form, but are not a hedge fund as defined in the next category), *Hedge fund* (i.e., blockholders that Brav, Jiang, and Kim (2009) and Brav, Jiang, and Kim (2015) identify as hedge funds), *Individual* (i.e., blockholders identified as individuals by filing under items 12 and 14 in 13G and 13D forms, respectively), and *Other private entity* (i.e., blockholders that do not file a 13F form and are not classified under one of the prior three categories). For each company we estimate the total number of different types of blockholders holding the firm in a given year. Panel A illustrates the time trend in block ownership composition by reporting the average number of block types broken down by year. Panel B breaks down the average number of blocks by firm age.

Panel A. Average Number of Block Types Broken Down by Year



Panel B. Average Number of Block Types Broken Down Firm Age

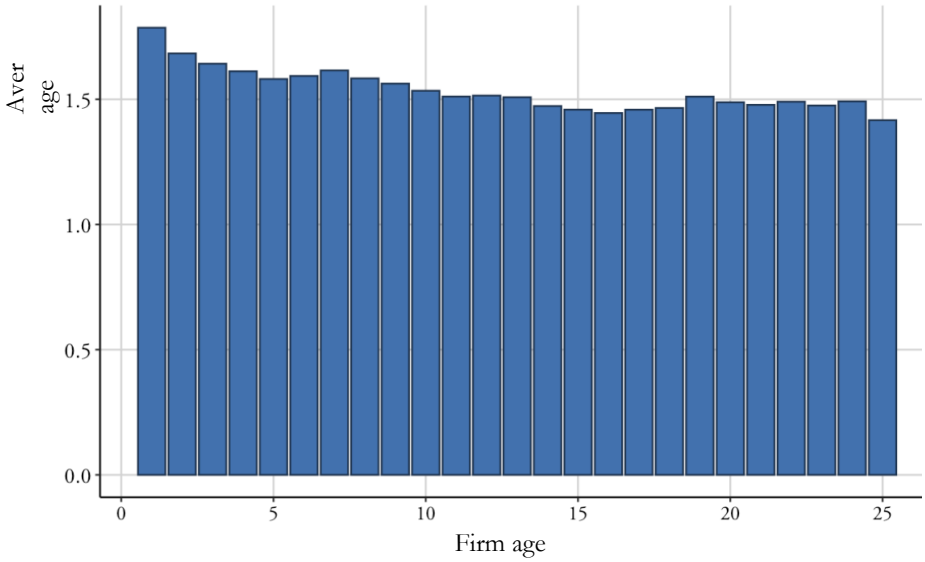
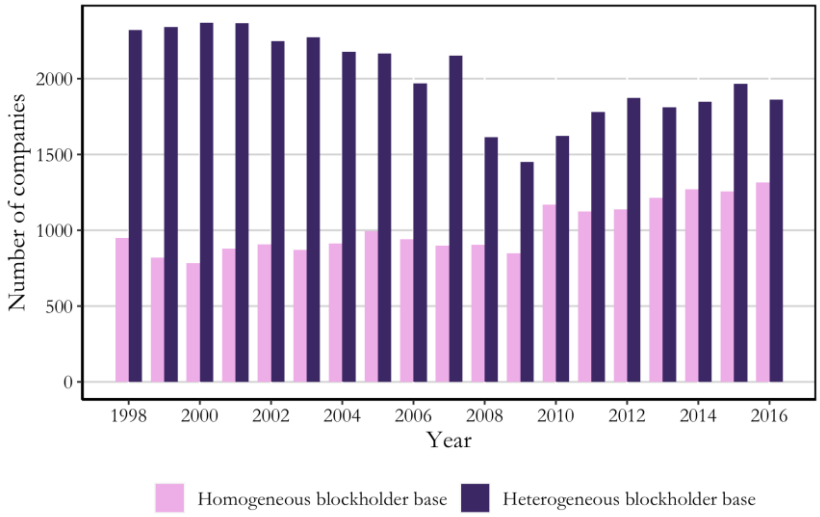


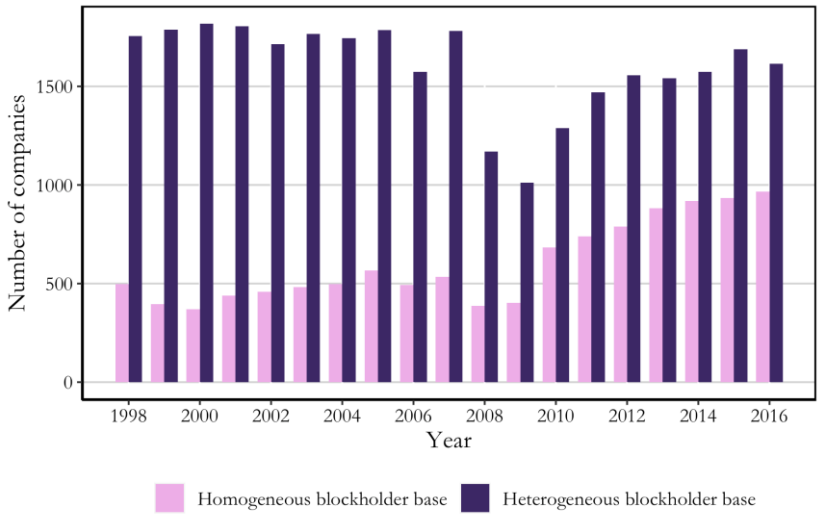
Figure 4: The Evolution of Block Diversity

Panels A–C report the number of firms that have a homogeneous versus a heterogeneous blockholder base, broken down by year. A *Homogeneous blockholder base* is defined as a firm that is held by exactly one type of block, while a *Heterogeneous blockholder base* is defined as a firm that is held by at least two types of blocks. Panel A is dedicated to firms held by at least two blocks, Panel B to firms held by at least three blocks, and Panel C to firms held by at least four blocks.

Panel A: Evolution of block diversity in firms held by at least two blocks



Panel B: Evolution of block diversity in firms held by at least three blocks



Panel C: Evolution of block diversity in firms held by at least four blocks

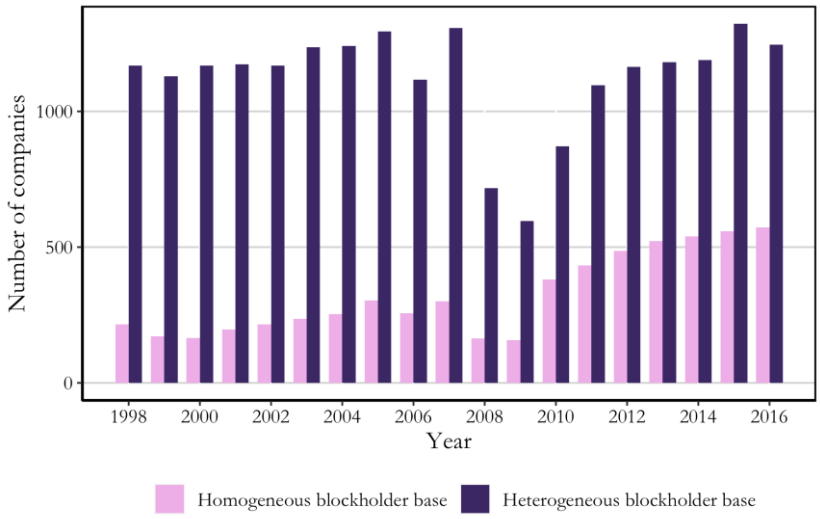
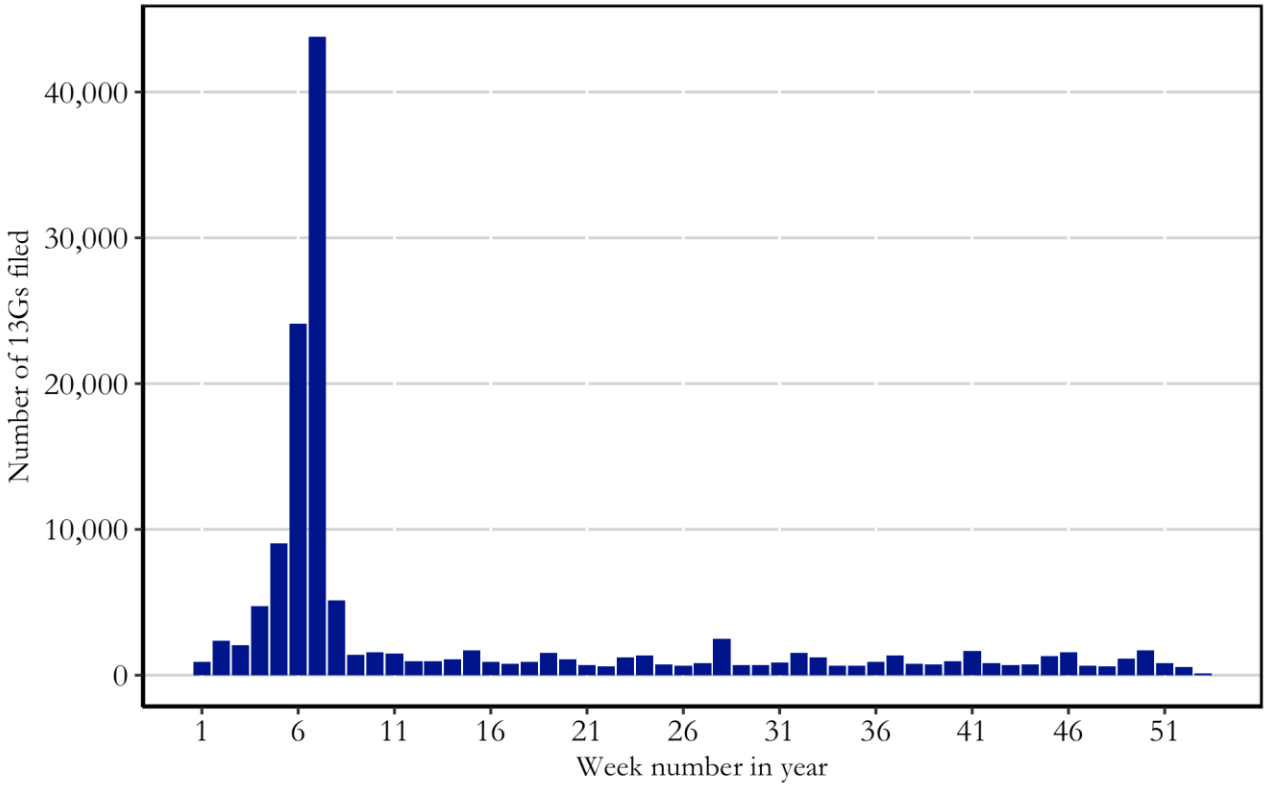


Figure 5. Number of 13G Filings Filed

The figures report the number of 13G schedules filed in the period 1998–2016. Panel A reports this figure broken down by week, while Figure B reports this figure for the month of February, broken down by day.

Panel A: Weekly Number of 13G Filings



Panel B: Daily Number of 13G Filings Filed in February

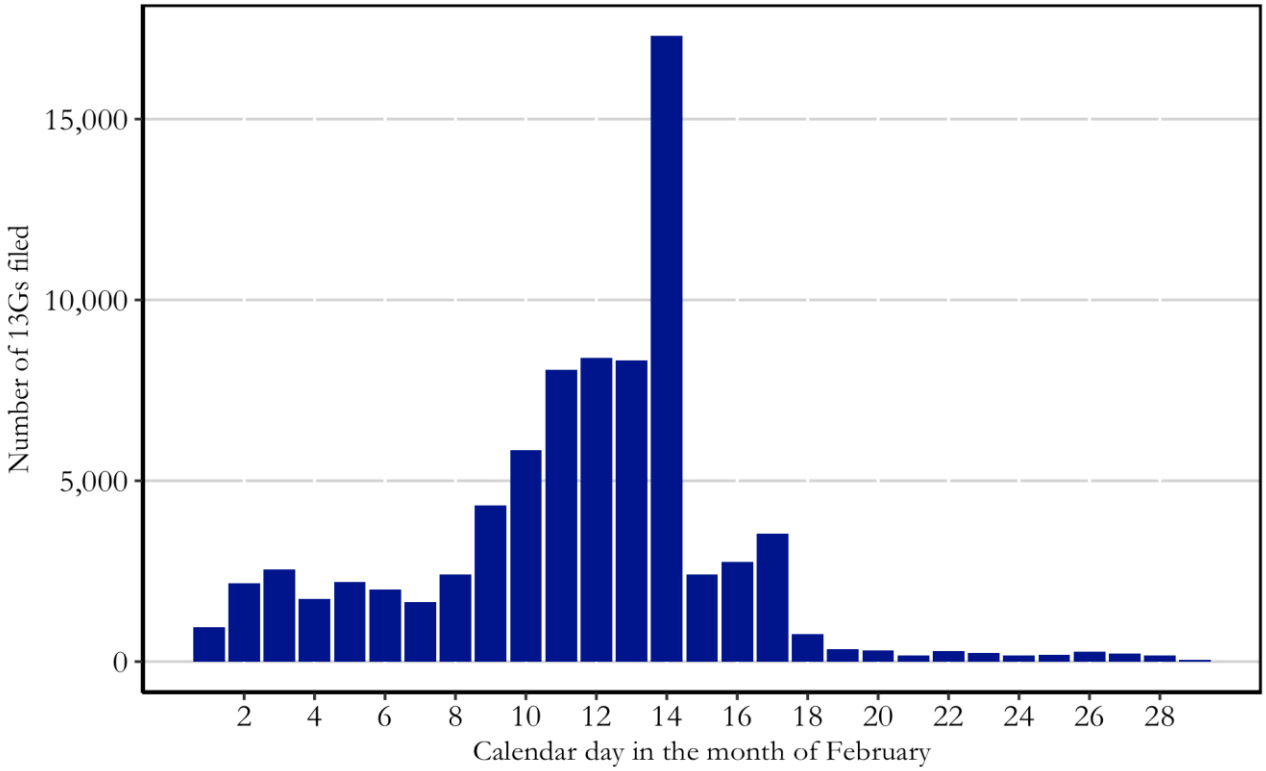
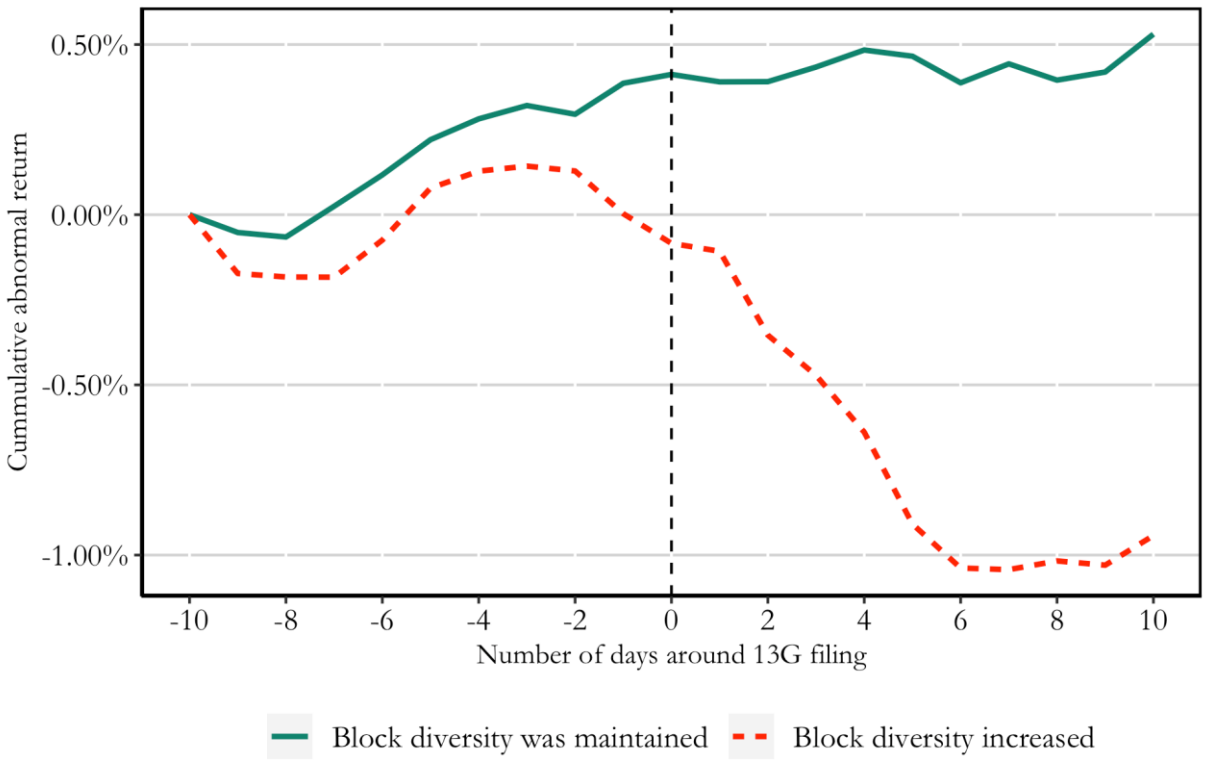


Figure 6. Cumulative Abnormal Returns around Delayed 13G Filings

This figure reports the cumulative abnormal returns (CAR) around 13G filings filed in the period February 1–17, during the 1998–2016 period, by blockholders revealing for the first time their block position. The green line reports CARs for filings revealing that block diversity was maintained, while the red dashed line reports CARs for filings revealing that block diversity increased. Precise figures for CARs are reported in the table below the figure. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

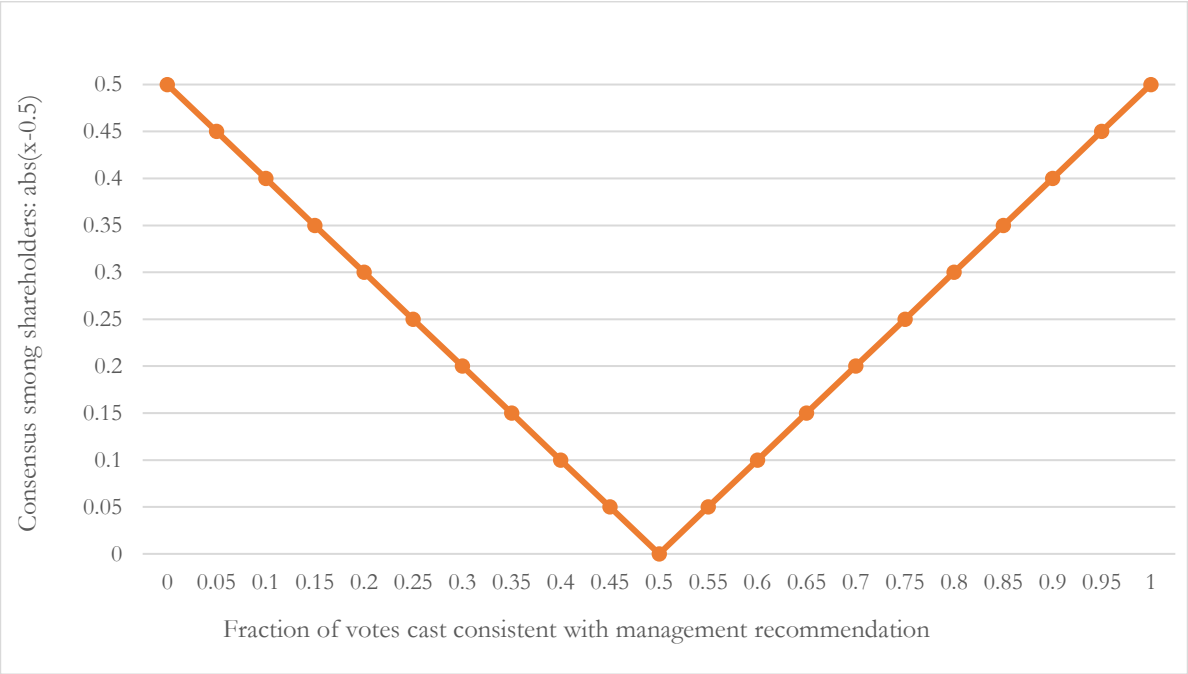


CAR window	[-10, -8]	[-10, -6]	[-10, -4]	[-10, -2]	[-10, 0]	[-10, 2]	[-10, 4]	[-10, 6]	[-10, 8]	[-10, 10]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
CARs around 13G filings										
Block diversity maintained	-0.1%	0.12%	0.28%	0.30%	0.41%	0.39%	0.48%	0.39%	0.40%	0.53%
Block diversity increased	-0.2%	-0.07%	0.13%	0.13%	-0.08%	-0.35%	-0.64%	-1.04%	-1.02%	-0.94%
Difference	0.1%	0.19%	0.15%	0.17%	0.50%	0.74%	1.12%	1.43%	1.41%	1.47%
t-statistics of difference	1.050	1.141	0.751	0.723	2.001	2.698	3.739	4.479	4.207	4.111
Statistical sig. of difference					**	***	***	***	***	***

Figure 7. Consensus among Shareholders

Panel A: Consensus measure

This figure demonstrates how the measure *Consensus among shareholders* is estimated. For any proposal for which shareholders vote upon at a shareholder meeting, the percentage of votes cast consistent with management recommendation can range between 0% to 100%. At exactly these two extreme points, complete consensus among shareholders exists, since all shareholders cast an identical vote. Consensus among shareholders is at the lowest possible point when exactly 50% of the votes cast are consistent with management recommendation, and exactly 50% of the votes cast are inconsistent with management recommendation, since at this point half of the voted shares conflict with the other half of the voted shares. Accordingly, as this figure demonstrates, to create a measure for the *Consensus among shareholders* we use the following formula: absolute value (fraction voted with management - 0.5). This variable ranges from 0.5 (perfect consensus) to 0 (minimal consensus).



Panel B: Frequency of voting with management

This figure reports the number of votes held between 2003-2016, broken down by the fraction of votes cast consistent with management recommendation.

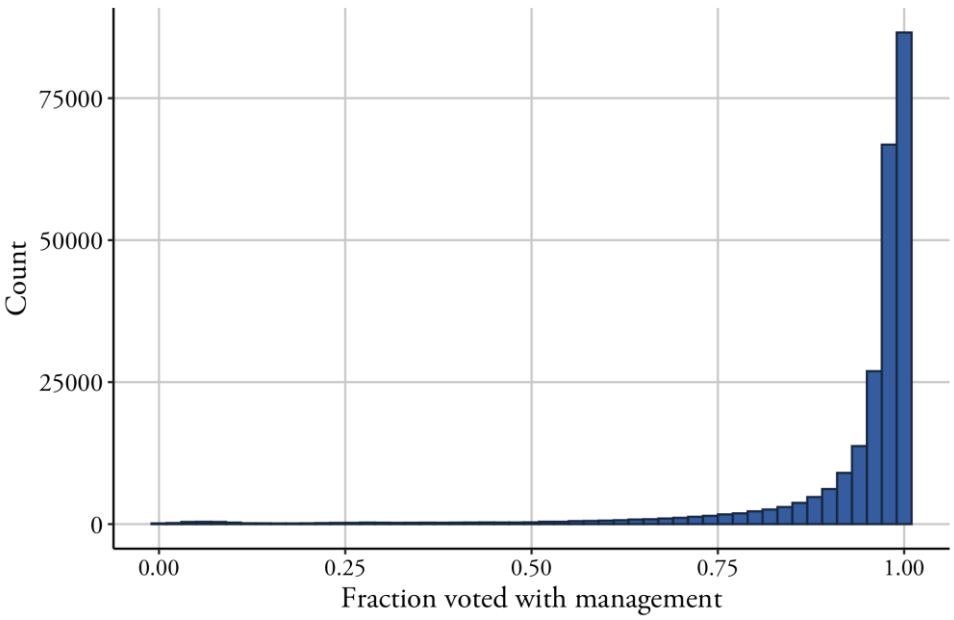


Figure 8. Content of Lawsuits

This figure reports the most common words that appear in 368 judicial opinions for lawsuits we identify as having been filed by shareholders, that involve a blockholder (as detailed in the paper). Judicial opinions were obtained from the Westlaw dataset. The figure uses the word-cloud technique, where larger fonts indicate that the word is more frequently mentioned.

Table 1. Summary Statistics

This panel reports summary statistics on public firms in the U.S., for the 1998–2016 period, that are included in the CRSP/Compustat merged database, and have non-missing values for total assets, sales, total liabilities, total equity, net income, and operating income in both the current and the next year. Panel A reports summary statistics at the block-company-year level, while Panel B reports summary statistics at the company-year level. Block ownership for December of each calendar year is estimated based on hand-collected data from 13D and 13G filings; data on total institutional holdings was obtained from Thompson Reuters. Blockholders are classified under one of the following four categories: *Financial institution* (i.e., blockholders that file a 13F form, but are not a hedge fund as defined in the next category), *Hedge fund* (i.e., blockholders that Brav, Jiang, and Kim (2009) and Brav, Jiang, and Kim (2015) identify as hedge funds), *Individual* (i.e., blockholders identified as individuals by filing under items 12 and 14 in 13G and 13D forms, respectively), and *Other private entity* (i.e., blockholders that do not file a 13F form and are not classified under one of the prior three categories). In Panel A, the *Average block size* reflects the average fraction of outstanding shares held by a blockholder; the *Average fraction of blockholders filing a 13D* reflects the percentage of blockholders filing a 13D, of the blockholders filing either a 13D or a 13G filing, the *Average fraction classified as insiders* reflects the average fraction of blockholders that are directors, officers, or blockholders holding at least 10% of the firm's outstanding shares, and the *Average number of blocks held in a year* measures the average number of blocks held in a given year by a blockholder. The Glossary of Variables provides definitions of the variables included in Panel B.

Panel A: Summary Statistics at the Block-Company-Year Level

Block type	Num. of block-company-year obs.	Average block size	Average fraction of blockholders filing a 13D	Average fraction classified as insiders	Average number of blocks held in a year
Financial	137,200	8.04%	1.44%	0.44%	21
Hedge fund	19,828	10.51%	28.51%	4.25%	8
Individual	28,829	16.21%	34.21%	31.99%	1
Other private	46,451	15.43%	30.31%	10.63%	2

Panel B: Summary Statistics at the Company-Year Level

Variable	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
Block ownership variables (at firm level)						
Average number of blocks	80,542	2.871	1.986	1	3	4
Average total block ownership, %	80,542	30.661	25.958	11.72	25.1	42.6
Average number of financial blocks	80,542	0.691	0.462	0	1	1
Average number of hedge fund blocks	80,542	0.2	0.4	0	0	0
Average number of individual blocks	80,542	0.244	0.429	0	0	0
Average number of other private blocks	80,542	0.39	0.488	0	0	1
Average number of block types	80,542	1.525	0.867	1	1	2
% of firms with at least one block	80,542	0.906	0.291	1	1	1
% of firms with at least two blocks	80,542	0.713	0.453	0	1	1
% of firms with at least three blocks	80,542	0.520	0.5	0	1	1
% of firms with at least four blocks	80,542	0.342	0.474	0	0	1
% of firms with at least one block type	80,542	0.906	0.291	1	1	1
% of firms with at least two block types	80,542	0.474	0.499	0	0	1
% of firms with at least three block types	80,542	0.131	0.337	0	0	0
% of firms with at least four block types	80,542	0.014	0.115	0	0	0
Dependent variables						
Tobin's Q	80,542	1.859	1.711	1.023	1.315	1.992
Profit margin	80,542	0.215	1.338	0.227	0.384	0.579
ROA	80,542	-0.018	0.198	-0.012	0.023	0.066
Control variables						
Previous year abnormal returns, %	80,542	0.479	46.805	-22.888	-0.301	12.118
Firm age	80,542	16.465	15.532	5	12	22
Idiosyncratic volatility	80,542	0.031	0.019	0.017	0.025	0.039
Total institutional ownership, %	80,542	49.976	32.501	19.549	51.4	79.442
Fixed assets	80,542	0.413	0.419	0.072	0.285	0.653
Capex	80,542	0.044	0.06	0.006	0.025	0.056
Leverage	80,542	0.224	0.219	0.031	0.174	0.35
Amihud illiquidity	80,542	1.036	3.668	0.001	0.015	0.245

Table 2. Cumulative Abnormal Returns around Filings Revealing Changes in Block Diversity

Panels A–C report cumulative abnormal returns (CARs) for 13G schedules (i.e., schedules that report new block ownership positions) filed between February 1–17 (i.e., around the annual February 14 deadline for filing 13G schedules) during the 1998–2016 period. All panels are dedicated to 13G schedules revealing a block position for the first time. Panel A includes all such filings. Panel B, which reports cumulative abnormal returns for the [0, 5] window, includes only observations of 13G schedules filed by a particular type of block entering at the time the 13G was filed (hedge fund, individual, or other private entity in columns 1–3, respectively) or by a particular type of block present at the time the 13G was filed (financial, hedge fund, individual, or other private entity in columns 4–7, respectively). Panel C repeats panel A, but splits the observations depending on whether the firm belongs to an industry with an above-median or below-median idiosyncratic volatility. Idiosyncratic volatility is estimated using the 48 Fama–French industries. Each of the subsamples' analyses reported in Panel C include the same controls as those of Panel A. Panel D reports a placebo test for Panel A, i.e., abnormal returns around 13G filings reporting a block position that was already revealed in a prior filing. *Block diversity increases* is an indicator variable equal to one if the entering block increases block diversity, i.e., if the type of block entering the firm did not already exist in the firm's blockholder base, and zero otherwise. All regressions control for the number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, number of blocks, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, the Amihud illiquidity measure, and 48 Fama–French industry fixed effects (for brevity these are not reported). Standard errors are clustered at the date level. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A. CARs around the Revelation of Changes in Block Diversity

	Dependent variable: Cumulative abnormal return around 13G filing (in percentage)					
Window around filing	[0, 0]	[0, 2]	[0, 5]	[0, 10]	[-10, 10]	[-5, 5]
	(1)	(2)	(3)	(4)	(5)	(6)
Block diversity increases	-0.069 [-0.536]	-0.341* [-1.671]	-0.900*** [-2.904]	-0.932** [-2.479]	-1.218** [-2.333]	-1.032** [-2.394]
Number of blocks	0.01 [0.338]	-0.033 [-0.836]	-0.076 [-1.071]	-0.022 [-0.223]	-0.195 [-1.258]	-0.198** [-1.969]
Firm controls and industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,580	11,580	11,580	11,580	11,580	11,580
Adjusted R^2	0.008	0.011	0.028	0.036	0.047	0.028

Panel B. CARs around the Revelation of Changes in Block Diversity Conditional on Block Type

	Dependent variable: Cumulative abnormal return of [0,5] window around 13G filing (in percentage)						
	Block type entering			Block type already present			
	Hedge fund	Individual	Other private	Financial	Hedge fund	Individual	Other private
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Block diversity increases	0.652 [0.574]	-1.706** [-2.518]	-0.900** [-2.258]	-0.759** [-2.321]	-0.845** [-1.977]	-0.907*** [-2.648]	-0.924*** [-2.728]
Number of blocks	0.252 [0.830]	-0.217* [-1.671]	-0.082 [-0.966]	-0.105 [-1.247]	-0.092 [-0.593]	-0.099 [-1.135]	-0.086 [-1.043]
Firm controls and industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	542	2,008	9,030	7,891	2,624	4,471	10,245
Adjusted R^2	0.106	0.043	0.032	0.031	0.035	0.039	0.03

Panel C. CARs around the Revelation of Changes in Block Diversity: Firms in High- versus Low-Volatility Industries

	Dependent variable: Cumulative abnormal return around 13G filing (in percentage)					
Window around filing	[0, 0]	[0, 2]	[0, 5]	[0, 10]	[-10, 10]	[-5, 5]
	(1)	(2)	(3)	(4)	(5)	(6)
Subsample of firms in high-volatility industries						
Block diversity increases	-0.0661 [-0.4892]	-0.4235* [-1.6968]	-1.1291*** [-3.2692]	-1.1059** [-2.4939]	-1.5119** [-2.3536]	-1.3576*** [-2.8685]
Observations	7,208	7,208	7,208	7,208	7,208	7,208
Adjusted R^2	0.003	0.006	0.025	0.036	0.043	0.024
Subsample of firms in low-volatility industries						
Block diversity increases	-0.0935 [-0.5237]	-0.2202 [-0.9572]	-0.5409 [-1.5448]	-0.6844* [-1.6922]	-0.7331 [-1.3007]	-0.5146 [-0.9648]
Observations	4,372	4,372	4,372	4,372	4,372	4,372
Adjusted R^2	0.009	0.013	0.029	0.022	0.044	0.03
"Block diversity increases" Z-score coefficient difference	0.747	-2.487	-3.438	-1.648	-1.496	-2.328
P-value of Z-score	0.228	0.006	0.000	0.050	0.067	0.010

Panel D. Placebo: CARs around 13G Filings for Block Positions Already Reported in Other Filings

	Dependent variable: Cumulative abnormal return around 13G filing (in percentage)					
Window around filing	[0, 0]	[0, 2]	[0, 5]	[0, 10]	[-10, 10]	[-5, 5]
	(3)	(4)	(5)	(6)	(1)	(2)
Block diversity increases	-0.017 [-0.445]	0.035 [0.573]	-0.054 [-0.591]	-0.146 [-1.224]	-0.122 [-0.764]	-0.122 [-1.000]
Number of blocks	-0.01 [-0.921]	-0.009 [-0.392]	0.005 [0.164]	-0.017 [-0.377]	-0.055 [-1.055]	-0.015 [-0.395]
Firm controls and industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	58,698	58,698	58,698	58,698	58,695	58,696
Adjusted R^2	0.003	0.006	0.012	0.022	0.036	0.02

Table 3. Performance Following a Decrease in Block Diversity Due to Death or Retirement of an Individual

This table estimates how financial performance changes following a decrease in block diversity due to an exogenous shock to block ownership: the death or retirement of an individual blockholder. The analysis includes a treated and a control group, which both include only firms held in year *t* by at least two types of blocks, one of which was an individual blockholder. The treated group includes firms whose blockholder structure was affected by an exogenous shock: firms held in year *t* by an individual blockholder who died in year *t*, or is estimated to have retired (i.e., he was at least 65 years old in the departure year) and, consequently, the firm's block diversity decreased (i.e., the *Number of block types* decreases). The control group includes firms in which the individual blockholder present in year *t* was still present in year *t* + 1, and block diversity did not decrease between years *t* and *t* + 1. The model estimates the difference in performance 1, 2, and 3 years after the observation year (*t* = 0), relative to the observation year. For example, columns 3, 6, and 9 examine the difference of the indicated performance measure 3 years after the observation year relative to the observation year. Financial performance is measured in columns 1–3 using *Tobin's Q*, in columns 4–6 using *Profit Margin*, and in columns 7–9 using *ROA*. The binary variable *Block diversity decreases following death or retirement* is equal to one if the firm is a treated firm, i.e., the departing individual blockholder experienced an exogenous shock (death or retirement), and following his departure the firm's block diversity decreased. Panel A reports results for the analysis that includes all observations, while Panel B reports results for a placebo analysis that assumes (incorrectly) that the exogenous shock occurred in year *t* −3 rather than in year *t*. All regressions control for past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, and the Amihud illiquidity measure (for brevity these are not reported). Variables are defined in the Glossary of Variables. Regressions include 48 Fama–French industry and year fixed effects. Standard errors are double-clustered at the company-year level. Estimated t-statistics are reported in parentheses below the coefficient estimates. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Analysis

	Tobin's Q			Profit margin			ROA		
	t+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Block diversity decreases following death or retirement	0.099**	0.205***	0.153***	0.017**	0.030***	0.022*	0.009*	0.005	0.016**
	[2.207]	[2.924]	[2.846]	[2.390]	[3.043]	[1.868]	[1.763]	[0.890]	[2.085]
Number of blocks	-0.004	-0.001	-0.004	-0.004**	-0.003**	-0.001	0.0003	0.002**	0.002**
	[-0.907]	[-0.213]	[-0.707]	[-2.393]	[-2.206]	[-0.522]	[0.380]	[2.140]	[2.537]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,451	8,680	7,022	9,451	8,680	7,022	9,451	8,680	7,022
R^2	0.158	0.192	0.193	0.049	0.047	0.051	0.065	0.075	0.072

Panel B: Placebo

	Tobin's Q			Profit margin			ROA		
	t+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Block diversity decreases following death or retirement t+3	0.045	0.120	0.056	0.017	0.012	0.013	0.020***	0.006	-0.006
	[0.472]	[0.669]	[0.368]	[1.124]	[0.952]	[0.953]	[2.908]	[0.493]	[-0.357]
Number of blocks	-0.005	-0.002	-0.004	-0.004**	-0.003**	-0.001	0.001	0.002**	0.003**
	[-0.904]	[-0.294]	[-0.709]	[-2.448]	[-2.368]	[-0.496]	[0.841]	[2.442]	[2.489]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,446	8,672	7,019	9,446	8,672	7,019	9,446	8,672	7,019
R^2	0.157	0.190	0.192	0.050	0.048	0.050	0.065	0.076	0.073

Table 4. Firm Performance Following an Increase in Block Diversity due to the Mutual Fund Scandal

This table estimates how financial performance changes following a decrease in diversity due to an exogenous shock to block ownership: the dissolution of a financial block as a result of the 2003–04 mutual fund scandal. The analysis includes a treated and a control group, which both include only firms held in year *t* by at least two types of blocks, one of which was a financial block. The treated group includes firms that were affected by the exogenous shock—i.e., firms held in year *t* by a scandal-tainted institution blockholder who, following the scandal, ceased to exist as a blockholder in the firm in year *t* + 1 and, consequently, the firm's block diversity decreased (i.e., the *Number of block types* decreases). The control group includes firms in which the financial block present in year *t* was still present in year *t* + 1, and block diversity did not decrease between years *t* and *t* + 1. The model estimates the difference in performance 1, 2, and 3 years after the scandal year (*t* = 0), relative to the scandal year. For example, columns 3, 6, and 9 examine the difference in the indicated performance measure 3 years after the observation year, relative to the observation year. Financial performance is measured in columns 1–3 using *Tobin's Q*, in columns 4–6 using *Profit Margin*, and in columns 7–9 using *ROA*. The binary variable *Block diversity decreases following scandal* is equal to one if the observation pertains to a treated firm, i.e., the departing financial blockholder was accused of illegal trading in the 2003 mutual fund scandal, and following his departure the firm's block diversity decreased. Panel A reports results for the analysis that includes all observations, while Panel B reports results for a placebo analysis that assumes (incorrectly) that the exogenous shock occurred in year *t* −3 rather than in year *t*. All regressions control for past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, and the Amihud illiquidity measure (for brevity these are not reported). Variables are defined in the Glossary of Variables. Regressions include 48 Fama–French industry and year fixed effects. Standard errors are double-clustered at the company-year level. Estimated t-statistics are reported in parentheses below the coefficient estimates. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

Panel A: All Observations

	Tobin's Q			Profit margin			ROA		
	t+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Block diversity decreases following scandal	0.305**	0.292**	0.268*	0.044***	0.036***	-0.005	0.016	-0.011	0.001
	[2.485]	[2.233]	[1.765]	[2.872]	[2.642]	[-0.190]	[0.963]	[-0.537]	[0.053]
Number of blocks	0.012	0.021	0.030	-0.006	-0.003	-0.0001	0.001	0.003	0.005
	[0.697]	[1.052]	[1.233]	[-1.276]	[-0.585]	[-0.018]	[0.382]	[0.742]	[1.347]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,703	1,630	1,406	1,703	1,630	1,406	1,703	1,630	1,406
R^2	0.113	0.164	0.196	0.071	0.062	0.060	0.064	0.108	0.115

Panel B: Placebo

	Tobin's Q			Profit margin			ROA		
	t+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3	*t*+1	*t*+2	*t*+3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Block diversity decreases following scandal *t*-3	-0.027	-0.281	-0.277	0.005	0.008	0.009	-0.02	-0.027	-0.014
	[-0.179]	[-1.509]	[-1.227]	[0.195]	[0.384]	[0.412]	[-0.787]	[-0.900]	[-0.566]
Number of blocks	-0.004	-0.002	-0.03	-0.002	0.002	0.001	0.004	0.002	0.001
	[-0.234]	[-0.116]	[-1.231]	[-0.441]	[0.695]	[0.341]	[1.410]	[0.768]	[0.226]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year and industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,604	1,448	1,202	1,604	1,448	1,202	1,604	1,448	1,202
R^2	0.206	0.262	0.217	0.073	0.081	0.079	0.109	0.138	0.116

Table 5. Block Diversity and Shareholders Votes

This panel examines the votes cast during the 2003–2016 period. The dependent variable *Consensus among shareholders* ranges from 0.5 (indicating complete consensus among shareholders) to 0 (indicating complete disagreement among shareholders), as further detailed in Figure 7. *Fraction of votes cast in support of management* is the fraction of shareholders' votes cast that are consistent with management recommendation. *Annual number of shareholder proposals submitted* measures the number of proposals submitted by shareholders voted upon at the shareholder meeting. *Fund voted with management* is an indicator variable equal to one if the fund voted in line with the management recommendation and zero if it did not. In specifications 1–3 the primary independent variable of interest is the *Number of block types*, which is equal to the number of different types of blockholders holding a block in the firm. The primary independent variable of interest in column 4 is *Non-financial block*, which is an indicator variable equal to one if the firm's blockholder base includes a non-financial block. All specifications include firm controls: number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, the Amihud illiquidity measure, and industry and year fixed effects (for brevity these are not reported). Columns 1, 2, and 4 also include proposal controls: an indicator variable indicating whether the management recommendation is in line with the ISS recommendation and dummies controlling for the type of proposal discussed using the ISS's ItemOnAgendaID identifiers. Variables are defined in the Glossary of Variables. Standard errors are double-clustered at the company-year level. Estimated t-statistics are reported in parentheses below the coefficient estimates. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Consensus among shareholders	Fraction of votes cast in support of management	Annual num. of shareholder proposals submitted	Fund voted with management
	(1)	(2)	(3)	(4)
Number of block types	-0.0021**	-0.002**	0.033**	
	[-2.5143]	[-2.125]	[2.117]	
Number of blocks	-0.0032***	-0.003***	-0.002	0.0062***
	[-6.4703]	[-6.149]	[-0.272]	[32.842]
ISS recommend vote with management	0.1343***	0.128***		0.4295***
	[9.7077]	[8.465]		[63.307]
Non-financial block				-0.0043***
				[-14.143]
Number of block types				-0.0005*
				[-1.803]
Proposal controls	Yes	Yes	No	Yes
Firm controls	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes
Fund FE	No	No	No	Yes
Unconditional mean	0.4471	0.9359	0.231	0.9025
Observation level	Proposal	Proposal	Firm-year	Fund-proposal
N	245,174	244,865	31,983	31,286,719
R^2	0.5082	0.724	0.15	0.2767

Table 6. Block Diversity and Shareholder's Lawsuits

This table estimates the likelihood that a lawsuit is filed by a shareholder, that involve a blockholder. The latter is estimated by identifying judicial opinions written by judges for lawsuits we identify as having been filed by shareholders (as described in the paper). These opinions are obtained from the Westlaw dataset. The dependent variable is *Lawsuit filed*, which is an indicator variable that is equal to one if a judicial opinion (i.e., a verdict) was written by the judge for a lawsuit filed by a shareholder, that involves a blockholder, and zero otherwise. The primary independent variable of interest is *Number of block types*, which is equal to the number of different types of blockholders holding a block in the firm. In columns 1–3 we estimate whether the judicial opinion for a lawsuit filed by a shareholder against a company was written by the judge 1–3 year(s) after the observed block diversity (as measured by the variable *Number of block types)*, respectively. All regressions control for number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, and the Amihud illiquidity measure (for brevity these are not reported). All variables are defined in the Glossary of Variables. Regressions include 48 Fama–French industry and year fixed effects. Standard errors are double-clustered at the company-year level. Estimated t-statistics are reported in parentheses below the coefficient estimates. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Lawsuit filed		
	t+1	*t*+2	*t*+3
	(1)	(2)	(3)
Number of block types	0.0012*** [3.6829]	0.0016*** [4.3172]	0.0015*** [3.7971]
Number of blocks	-0.0005** [-2.4966]	-0.0007** [-2.8314]	-0.0008** [-2.4870]
Firm controls	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes
Observations	80,542	66,077	54,594
R^2	0.0056	0.0068	0.0079

Table 7. Block Diversity and Portfolio Returns

This table reports the performance of portfolios constructed based on a firm's blockholder base. Columns 1–3 (4–6) report abnormal returns (alphas) of value-weighted (equal-weighted) portfolios. In columns 1 and 4 the portfolio takes a long position on firms that have a homogeneous blockholder base, i.e., the firms are held by exactly only one type of block, while in columns 2 and 5 the portfolio takes a short position on firms that have a heterogeneous blockholder base, i.e., the firms are held by at least two types of blocks. Columns 3 and 6 report abnormal returns of a portfolio that combines the portfolios reported in columns 1–2 and 4–5, respectively. In the value-weighted portfolios, weights are constructed based on the market capitalization at the beginning of the calendar year. Monthly abnormal returns are estimated using the Fama–French four-factor model. *Market premium* is the market premium, *SMB* is small market capitalization minus big, *HML* is high book-to-market ratio minus low, and *MOM* is the monthly momentum. Standard errors are robust. Estimated t-statistics based on robust standard errors are reported in parentheses below the coefficient estimates. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent Variable: Portfolio Returns					
	Value-Weighted Portfolio			Equal-Weighted Portfolio		
	Long Portfolio: Homogeneous blockholder base	Short Portfolio: Heterogeneous blockholder base	Long – Short Portfolio	Long Portfolio: Homogeneous blockholder base	Short Portfolio: Heterogeneous blockholder base	Long – Short Portfolio
	(1)	(2)	(3)	(4)	(5)	(6)
Alpha (constant)	0.0002	-0.0027***	0.0029*	0.0035***	-0.0065***	0.0084***
	[0.2607]	[-3.3850]	[1.9095]	[4.0747]	[-5.4269]	[4.3442]
Market premium	1.0392***	-1.1094***	2.1486***	0.9989***	-0.9852***	1.9859***
	[34.9632]	[-40.7252]	[42.1026]	[33.3832]	[-25.5956]	[30.5177]
SMB	0.1089**	-0.2470***	0.3559***	0.6727***	-0.7698***	1.4439***
	[2.5219]	[-7.1806]	[5.5299]	[12.2437]	[-14.2032]	[13.8624]
HML	0.1244***	0.0012	0.1232	0.2123***	-0.2262***	0.4341***
	[2.8626]	[0.0291]	[1.6100]	[5.5263]	[-3.6493]	[4.4886]
UMD	-0.0874**	0.1092***	-0.1966***	-0.2033***	0.2485***	-0.4550***
	[-2.4113]	[4.7206]	[-3.6483]	[-6.2726]	[5.7650]	[-6.2975]
Observations	240	240	240	240	240	240
R^2	0.9281	0.9577	0.959	0.959	0.9331	0.953

Table 8. Block Diversity and Future Firm Performance

This table examines the relation between block diversity and future firm performance. The primary independent variable of interest is *Number of block types*, which is equal to the number of different types of blockholders holding a block in the firm. The model estimates the difference in performance 1, 2, and 3 years after the observation year (t = 0), relative to the observation year. For example, columns 3, 6, and 9 examine the difference in the indicated performance measure 3 years after the observation year, relative to the observation year. Financial performance is measured in columns 1–3 using *Tobin's Q*, in columns 4–6 using *Profit Margin*, and in columns 7–9 using *ROA*. All regressions control for number of blocks, past year abnormal return, market capitalization, firm age, idiosyncratic volatility, total percentage of block ownership, total percentage of institutional ownership, fixed assets, capital expenditures, leverage, and the Amihud illiquidity measure (for brevity these are not reported). Variables are defined in the Glossary of Variables. Regressions include 48 Fama–French industry and year fixed effects. Standard errors are double-clustered at the company-year level. Estimated t-statistics are reported in parentheses below the coefficient estimates. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Tobin's Q			Profit margin			ROA		
	t+1	t+2	t+3	t+1	t+2	t+3	t+1	t+2	t+3
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Number of block types	-0.084***	-0.441	-0.528	-0.019**	-0.017*	-0.017*	-0.007***	-0.007***	-0.005***
	[-3.730]	[-1.473]	[-1.434]	[-2.116]	[-1.678]	[-1.785]	[-4.521]	[-3.393]	[-2.838]
Number of Blocks	0.033***	0.104	0.136	-0.026*	-0.022	-0.019	-0.004***	-0.003**	-0.001
	[2.740]	[1.382]	[1.333]	[-1.679]	[-1.363]	[-1.431]	[-3.112]	[-2.070]	[-1.087]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,542	66,077	54,594	80,542	66,077	54,594	80,542	66,077	54,594
R^2	0.170	0.008	0.009	0.147	0.155	0.165	0.299	0.249	0.221

Appendix A: Data Construction

Our objective is to construct a dataset that records at the block-company-year level all block positions as of Dec. 31 for each of the years between 1998 and 2016. The data includes a record for each such unique block (i.e., a block holding at least 5% of the firm's outstanding shares), and includes information about block size and blockholder identity. We assemble this database using Schedule 13D and 13G filings and their amendments obtained from the Electronic Data Gathering, Analysis, and Retrieval system of the U.S. Securities and Exchange Commission (EDGAR). EDGAR provides access to all SEC electronic filings starting from 1994.

The data construction process consists of three steps: (i) downloading all filings, (ii) extracting the relevant information from the filing, and (iii) creating a panel dataset at the block-company-year level. A brief description of each step is provided below, and additional explanations and R codes are available upon request. Below we describe each of the three steps required for assembling the dataset. We have compared a sample of our data to the block data available on Factset (who have block ownership data for fewer years and fewer companies) and also to the Dlugosz, Fahlenbrach, Gompers, and Metrick (2006) data, which pertains to the 1996–2001 period. We have verified that starting from 1998, the method we describe below produces a dataset that is very similar to the two above-mentioned datasets. Accordingly, the bock dataset we use in the paper starts from 1998.

Step 1: Downloading the filings

EDGAR publishes at the end of every quarter a master file that includes links to all schedules filed during the most recent quarter. We downloaded all master files starting from the first quarter of 1994 to the last quarter of 2018. Because 13G and 13G/A schedules are permitted to be filed at a significant delay of up to 13.5 months after the date the block is purchased (as discussed in Section 3.1 of the paper), our final sample period ends two years prior to the last year for which we obtained filings, i.e., our sample ends in 2016.

After downloading the SEC master files for all quarters within the sample period, we downloaded the "complete submission file" for 13D, 13D/A, 13G, and 13G/A using the path name provided in the master file. The complete submission file is a plain text file that includes several parts: (i) a header generated by the SEC; see the example included in Panel A of Figure A1, (ii) the main text of the filing (in text or html code); see the example included in Panels B and C of Figure A1, and, in some cases, (iii) text, codes, and/ or other supporting documents and/or images.

In total we downloaded more than one million complete submission files. This number is several times larger than the number of unique blocks (i.e., at the block-company level) reported in the paper for the following three reasons: (i) most of the filings appear in EDGAR at least twice, once under the blockholder directory and once under the company directory, (ii) some blockholders update their filings several times a year; in such cases we keep the filing with the last filing date within a given calendar year, and (iii) some companies are not included in CRSP/Compustat, or do not have data for all the control variables included in our models, and therefore cannot be included in our study.

Step 2: Extracting the filings

We extract three main items from the main text of the 13D, 13D/A, 13G, and 13G/A filings: (i) CUSIP of the company, (ii) the fraction of the firm's outstanding shares held, (iii) data relevant for classifying the shareholder identity, i.e., items 12 and 14 from schedules 13G and 13D, respectively. The exact format of the main filing varies depends on the time and the type of blockholder, and therefore we adjust our code to fit different filing formats.

The company CUSIP is always mentioned on the title page of the filing. We design a script that extracts the CUSIP characters marked with the letter "A" in Panel A of Figure A1.

After the title page, each 13D, 13D/A, 13G, and 13G/A filing has at least one questionnaire that includes details about the fraction of the firm held and the identity of the blockholder (when multiple individuals/parties are listed as those filing the schedule this information is provided for each individual/party). If a given form has several questionnaires, we collect all answers. The exact number of questions varies depending on the type of filing, year, and block type. Typically, blockholders disclose the size of their holding in items 11 or 13, and their type of identity in item 12 or 14 (the information is disclosed in different items in different years). If the answer to one of these latter two items is "IN," it indicates that the blockholder is an *Individual*.

To be categorized as a *Hedge fund*, a blockholder must satisfy the criteria set in Brav, Jiang, and Kim (2009) and Brav, Jiang, and Kim (2015). The data Alon Brav has has kindly provided us with was updated up to 2016 by Brav, Jiang, and Kim. To be categorized as a *Financial* block the filer must file at least one 13F filing in the observation year. We examine whether this is the case for each blockholder-year combination by searching in the EDGAR database for 13F filings that match the blockholder (using his CIK). To be categorized as an individual, all listed individuals/parties must be identified as individuals. In the rare event that the individuals/parties listed include both a *Hedge fund* block and and *Other private entity*, we categorize the block as a hedge fund.

Step 3: Creating the blockholder-company-year panel dataset

We first create a table that records all non-duplicate filings. If multiple filings are filed within a year at the block-company level, only the last filing within a year is kept. When blockholders cease to hold 5% of the firm's outstanding shares they typically disclose their new position in a 13G/A or a 13D/A filing (in which the magnitude of the investment is amended), thereby indicating that they are not blockholders anymore. However, not all blockholders follow this practice, and thus, if a blockholder does not file for three consecutive years a 13G/A or a 13D/A filing, we assume that the last year the blockholder did file a 13G, 13D, 13G/A or a 13D/A filing was the last year he was indeed a blockholder.

We then create a dataset at the blockholder-company-year level, by estimating at which time each block was purchased. Blockholders are frequently permitted to disclose their new/altered block positions with a significant delay (as discussed above and in the paper) and, accordingly, we define the following algorithm to determine the purchase date:

Table A1. Algorithm for Identifying Shareholder-Initiated Lawsuits

Conditions	Disclosure rules	Application for data construction
A blockholder that files Schedule 13G or a 13G/A, and holds less than 10% of the firm's outstanding shares.	New block position or change in old block position must be disclosed within 45 calendar days of the next calendar year.	If the filing is filed within the first 45 calendar days of a given year, we assume that the block was purchased in the previous calendar year, i.e., the block position existed as of Dec. 31 of the previous calendar year. In all other cases we assume that the block was purchased during the filing year, and thus the block existed as of Dec. 31 of the filing year.
A blockholder that files Schedule 13G/ 13GA and holds at least 10% of the firm's outstanding shares.	New block position or change in old block position must be disclosed within the first 10 calendar days of the next month.	If the schedule is filed between Jan. 1–10, we assume that the purchase year is the year prior to the filing year. In all other cases we assume the year the block was purchased was the filing year.
A blockholder that files Schedule 13D/ 13DA	New block position or change in old block position must be disclosed within the first 10 calendar days from the purchase date.	If the schedule is filed between Jan. 1–10, we assume that the purchase year is the year prior to the filing year. In all other cases we assume the year the block was purchased was the filing year.

In addition, if the fraction of firm held by the blockholder did not change from one year to the next (or in some cases if the change was not considerable), some blockholders may have opted to file a schedule stating that the position remained unchanged. Thus, when a gap exists between two schedules filed by the same blockholder in the same company but in different years, we assume that a blockholder continuously held the block if the gap between the two filings does not exceed three years.

Figure A1: Example of a Schedule 13G Filing

Panel A: SEC Header

Link to a complete submission file:
https://www.sec.gov/Archives/edgar/data/1042173/000143028310000003/0001430283-10-000003.txt

```
<SEC-HEADER>0001430283-10-000003.hdr.sgml : 20100727
<ACCEPTANCE-DATETIME>20100727142855
ACCESSION NUMBER:               0001430283-10-000003
CONFORMED SUBMISSION TYPE:      SC 13G
PUBLIC DOCUMENT COUNT:          1
FILED AS OF DATE:               20100727
DATE AS OF CHANGE:              20100727
GROUP MEMBERS:          NOEL MOORE

FILED BY:

        COMPANY DATA:
                COMPANY CONFORMED NAME:                 Moore Noel G
                CENTRAL INDEX KEY:                      0001430283

        FILING VALUES:
                FORM TYPE:              SC 13G

        MAIL ADDRESS:
                STREET 1:               222 W ADAMS ST, STE 2200
                CITY:                   CHICAGO
                STATE:                  IL
                ZIP:                    60606

SUBJECT COMPANY:

        COMPANY DATA:
                COMPANY CONFORMED NAME:                 SCIENTIFIC LEARNING CORP
                CENTRAL INDEX KEY:                      0001042173
                STANDARD INDUSTRIAL CLASSIFICATION:     SERVICES-EDUCATIONAL SERVICES [8200]
                IRS NUMBER:                             943234458
                STATE OF INCORPORATION:                 DE
                FISCAL YEAR END:                        1231

        FILING VALUES:
                FORM TYPE:              SC 13G
                SEC ACT:                1934 Act
                SEC FILE NUMBER:        005-58137
                FILM NUMBER:            10971358

        BUSINESS ADDRESS:
                STREET 1:               300 FRANK H. OGAWA PLAZA
                STREET 2:               STE 600
                CITY:                   OAKLAND
                STATE:                  CA
                ZIP:                    94612-2040
                BUSINESS PHONE:         5104443500

        MAIL ADDRESS:
                STREET 1:               300 FRANK H. OGAWA PLAZA
                STREET 2:               SUITE 600
                CITY:                   OAKLAND
                STATE:                  CA
                ZIP:                    94612-2040
</SEC-HEADER>
```

Panel B: Title Page

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No. __)*

Scientific Learning Corporation
(Name of Issuer)

Common Stock
(Title of Class of Securit A

808760102 *Company CUSIP*
(CUSIP Number)

December 31, 2009
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

☑ Rule 13d-1(b)

☐ Rule 13d-1(c)

☐ Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

Panel C: Questionnaire Page

CUSIP No. 808760102

1	NAMES OF REPORTING PERSONS Noel G. Moore		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) ☐ (b) ☐		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION The United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:		5	SOLE VOTING POWER 1,573,492
		6	SHARED VOTING POWER N/A
		7	SOLE DISPOSITIVE POWER 1,573,492
		8	SHARED DISPOSITIVE POWER N/A
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,573,492		
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) N/A ☐		
B 11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 8.5516% *Block size*		
C 12	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN *Blockholder type*		

Page 2 of 6 Pages

THE UNIVERSITY OF MELBOURNE

fbe.unimelb.edu.au/finance