Once Bitten, Twice Shy: Learning From Corporate Fraud and Corporate Governance Spillovers

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Abstract

This paper finds that investors learn from their experience with corporate fraud and financial misconduct and modify their investment behavior to avoid suspicious firms and increase corporate governance efforts. More specifically, mutual funds that experienced corporate fraud at one of their portfolio firms subsequently chose firms with lower probabilities of fraud and financial misconduct, compared to otherwise similar funds that did not experience any corporate malfeasance incidents. Furthermore, mutual funds that experienced corporate fraud intensify their corporate governance activities and vote significantly more against management at *other* firms in their portfolios, compared to the voting behavior at the *same* firms by otherwise similar funds but that did not experience any fraud, especially on issues related to director election, audit, and financial statement. I find that fraud-experienced investors are significantly less likely to vote for problematic directors. Finally, I find that firms held by more fraud-experienced investors observe a significant drop in the propensity to get an accounting fraud sanction in subsequent years. Taken together, my results show that learning and experience play a critical role in corporate governance spillovers, fraud detection, and deterrence.

JEL classification: G23; G34; G41; K42
Keywords: institutional investors; investor experience; shareholder voting; corporate governance; corporate fraud; board of directors

1 Introduction

Investors learn from experience. Research in psychology finds that bad experience encourage faster learning than good experience because bad events in life are processed more thoroughly than good events and have a larger and lasting impact on one's decision making process (Baumeister et al., 2001). Research in economics, finance, and accounting has examined many interesting questions on how market participants' experiences shape their decisions. For example, prior research has looked at how the life experiences of CEOs affect their investment preferences, the effect of investor experience on their willingness to participate in the stock market, and how investor experience impacts IPO auctions (Malmendier and Nagel, 2011; Giannetti and Wang, 2016; Kaustia and Knüpfer, 2008).

Financial loss linked to corporate fraud is a particular bad experience that involves a loss of trust and possibly a sense of betrayal, potentially leading to various demonstrable behavioral changes. In this study, I focus on institutional investor fraud experience, and I examine whether institutional investors learn from corporate fraud events at firms in their portfolios and take more proactive corporate governance actions to monitor firm behavior. I then look at whether these changes have any impact on firms' likelihood of engaging in corporate fraud.

Experiencing corporate fraud and incurring financial losses can elicit different reactions from investors. On the one hand, if investors become more cautious after such an experience and spend additional efforts to identify non-fraudulent firms, their investment portfolio will be less prone to corporate fraud. On the other hand, if investors lose trust in corporations after a fraud experience, they can leave the stock market altogether. This "flight" from the stock market can be especially true for individual investors. However, financial losses from corporate fraud can also drive investors, especially institutional investors, to take more proactive steps to protect themselves. Whether this is true in turn depends on whether such fraud experience changes these investors' priors sufficiently to lead to a change in

behavior. Prior research has also provided some evidence that shows that mutual fund investors who personally experienced adverse investment outcomes are less likely to load up on risky securities (Chernenko et al., 2016). Similarly, in my setting, fraud-experienced investors may be less likely to invest in suspicious firms. However, if institutional investors had already incorporated the cost of fraud in their decisions, an encounter with fraud would not lead to any changes in behavior. These hypotheses are what I first examine in the paper. More specifically, I first examine at the portfolio firms of institutional investors before and after they experience a corporate fraud event and use a difference-in-differences approach to compare changes in the likelihood of fraud of these firms to changes in the holdings of a control group of institutional investors. One potential endogenous concern is that treated institutional investors who invested in fraud firms have differential investment tendencies and hence, exhibit different investments decisions in the years following their fraud experience. To address this concern, I also study the investment behavior of indirectly treated funds, i.e., funds in the same family as the institutional investor that experienced a corporate fraud incident. First, I use this analysis to test for a spillover effect of learning from direct fraud experience to indirect fraud experience. Many funds within fund families with a decentralized decision making approach make investment decisions that are likely uncorrelated with other funds in the family. Studying indirectly treated funds' behavioral changes help estimate the indirect treatment effect of fraud experience, alleviating concerns relating to confounding factors that may explain both directly treated funds' investments in fraud firms and their post fraud experience investment behavior.

I then study changes in these fraud-experienced institutional investors' voting behavior and examine how often they vote in agreement with management. My identification strategy is as follows. For the same held firm, I use a difference-in-differences estimation approach to compare the changes in the voting behavior of institutional investors with a recent fraud experience and that of investors who do not have such an experience. Finally, I examine whether these corporate governance efforts work and find that firms whose investors on

average experienced more corporate malfeasance subsequently have lower probabilities of becoming a target of a Securities and Exchange Commission's accounting fraud sanction.

In the paper's first analysis, I find that the decrease in the average Beneish model's M-scores of the holdings of institutional investors who have experienced fraud are significantly greater than for similar investors but who did not experience any corporate fraud incidents.[1] This is consistent with investors learning from their encounter with fraud and, consequently, being able to pick stocks that have a lower predicted likelihood of corporate fraud based on the Beneish model. I find that this differential decrease in the Beneish model's M-score between experienced and inexperienced investors occurred only in the years after the "treated" group of institutional investors experienced a fraud incident, and I find no differential effects in prior years. In the second set of analyses of the paper, I examine whether there are any corporate governance spillovers induced by institutional investors' learning from corporate fraud experiences. More specifically, I use a difference-in-differences estimation approach to compare changes in the percentage of votes that are in agreement with management *at the same firm* but for "treated" institutional investors, i.e., institutional investors that recently experienced a corporate fraud incident at one of their portfolio firms, and a matched group of "control" institutional investors who did not experience corporate fraud in the same period. I find that compared to the control group, institutional investors who recently experienced corporate fraud vote significantly more against management preference. This is especially prominent among votes on director election, audit, and financial statement issues. I find that these differential changes happen only after the "treated" institutional investors have just experienced a corporate fraud incident. In the years prior to such experiences, there are no significant differences in the voting behavior between institutional investors in the treated group and control group, and their voting patterns are consistent with the parallel trend assumption. Moreover, I find that fraud-experienced investors are significantly less

[1]Beneish (1999) and Beneish et al. (2013) use financial ratios and variable to predict whether a firm manipulated their earnings. Using this model, a group of students at Cornell University' business school in 1998 predicted that Enron Corporation manipulated its earnings.

likely to vote for problematic directors relative to investors without such experience.[2] I also find this differential effect occurs only in several years after the fraud experience. In the final analysis of the paper, I find that firms that have a relatively higher proportion of investors with corporate fraud experiences have a lower likelihood of being targeted in an accounting sanction subsequently.

Investor experiences, as well the experience of other market participants such as financial analysts, have been studied by many researchers. Elliott et al. (2008) find that experienced investors are better at using unfiltered financial statement information to increase their returns. Kaustia and Knüpfer (2008) find a positive association between past IPO returns and future subscriptions at the investor level in Finland. Chernenko et al. (2016) find that during the mortgage boom in 2003–2007, inexperienced fund managers loaded up twice as much as seasoned managers on non-prime mortgages. Greenwood and Nagel (2009) find that younger managers were more likely to be caught up in the technology bubble in the early 2000s. Joos et al. (2016) find that analysts' predictive ability systematically improved after the financial crisis, which is consistent with analysts becoming more aware of firms' systematic risk exposures. Recent studies have also looked at the impact of fraud on individual investors and financial analysts. Gurun et al. (2017) find that residents of communities of victims of Madoff's Ponzi scheme withdrew assets from investment advisers and increased deposits at banks. Giannetti and Wang (2016) show that stock market participation in a state declines after a corporate fraud revelation in that state. In this paper, I contribute to this stream of literature by studying the behavioral changes of institutional investors after they have experienced a fraud incident at one of their portfolio firms. Institutional investors differ from individual investors not only in their sophistication but also in their ability to influence firms' corporate governance through shareholder voting decisions. I examine this second aspect in the second half of this paper.

[2]Problematic directors are defined as directors who hold at least three outside directorships or have a social tie with the CEO.

This paper also adds to the stream of literature that studies the corporate governance role of institutional investors. Aggarwal et al. (2015) find that institutional investors restrict lendable supply and recall loaned shares prior to the proxy record date in order to exercise their voting rights. McCahery et al. (2016) surveyed institutional investors and find that large institutional investors with a long-term focus engage in behind-the-scenes interventions, e.g., 63% of respondents said that in the previous five years they engaged in direct discussions with management, and 45% said that they had private discussions with a company's board outside of management's presence. Parrino et al. (2002) find that institutional ownership declines in the year prior to a forced CEO turnover and that there is a decline in the holdings of institutional investors who are more informed and who prefer prudent securities. Morgan et al. (2011) find that mutual funds tend to vote affirmatively for proposals that are wealth-increasing, and voting approval rates significantly affect whether a proposal passes and whether it is implemented. Guercio et al. (2008) find that following "just vote no" campaigns in which activists encourage other shareholders to withhold votes to express dissatisfaction with a firm's governance structure, there are improvements in operating performance and abnormal disciplinary CEO turnover. Liu et al. (2020) find that institutional investor distraction weakens board oversight. One interesting question to ask is under what circumstances, if any, are institutional investors paying more attention to board oversight. Among these, corporate fraud is a rich setting to study. Investors have been observed to avoid the stock market altogether after the shock of experiencing a corporate fraud incident, in some instances even spreading their distrust of the stock market through their network, leading to an overall drop in subsequent stock market participation. Yet not a lot of work has been devoted to studying institutional investors' reactions in this setting. Institutional investors are in general more sophisticated, and while they certainly can "vote with their feet," they can also voice their opinions and influence firms' corporate governance through voting. And yet, it is not obvious whether they would do so after experiencing a corporate fraud incident. First, the information that they learned from a corporate malfeasance in-

cident might not lead to any changes in voting behavior, either because what they learned is not informative or because voting is not a major channel through which institutional investors attempt to prevent future corporate fraud. Barriers such as "rational reticence," the cost of becoming informed, and the realization that one's vote is less likely to be pivotal, especially with dispersed ownership, and that the benefits of casting a good vote are shared pro-rata among all shareholders, make it unclear how institutional investors would vote after a corporate malfeasance experience (Enriques and Romano, 2019).[3] In addition, it is not clear whether the cost associated with fraud is sufficiently large to lead to a change in investor effort and behavior. In this paper, I attempt to answer this question by focusing on the change in corporate governance efforts of institutional investors after experiencing corporate malfeasance.

The findings of the paper also contribute to the stream of literature on the effect of accounting fraud and corporate malfeasance on firms' corporate governance structure (Pozner, 2012; Pozner and Patterson, 2016). Pozner (2012) finds that directors of fraud firm loses board seats on other boards. Srinivasan (2005) finds that outside directors, especially members of the audit committee at accounting restatement firms, experience significant turnover in general and a loss of positions on boards. My paper contributes to this literature by examining the consequences of an increase in experienced investor scrutiny on directors at non-violating firms. I find that fraud-experienced investors take a more proactive role at non-violating firms by reducing voting support for potentially problematic directors, i.e., directors who are less likely to be effective monitors because they are occupied with multiple outside board memberships or have social ties with the CEO.

In addition, the paper gives insights into the importance of institutional investors' monitoring efforts as a mechanism that can deter future fraud. Previous research has looked at how the SEC's investigation of corporate fraud can deter future accounting fraud in geo-

[3]Even with the growing influence of proxy advisory firms, investors' corporate governance departments still evaluate recommendations, exercise autonomy, and make final voting decisions—and, hence, still incur information acquisition costs (Enriques and Romano, 2019).

graphic areas where the regulator has previously been active (Kedia and Rajgopal, 2011). After an SEC investigation, the deterrent effect from increased scrutiny by regulators, the media, analysts, or voluntary changes in firm management may be sufficient to deter fraud, rendering any potential corporate governance efforts by institutional investors pointless. Although previous studies have examined the monitoring role of each of the aforementioned actors after corporate fraud incidents, few studies have been devoted to corporate governance spillovers triggered by institutional investors' fraud experiences. With this paper, I fill this gap by examining the changes in the voting behavior of institutional investors who recently experienced a corporate fraud incident. I show that there are corporate governance spillovers when institutional investors who recently experienced corporate malfeasance take actions to deter future fraud such as becoming more selective at evaluating in which firms to invest and increasing their corporate governance efforts.

2 Hypothesis Developement

The paper centers around exploring whether investors learn from their experience with corporate fraud and exhibit changes in decisions and, consequently, whether this has any impact on their portfolio firms.

Because the investors I examine are relatively sophisticated, it is unclear whether an encounter with corporate fraud will lead to any subsequent changes in behavior. If investors have already factored in the cost of corporate fraud and considered factors that affect corporate fraud such as director quality, experiencing a corporate fraud incident would not lead to any changes in voting behavior or stock picking decision. However, if investors update their information sets, learn, and recalibrate the cost of fraud after experiencing a fraud incident, they can make changes to their investment decisions and corporate governance activities. These ideas are explored in the first two hypotheses below.

I first test whether institutional investors who experienced a corporate fraud incident see

a greater reduction in the average Beneish model's M-score of their portfolio firms compared to a control group of institutional investors.

H1: The reduction in the average Beneish model's M-score of the portfolio firms of institutional investors after they experience corporate fraud incidents is significantly greater than that of a control group of institutional investors who did not have such experience.

I further examine whether funds in the same family as the treated funds experience an *indirect* treatment effect by studying whether other funds in the same family as the fraud-experienced fund are less likely to invest in firms with high M-scores after being indirectly exposed to fraud events. Given the decentralized investment approach in many fund families, analyzing these potential indirect treatment effect will also help address concerns related to confounding factors that correlated with both directly-treated funds' decision to invest in fraud firms and their subsequent investment behavior.

A positive result for hypothesis H1 can have several different explanations and implications for further analyses. Investors could have learned from the fraud incident and become more careful at selecting firms with a lower likelihood of engaging in fraud. Investors could also have exerted more effort at enforcing good corporate governance practices at firms, such as casting votes to remove ineffective directors. In addition to the widely studied deterrent effect of regulators' enforcement activities after corporate fraud incidents, an increase in investor scrutiny could also make firms more cautious and therefore less likely to engage in corporate malfeasance. I explore these ideas in the subsequent hypotheses. I first test whether, compared to a control group of institutional investors who vote on issues at the *same* firm, fraud-experienced institutional investors are less likely to vote in alignment with management on issues related to director election, as well as audit and financial statement issues.

H2: The reduction in the percentage of votes that are in alignment with management, especially on director election, as well as audit and financial statement issues, at the *same*

firm is greater for fraud-experienced institutional investors compared to a control group of investors.

To focus more on hypothesis H2, if investors are looking more closely at the quality of directors before voting for them, I expect to see a greater decline in support for problematic directors, and not as great an effect for non-problematic directors. This is stated more formally in hypothesis H3.

H3: Funds with fraud experience are significantly less likely to vote for problematic directors after the fraud experience relative to funds that did not have such an experience. There is not much significant difference in the funds' support for non-problematic directors.

One question that remains is whether an increase in corporate governance efforts by institutional investors is effective at changing firm behavior. I explore this question by testing the following the hypothesis.

H4: Firms with a greater proportion of fraud-experienced institutional investors are less likely to engage in accounting fraud.

To alleviate concerns about potential confounding factors that are unaccounted for but that could lead to the observed differences between treated funds and non-treated funds, I perform a set of different tests to compare the voting behavior and two groups of funds: the first group, the new "treated" funds, consists of funds in the same family as the funds who previously held fraud firms but who did not themselves directly experience any fraud incidents. The second group consists of "control" funds whose family did not have any treated funds throughout the sample. Treated funds in this case have learned through the fraud-experienced fund in the same fund family, and the assignment of treatment to funds is not determined by their holdings of fraudulent firms, alleviating potential concerns that there are omitted variables that both determine investments in fraud firms and subsequent changes in corporate governance efforts.

These tests also further explores whether learning spreads through funds within the same

fund family. To perform these new set of analysis, I follow closely the hypotheses laid out above, and simply compare the subsequent investment and voting behavior of funds that did not directly experienced fraud but that are in the same family as the fund directly influenced by fraud (the new treated sample) and funds that did not experience any fraud incidents and whose family fund does not contain funds that has experience financial fraud incidents.

3 Data

3.1 Fraud

To identify fraudulent firms, I use data on irregular accounting restatements and the SEC's accounting sanctions from the agency's accounting and auditing enforcement releases. I provide more detailed descriptions of these datasets in the following subsections.

3.1.1 Irregular restatement

The data for irregular restatement come from Brian P. Millers.[4] The original data come from the U.S. Government Accountability Office (GAO) restatements. Hennes et al. (2008) classified these restatements as errors versus irregularities. The authors read all restatement announcements and relevant subsequent filings and use three criteria to identify likely irregularities, and any restatements that meet at least one of these criteria are then classified as irregular. First, they identify restatements with words such as "fraud" or "irregularity" in reference to the misstatement. Second, they classify restatements with related SEC or Department of Justice investigations as irregularities. Third, they classify a restatement as irregular if there are other related independent investigations into the accounting matter. The authors find that the mean cumulative abnormal returns for the error sample is -1.94 %

[4]https://kelley.iu.edu/bpm/activities/errorandirregularity.html.

compared to -13.64 % for the irregularities sample, providing support for their classification mechanism.

Prior research has found that restatement has a negative impact on loan contract, increasing loan covenant restrictions, upfront fees, and annual fees, and reducing the number of lenders per loan (Brav et al., 2008). Executives, as well as directors and audit committee members at restatement firms, were also found to have a higher likelihood of turnover (Arthaud-Day et al., 2006). Researchers have also looked at contagion and the determinants of deterrence and found that there is indeed a contagion effect of restatement at firms in the industry or neighborhood and that regulatory enforcement mitigates this effect (Kedia et al., 2015). Given the negative consequence of restatement, I use firm restatement data and focus on irregular restatements, i.e., restatements that are likely to be intentional rather than caused by innocuous mistakes, to explore the role of fraud-experienced investors in spreading any potential deterrent effects.

3.1.2 Accounting and Auditing Enforcement Releases

More serious in nature relative to restatement are SEC investigations and sanctions. I therefore use the SEC's accounting and auditing enforcement releases to identify firms that engaged in accounting fraud and subsequently were targeted in an SEC accounting sanction, as well as institutional investors that were affected by these incidents. Data on the SEC's accounting and auditing enforcement releases (AAER) were collected by Dechow et al. (2011) and obtained from the Center for Financial Reporting and Management at the Haas School of Business at the University of California Berkeley.[5,6]

The SEC is responsible for reviewing firms' financial information, screening for red flags such as restatements, and checking for compliance with GAAP. If the SEC believes there is non-compliance, it can initiate informal inquires, start official investigations, and issue

[5]http://accounting.haas.berkeley.edu/cfrm/aaer-dataset.html.
[6]https://www.sec.gov/divisions/enforce/friactions.htm.

enforcement actions. The agency can take enforcement actions against firms, managers, insiders, and auditors. At the end of investigations involving accounting and auditing issues, it issues an AAER.

Prior research has found that AAER events can have serious consequences for violating firms. A high percentage of firms fired or forced the resignation of top management and were sued by shareholders and have auditors implicated (Feroz et al., 1991; Bonner et al., 1998). Violating firms also seem to perform worse in subsequent years following an AAER (Leng et al., 2011). Directors of fraudulent firms are more likely to lose directorships (Fich and Shivdasani, 2007). What is still unclear from these findings is what has facilitated the change in corporate governance. The change could have come internally from the firm's board of directors or could have been facilitated by an increase in investor scrutiny. This paper contributes to these studies by using AAER data to look at the role of fraud-experienced investors in improving their portfolio firms' corporate governance after experiencing corporate fraud.

3.2 Institutional Investor Holdings

Institutional investor holdings data are obtained from Thomson Reuters CDA/Spectrum S12. The S12 mutual fund holdings database covers almost all historical domestic mutual funds. It keeps all U.S.-based mutual funds in existence since 1980. The database includes holdings data for each mutual fund.

3.3 Financial Statement and Fund Characteristics

Firms' financial statement data that are used to calculate mutual fund portfolios' value-weighted Beneish M-score are from CRSP. Mutual funds' data on total net assets, flows, monthly returns, and fund and fund family name come from CRSP's mutual funds database.

CRSP's mutual fund dataset is matched to Thomson Reuters' mutual fund holdings using

the MFLINKS. Since mutual funds' holding data are sparser than CRSP's monthly returns data, and CRSP monthly return data break fund data into different share-classes, care needs to be taken to match the returns, flows, and total net assets from CRSP to the holdings data in Thomson Reuters. I follow Doshi et al. (2015) to link Thomson Reuters' mutual funds data to the returns and total net asset data from CRSP. I restrict my sample to actively managed domestic equity funds, and I eliminated index funds following Doshi et al. (2015).

3.4 Voting Data

Mutual funds' voting records come from the Institutional Shareholder Services (ISS) and include voting records from 2003 through 2015. The voting data from ISS list the issues that institutional investors voted on, such as director election, approval of remuneration or retirement bonuses of directors, and adoption of policies that will commit executive and directors to hold at least 75% of their shares, ratify someone as auditors, accept financial statements and statutory reports, and approve allocation of income and discharge of directors. In my sample, institutional investors are on average slightly more supportive of management than ISS. Table 1–panel B-F show that institutional investors in general support management with an average of 89% of their votes in agreement with management. The ISS on average supports voting with management at a rate of 85%. The average proportion of votes that are in agreement with management varies based on agenda item issue. For agenda items concerning director and election, institutional investors support management at a rate of 92% and 93%, respectively. In my sample, institutional investors on average vote with management 98% of the time on audit issues. Within the small sample of votes on financial statement issues used in the paper, table 1–panel F shows that when the ISS does not support management on financial statement issues, institutional investors vote with management at a rate of 79%.

3.5 Matching between stock holdings data and voting data

Because there is no common identifier between the ISS voting data and CRSP or Thomson Reuters, I merge the voting data and CRSP data manually, starting from funds' family name and then individual fund name by the following steps. I first attempt to merge funds in the ISS data and CRSP by both fund family name and fund name. First, I remove from institutional investors' names in both CRSP and ISS data characters such as "inc," "inc.," "inc," "co," "co.," "corp," "corp.," "inc," "inc.," "llc," "l.l.c.," "l.p.," "lp," "s.c.," "ltd," "ltd.," commas, etc. In the first step, I use a computer script to match ISS voting data to CRSP by fund family and fund name.

For the remaining unmerged data, I match the observations in the two datasets by first manually matching fund family names. Funds with matched family names are then matched by fund names using both computer scripts and manual matching and checking.

3.6 Sample creation

3.6.1 Sample for the Beneish model M-score analysis

To create the sample to study changes in "treated" institutional investors' average Beneish score, I start with holdings data from Thomson Reuters CDA/Spectrum S12. I keep only domestic funds and drop index funds. I then identify funds that held at least one firm involved in accounting fraud, as identified in AAER releases or irregular restatement, based on firm identifiers (CIKs) in the corporate malfeasance data and (CUSIPs) in the Thomson Reuters' data, and whether the event date falls within a given institutional investor's filing dates. An institutional investor is classified to be in the treatment group if (1) it has at least one holdings filing in the three years before and three years after the treatment event, (2) the held firm that was involved in corporate malfeasance experienced the largest stock price drop when the fraud was disclosed relative to the previous three years, and (3) the

ratio of the value of the investor's holdings of the fraudulent firm to the total value of all the reported holdings is above the twenty-fifth percentile of the sample.[7] Treatment funds are required to not hold any stocks involved in corporate malfeasance in the years before the treatment event. I match these funds to CRSP data using the MFKLINKS tables, which are a reliable means to link CRSP mutual fund data that cover mutual fund performance, expenses, and related information to Thomson Reuters' mutual fund ownership data. In order to identify a matched group of control firms, I remove all institutional investors that ever held a firm involved in corporate malfeasance. I keep all investors that have at least one holding's filing in the three years before and the three years after any identified corporate malfeasance event as potential control investors. I then use propensity score matching to match the control group with the treated group based on average cumulative returns in the previous six months before the event date, standard deviation of returns, and flow in the last six months.

After matching I have 1,151 distinct treatment-control pairs. I then merge the holdings data at the holdings' reporting date level with the calculated annual Beneish M-score data of all the firms held in their portfolios. I finally arrive at 14,790 fund-year for the analysis of the differential changes in the average Beneish score between the treatment and control groups. Table 1–panel A reports that the average Beneish score for the sample is -2.01, with a minimum score of -4.64 and maximum score of 0. A Beneish score that is greater than -1.78 indicates a strong likelihood that a firm is a manipulator.

3.6.2 Voting behavior

The empirical strategy is to compare the voting behavior of institutional investors that experienced a corporate malfeasance incident in their portfolio holdings and those that do not by examining their votes before and after the event at the *same* non-fraud firm that

[7]The results hold when further restricting the treated sample to investors whose holdings in the misbehaving firms exceed the fiftieth percentile.

both types of investors held.

I first match the voting data to CRSP data using fund and fund family name, and then match these data to Thomson's institutional investors' holdings data using the MFLINKS tables from WRDS.

I keep the voting records on firms of all institutional investors in the "treatment" group as identified in the Beneish model analysis in the previous section, that is, (1) funds have at least one data point in the the years before and the years after the treatment event, (2) the held firm that was involved in corporate malfeasance experienced the largest stock price drop when the fraud was disclosed relative to the previous three years, and (3) the ratio of value of the investor's holding of the fraudulent firm to the total value of all the reported holdings is above the twenty-fifth percentile. For each "treated" institutional investor, I keep all the voting data for all the firms that have at least one voting data point in the three years before and three years after the treatment event. These form the "treated" fund-firm group. I then identify the potential control group, i.e., the voting decisions of non-treated fund-firms, by searching for all the voting decisions of non-treated institutional investors at non-fraudulent firms that are also simultaneously held and voted on by the "treated" investors. For a given "treated" fund-firm, a potential control fund-firm is further restricted to those that have at least one voting data point in the three years before and three years after the malfeasance event experienced by the treated fund. Similar to the creation of the sample for the Beneish model score analysis above, I match the treated investor with the control counterpart based on average cumulative returns in the previous six months, standard deviation of returns, and flow in the last six months.

Among the voting issues, I flag those that contain the words "audit," "director," "elect," and "financial statement." I match the treatment fund-firm with control funds that have voting and holdings data for the same firm based on returns, the standard deviation, and flow in the six months prior to the date of the corporate fraud event in question.

The voting data is aggregated at the fund-firm-month level. Table 1–panel B, C, D, E, and F show the summary statistics for voting behavior of investors on all issues in general, and on particular issues related to director, election, audit, or financial statements. The percentage of investor votes that are in agreement with management in these categories are 89, 92, 93, 98, and 79 percent, respectively. Examples of these different issues are shown in table 6. Although director issues and elect issues overlap based on the keywords "director" and "elect" I use when the voting issue is about director election, many identified director issues are not about election but focus instead on decisions such as adjusting compensation ceilings for directors, adoption of policies that increase director ownership, or approval of director retirement bonuses.

After matching, I have 12,085 pairs of treated-permnos and control-permnos. I match the voting data, which is aggregated to the fund-firm-month level, to these 12,085 pairs and have 229,448 observations in the final voting data, as shown in table 1–panel B.

3.6.3 Voting for problematic versus non-problematic directors

I identify problematic directors as those who hold more than three external board memberships or have a social tie with a CEO. I merge the ISS voting data with the Director Legacy from 1998 through 2006 and Director files from 2007 through 2019 from the Institutional Shareholder Services datasets on WRDS to obtain data on director directorships at other firms using director names and firm CUSIP numbers. To determine whether a director has a social tie with the CEO, i.e., attended the same educational institution or share membership at a non-business organization, I merge the ISS voting data with BoardEx's employment data using director names, CUSIP numbers, and company names. I keep the matched directors whose election date, i.e., the meeting date from the ISS voting data, falls within the employment period. I then identify the CEO of each firm whose employment period includes the said meeting date. I then merge these CEO and director data with BoardEx's

network data. A given CEO and director pair is coded as having a social connection if they share an educational institution or membership at a non-business organization. The observations are at the fund-firm-director-meeting date level. There are around 12% of the unique director-firm-meeting dates that are designated as problematic. Table 1–panel G presents the summary statistics of the sample used. It shows that 71% of the directors studied are members of a nomination committee, audit committee, or compensation committee and that ISS recommend voting in agreement with management 94% of the time.

3.6.4 Sample to analyze investor's prior fraud experience and their holding firm's likelihood to commit fraud

Using the institutional investor holdings data, I create a sample of firms and the total value of their institutional investors' "troubled" holdings, i.e., investment in firms that were subject to SEC accounting sanctions or restatement, and that had the greatest price drop in the previous six months since the last two years. Table 1–panel H presents the summary statistics of the sample. The probability of a firm in a given year being subject to an SEC accounting sanction is three percent.

4 Empirical Strategy

4.1 Beneish M-score

The Beneish model M-score is calculated using the following Beneish model from Beneish and Nichols (2007).

$$\begin{aligned} PROBM = &-4.84 + 0.920 \times DSR + .528 \times GMI + .404 \times AQI + .892 \times SGI \\ &+ .115 \times DEPI - .172 \times SGAI + 4.679 \times ACCRUALS - .327 \times LEVI \end{aligned} \tag{1}$$

where

$$
\begin{aligned}
GMI &= (\frac{Sales_{t-1} - Cost\ of\ Goods\ Sold_{t-1}}{Sales_{t-1}})/(\frac{Sales_t - Cost\ of\ Goods\ Sold_t}{Sales_t}) \\
AQI &= (1 - \frac{Current\ Assets_t + PPE_t}{Total\ Assets_t})/(1 - \frac{Current\ Assets_{t-1} + PPE_{t-1}}{Total\ Assets_{t-1}}) \\
SGI &= Sales_t/Sales_{t-1} \\
DEPI &= (\frac{Depreciation_{t-1}}{Depreciation_{t-1} + PPE_{t-1}})/(\frac{Depreciation_t}{Depreciation_t + PPE_t}) \\
SGAI &= (\frac{SGA\ Expense_t}{Sales_t})/(\frac{SGA\ Expense_{t-1}}{Sales_{t-1}}) \\
LEVI &= (\frac{LTD_t + Current\ Liabilities_t}{Total\ Assets_t})/(\frac{LTD_{t-1} + Current\ Liabilities_{t-1}}{Total\ Assets_{t-1}}) \\
Accruals &= \frac{IBS - CFO}{TA_t}
\end{aligned}
\tag{2}
$$

In Beneish and Nichols (2007), the sample used to estimate the model is from 1993 to 2003. Financial services firms (SIC codes 6000–6899), firms with less than 100,000 dollars in sales or in total assets, firms with market capitalization of less than fifty million dollars, and firms without sufficient data to compute the probability of manipulation are eliminated. *DSR* captures unusual accumulation of receivables. *AQI* and *DEPI* capture unusual expense capitalization and decline in depreciation. Accruals capture the extent to which accounting profits are backed by cash profits. *GMI* and *SGAI* capture declining prospects. *SGI* captures the observation that young growth firms have a larger incentive to manipulate earnings. *LEVI* captures reliance on debt financing, which increases financial risks and increases the incentives for manipulation.

The Beneish model was first developed in Beneish (1999). Beneish et al. (2013) again confirm that the model has strong out-of-sample power to predict cross-sectional returns, and find that companies that were flagged by the Beneish model have earnings trajectories that are more likely to disappoint investors even if their accounting games may not have caught regulators' attention. Using the Beneish model's M-score, Baig et al. (2018) found that passive ownership is negatively correlated with earnings manipulation. Similarly, in this

paper, I use the Beneish model's M-score as a proxy for the likelihood of earnings manipulation to study the effect of fraud experience on active institutional investors' subsequent investment choices.

4.2 Changes in the characteristics of portfolio holdings following a fraud experience

I first perform a difference-in-differences estimation and test whether the value-weighted Beneish scores of the treated funds portfolio holdings decrease by a statistically significant amount compared to the control group, consistent with treated funds' portfolios having a significantly greater decrease in the likelihood of corporate fraud based on the Beneish model's prediction.

The regression model for the analysis is as follows:

$$\textit{Mean Annual Beneish Score}_{it} = \alpha_i + \beta Treat_i \times After + \gamma_t + \delta Control_{it} + \epsilon_{it} \qquad (3)$$

where *Treat* is an indicator variable that equals one if the institutional investor i has experienced a corporate fraud incident and equals zero otherwise. *After* equals one if the year t is after the treatment year, i.e., the year in which the corporate incident became known, and zero otherwise. α_i and γ_t are fund and year fixed effects, respectively. Control variables include the following. *Mean Annual Beneish Score* is the average value-weighted Beneish score of all the portfolio firms of a given institutional investor in a given year. *Avg cumulative 6 month return* is the annual average of six month cumulative returns. *Avg std of 6 month return* is the annual average of six month cumulative return. *Average 6 month flow* is the annual average of six month flow.

The next question is when should we expect the effects to occur? That is, when do institutional investors start to react and when will we observe differential average Beneish

scores of the holdings for the treated group of institutional investors versus the control group? How soon institutional investors react, if at all, is likely determined by whether experiencing corporate fraud incidents leads to changes in behavior, as well as how soon they learn about them and how much they were impacted by the fraud incident. To explore this question, I perform the following regression analysis:

$$\textit{Mean Annual Beneish Score}_{it} = \alpha_i + \sum \beta_t Treat_i \times Y_t + \gamma_t + \delta Control_{it} + \epsilon_{it} \qquad (4)$$

where Y_t are indicator variables for the years from the three years before the corporate fraud incident through the three years following the incident, *t-3* through *t+3*. The indicator variable for year 0 of the incident is set at zero so that all the other coefficients are measured incrementally to that of year 0. α_i and γ_t are fund and year fixed effects, respectively. Control variables include the following. *Mean Annual Beneish Score* is the average Beneish score of all the portfolio firms of a given institutional investor in a given year. *Avg cumulative 6 month return* is the annual average of six month cumulative returns. *Avg std of 6 month return* is the annual average of six month cumulative return. *Average 6 month flow* is the annual average of six month flow. I also control for time trends by including a variable that captures the year of a given observation as well as interactions between the control variables and this year variable.

Using the analysis above, I find evidence that can support the parallel trend assumption by examining the trend of the coefficients on the interaction term between *Treat* and Y_t. I expect to observe a horizontal pattern, or a parallel trend, for the coefficients in the years before the corporate incident event.

In additional analyses, I also examine the *indirect* treatment effect by comparing the changes in the propensity to engage in fraud of firms held by investors in the same fund family as the *directly* treated funds and firms held by a control group of investors.

4.3 Changes in voting pattern

I next examine whether there are corporate governance spillover effects, i.e., whether fraud-experienced funds take proactive actions through voting decisions in order to exert corporate governance influence on their portfolio firms. The identification strategy here is to compare the difference in the change in voting records at portfolio firms that were *not* involved in corporate fraud but that were held throughout a given corporate fraud incident by both the treated funds and the control funds. Potential control funds are those funds that have voting records for *the same firm* in the three years before and three years after the event date. Each treated fund is matched with a control fund based on the average total net assets, the average flows, and the average returns in the six months prior to the event date, using propensity score matching.[8]

I then compare the difference in the change in the percentage of votes in alignment with management for each issue between the treated fund and its control funds, for the three years before and three years after the treatment. The regression model for this analysis is as follows:

$$Vote\ with\ management_{it} = \alpha_i + \beta Treat_i \times After + \gamma_t + \delta Control_{it} + \epsilon_{it} \tag{5}$$

where $Treat_i$ is an indicator variable that equals one if the institutional investor i has experienced a corporate fraud incident and equals zero otherwise. *After* is an indicator variable that equals one for months after the month of the event, i.e., when the corporate incident became known, and zero otherwise. *Vote with management* is the proportion of votes that are in alignment with management of a given firm in a given year-month by a given fund. Control variables include the following. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six month cumulative returns. *Avg std of 6 month return* is the

[8] One-to-one matching within caliper 0.5 with replacement.

standard deviation of the prior six month returns. *Avg 6 month flow* is the average of the last six month returns.

To examine when the changes in voting behavior occur, as well as to provide evidence to support the parallel trend assumption, I also perform the following regression analysis:

$$Vote\ with\ management_{it} = \alpha_i + \sum \beta_t Treat_i \times Y_t + \gamma_t + \delta Control_{it} + \epsilon_{it} \tag{6}$$

where $Treat_i$ is an indicator variable that equals one if the institutional investor i has experienced a corporate fraud incident and equals zero otherwise. Y_t are year indicator variables for the years from *t-3* through to *t+3* around the treatment year. The indicator variable for the treatment year when the relevant corporate fraud incident occurs is set at zero such that all the other coefficients are measured incrementally to that of the treatment year. *Vote with management* is the proportion of votes that are in alignment with management of a given firm in a given year-month by a given fund. Control variables include the following. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six month cumulative returns. *Avg std of 6 months return* is the standard deviation of the prior six month returns. *Avg 6 month flow* is the average of the last six month returns.

In addition, I also examine changes in voting behavior for specific voting issues such as director, election, audit, financial statement, separately. The dependent variable for each of these analyses is the percentage of votes on the relevant issue that align with management.

Furthermore, I perform the following regression analyses at the director level separately for problematic and non-problematic directors to examine whether experienced investors' changes in voting behavior are more prominent on issues concerning problematic directors. I expect to see significant differential voting behavior between experienced and non-experienced investors for the election of problematic directors, but I do not expect to observe

significant differences for non-problematic directors.

$$\textit{Fund vote for director}_{ijt} = \alpha_i + \beta Treat_i \times After + \gamma_t + \delta Control_{ijt} + \epsilon_{ijt} \tag{7}$$

where $Treat_i$ is an indicator variable that equals one if the institutional investor i has experienced a corporate fraud incident and equals zero otherwise. *After* equals one for meeting dates after the fraud incident and zero otherwise. *Fund vote for director*$_{ijt}$ is an indicator variable that equals one if the institutional investor votes to support director j's election. Control variables include the following. *Number of shares* is the number of shares held by the given director. *Age* is the age of the given director. *Female* is an indicator variable for whether the director is female. *Committee member* is an indicator variable for whether the director is a member of the nomination committee, audit committee, or compensation committee. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six month cumulative returns. *Avg std of six month return* is the standard deviation of the prior 6 month returns. *Avg 6 month flow* is the average of the last six month returns.

I also examine when the changes in voting for problematic occurs by performing the following regression analysis:

$$\textit{Fund vote for director}_{ijt} = \alpha_i + \sum \beta_t Treat_i \times Y_t + \gamma_t + \delta Control_{ijt} + \epsilon_{ijt} \tag{8}$$

where $Treat_i$ is an indicator variable that equals one if the institutional investor i has experienced a corporate fraud incident and equals zero otherwise. Y_t are year indicator variables for the years from *t-3* through to *t+3* around the treatment year. The indicator variable for the treatment year when the relevant corporate fraud incident occurs is set at zero such that all the other coefficients are measured incrementally to that of the treatment year. *Fund vote for director*$_{ijt}$ is an indicator variable that equals one if the institutional investor votes to support director j's election. Control variables include the following. *Number of*

shares is the number of shares held by the given director. *Age* is the age of the given director. *Female* is an indicator variable for whether the director is female. *Committee member* is an indicator variable for whether the director is a member of the nomination committee, audit committee, or compensation committee. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six month cumulative returns. *Avg std of 6 month return* is the standard deviation of the prior six month returns. *Avg 6 month flow* is the average of the last six month returns.

I expect to observe the differential voting pattern to appear most prominent in the years after the treated investors have been exposed to the fraud incident, and I expect no significant differences between treated and control investors in years prior.

In additional tests, I also examine the *indirect* treatment effect on voting behavior and examine whether *indirectly* treated investors, i.e., investors in the same fund family as directly treated investors are subsequently more likely to vote against management on issues at the *same* firm as a control group of investors.

4.4 Fraud-experienced investors and firms' fraud propensity

Having established that investors are more selective at supporting director elections after experiencing fraud, I next test whether there is evidence that these experienced investors effectively deter the firms that they hold from engaging in accounting fraud. I run the following regression to examine the correlation between the probability of being the target of an SEC accounting sanction and the fraud experience of a given firm's institutional investors:

$$\textit{Accounting Sanction}_{it} = \alpha_i + \beta_1 \textit{(Investor's exposure to fraud)}_i + \gamma_t + \delta Control_{it} + \epsilon_{it} \quad (9)$$

where *Accounting Sanction*$_{it}$ is an indicator that equals one if firm i was targeted in an SEC accounting sanction with an AAER release in year-month t. *(Investor's exposure to fraud)*$_i$ is the proportion of "troubled" holdings of all the institutional investors that invest in firm i, i.e., holdings of firms that are involved in accounting or fraud violations or that had an irregular restatement that was associated with a significant drop in stock prices, in the last three years. Control variables include market equity, natural logarithm of book-to-market, and the previous twelve months' cumulative returns.

5 Results

5.1 Change in mutual fund holding

The coefficients on the interaction term in table 2–model (1) and (2) suggest that there is a statistically significant decrease in the value-weighted average Beneish score of firms held by institutional investors that recently experienced a corporate malfeasance incident at one of their portfolio firms. More specifically, in model (2), the value-weighted Beneish model M-score of firms held by treated institutional investors is 0.08[9] after they experienced a corporate malfeasance event associated with their holdings. Models (3) and (4) in table 2 show that fraud experienced investors decrease their investment in the shares of firms with high Beneish scores, i.e., firms identified as more likely to engage in accounting manipulations. Conversely, models (5) and (6) in table 2 show that these fraud-experienced investors decrease their investments in firms that are predicted to be less likely to engage in accounting malfeasance. This finding can be explained by either one or a combination of the following factors. First, fraud-experienced investors could have learned how to pick better firms that are less likely to engage in fraud, leading to a subsequent drop in the average Beneish M-score of their portfolio holdings. This is consistent with prior research that documents the effect of personal

[9] 0.08 is around four percent of the average value-weighted average Beneish scores of firms held by institutional investors.

experience on market participants' behavior and decisions, finding that experienced investors were better at avoiding non-prime mortgage during the 2003–2007 housing boom and less likely to get caught up in the technology bubble in the early 2000s (Chernenko et al., 2016; Greenwood and Nagel, 2009). The aforementioned finding and inference contribute to this stream of literature by providing a different type of personal experience from which investors learn to avoid firms at risk for corporate fraud.

Figure 1 shows that there are no significant differences in the average Beneish scores between "treated" and "control" institutional investors in the years before the treatment, i.e., before investors experience corporate malfeasance events; "treated" institutional investors see a significantly greater decline in their holdings' average M-score after the fraud experience. The horizontal pattern of the coefficient estimates in figure 1 in the years before the treatment is also consistent with the parallel trend assumption.

5.2 Corporate governance spillovers

Table 3–panel A show that the percentage of votes that align with management is significantly lower for institutional investors that experienced a corporate fraud incident. More specifically, the coefficient on *After*× *Treat* suggests that, relative to investors who did not experience a corporate malfeasance incident, experienced investors on average see a two percent greater decrease in the proportion of votes in alignment with management.

Figure 2 shows the treatment effect over time. The coefficients follow a pattern that is consistent with a parallel trend assumption: before the treatment, the coefficients follow a horizontal pattern around zero, and then become negative and significant post treatment.

In table 3–panels B, C, D, and E, I report the coefficient estimates of the regressions models for specific issues on which investors vote: director issues, election issues, audit issues, and financial statement issues. All of them show that fraud-experienced institutional investors are more likely to vote against management on these target issues. Table 3–panels

B, C, D, and E also show that there are an average of three percent, four percent, one percent, and nine percent greater decline in the proportion of votes that are in alignment with management on director, election, audit, and financial statement issues, respectively, by fraud-experienced investors relative to investors in the "control" group.

Figure 3 show that for all these four issues, there is no significant differences in the voting behavior of experienced versus inexperienced investors in the years before the treatment, consistent with the parallel trend assumption. After treated institutional investors are exposed to treated events, there is a significant decline in the proportion of votes in agreement with management.

5.3 Fund voting for problematic directors

Table 4–model (1) shows that funds that experienced a corporate fraud incident are significantly less likely to vote for problematic directors, where problematic directors are defined as those who hold at least three external directorship roles or have a social tie with the CEO. The coefficient on the interaction term is negative and statistically significant and has a value of -0.04, suggesting that fraud-experienced funds are around four percent less likely to vote for problematic directors relative to control funds.[10] On the other hand, model (2) of table 4 shows no significant differences in the likelihood of voting for non-problematic directors between "treated" and "control" funds.

These findings provide further evidence that fraud-experienced institutional investors scrutinize firms more carefully: they do not simply oppose managers on all voting issues, but they are most likely to vote against management on issues that are relevant to firms' vulnerability to corporate fraud.

[10]The average probability of voting for a given problematic director is 0.91.

5.4 Changes at firms whose investors have had corporate fraud experience

Table 5 show that the coefficient of interest is negative and statistically significant. A one-standard-deviation increase in a given firm's institutional investors' holdings of troubled firms in the previous year is associated with a one percent reduction in that firm's likelihood of being targeted in an SEC accounting sanction, which is about thirty percent of the average probability that a firm was sanctioned for accounting fraud in the sample. The inclusion of a control for the recent activities of the SEC in the regression alleviates the concern that the reduction in the propensity to engage in corporate malfeasance was due to a real or perceived increase in regulatory investigation. This finding is consistent with changes in corporate governance activities of institutional investors, specifically through more selective support of and opposition to management's decisions through voting, having a real impact on firms' decisions to engage in corporate malfeasance.

5.5 Additional analyses

In the appendix, I conduct several additional tests. First, I study the impact of accounting violations and irregular restatement separately. In tables A1, I present results of the analysis of the differential changes in the value-weighted Beneish model M-score of treated investors and investors in the control group after treated investors experienced an SEC accounting sanction or an irregular financial restatement, respectively. As expected, the effect is greater for SEC accounting sanctions, which are more serious violations than irregular restatements.

Similarly, table A2 present the analysis of the differential changes in treated and non-treated investors' voting behavior after treated investors experience corporate malfeasance incidents related to SEC accounting sanctions or irregular restatements, respectively. Similarly to the results observed for the differential changes in the value-weighted Beneish model

M-scores in the previous tables, these tables show that the impact of SEC accounting sanctions is greater than that of irregular restatement incidents. In model (2) of table A2, the coefficient on the interaction term *After*× *Treat* is no longer statistically significant for irregular restatements.

I also rerun the analyses for changes in the Beneish score of firms held by treated and non-treated investors using quarterly data rather than annual data to capture more timely changes to investment behavior and find that the results, as reported in table A3, are consistent with previous analyses.

Finally, I examine the effect of the *indirect* treatment effect by comparing the characteristics of firms held by funds in the same family as the directly treated funds as well as these indirectly treated funds voting behavior. Tables A4 and A5 show that there is a spillover effect in learning from experiences: funds in the same fund family of the directly-exposed fund exhibit have subsequent portfolios of firms with lower likelihood of accounting manipulations based on the shares they held in firms with high and low M-Scores, and are also more likely to vote against management after the indirect fraud exposure. More specifically, table A4 show that indirectly treated investors see a six percent reduction in the proportion of shares in firms with M-Scores in the top fifty percentile, and a six percent increase in the proportion of shares in firms with M-Scores in the bottom fifty percentile. However, there does not seem to be significant difference in the average M-Scores of indirectly treated funds and those of funds in the control group. Table A5 show that relative to the group of control funds, indirectly treated funds are 1.1% less likely to vote in alignment with managers after the fraud exposure.

6 Conclusion

In this paper, I examine changes that institutional investors make after they experience corporate fraud incidents at one of their portfolio firms, and whether these changes have any

impact on the characteristics of firms that investors keep in their portfolios. More specifically, I examine whether on average, the portfolio of fraud-experienced investors has a lower Beneish model's M-score, indicating that portfolio firms have a lower propensity of engaging in accounting manipulations. Indeed, I find that, compared to a matched sample of control institutional investors, the average Beneish score of the holdings of fraud-experienced investors is significantly lower. This is consistent with investors learning from experience and keeping firms that are less likely to engage in fraud in their portfolios. I also find that this difference occurs only in years after institutional investors have experienced corporate malfeasance and is not present in prior years. To further focus on the effect of fraud experience and learning on the behavior and decision of investors and to disentangle the effect of fraud experience from investor response to firm underlying characteristics, I study investor voting decisions. I implement a research design in which I compare the voting decisions on various issues related to direct election, director compensation, audit, and financial statement at the *same* firm of fraud-experienced and inexperienced investors. I test whether experienced institutional investors exert more efforts in corporate governance activities by comparing the frequency at which experienced investors vote in alignment with management in the years after their fraud experience. Using a difference-in-differences estimation approach and matched groups of "treated" and "control" investors, I find that there are corporate governance spillovers brought about by investor learning from and experience with corporate fraud: in the years after the "treated" investors' fraud experience, they are are less likely to vote in alignment with management, especially on issues related to director election, audit, and financial statements. I again find that this differential voting behavior between fraud-experienced and inexperienced investors occurs only in the years after "treated" investors have experienced the fraud incident. I find similar results for differential changes in Beneish M-Scores and voting behavior for indirectly treated funds, i.e., funds in the same family as directly treated funds, relative to funds in the control group. Looking more closely at experienced investors' voting decisions regarding director election and the

characteristics of directors who were voted on, I find that fraud-experienced investors are significantly less likely to vote for problematic directors, i.e., directors who hold more than three outside directorship positions or have a social tie with the CEO, relative to investors without such experience. I also find that this differential effect occurs strongly in the year after the fraud experience. I find no significant differential effect in voting behavior between experienced and inexperienced investors for non-problematic directors. While prior research has found that many indicted firms make corporate governance changes such as dismissing directors or CEOs after fraud incidents and find some spill-over deterrent effect for local peer firms, the role of investor experience in facilitating these changes has not been sufficiently highlighted. Research that studies changes at non-violating firms have either mostly attributed these changes to an increase in local regulatory scrutiny and leave the decision maker that made these changes ambiguous, presumably implying that these changes likely came internally from the firm management or board. The findings of this paper contributes to this stream of literature by providing evidence that highlights the role of institutional investors in facilitating corporate governance changes at non-violating firms. Finally, I examine whether these changes in investor behavior have any impact on their portfolio firms and find that firms held by more fraud-experienced investors observe a significant decline in the propensity to be targeted in an SEC accounting sanction in subsequent years. This finding contributes to the literature on the effect of investor scrutiny on firm outcome. Prior research has found that when investors withhold votes for director election, there are improvements in operating performance and abnormal disciplinary CEO turnover (Del Guercio et al., 2008). My findings provide evidence that there are significant corporate governance spillover effects following accounting violations and that fraud-experienced investors play a significant role in reducing fraudulent behavior at the remaining non-violating firms in their portfolio.

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Figure 1: Beneish–yearly; three years before and three years after

This figure presents the coefficients on the interaction between the treatment variable *Treat* and year indicators in the analysis of changes in average Beneish score of portfolio firms. The regression model is as follows:

$$Mean\ Annual\ Beneish\ Score_{it} = \alpha_i + \sum \beta_t Treat_i \times Y_t + \gamma_t + \beta Control_{it} + \epsilon_{it}$$

The indicator variable for the year 0 in which the relevant corporate malfeasance incident occurs is set at 0 such that all the other coefficients are measured incrementally to that of year 0. Control variables include the following. *Mean Annual Beneish Score* is the average Beneish score of all the portfolio firms of a given institutional investor in a given year. *Avg cumulative 6 month return* is the annual average of six-month cumulative returns. *Avg std of 6 month return* is the annual average of six-month cumulative return. *Average 6 month flow* is the average of six-month flow. Bandwidths of standard errors at 10% significance levels are shown.

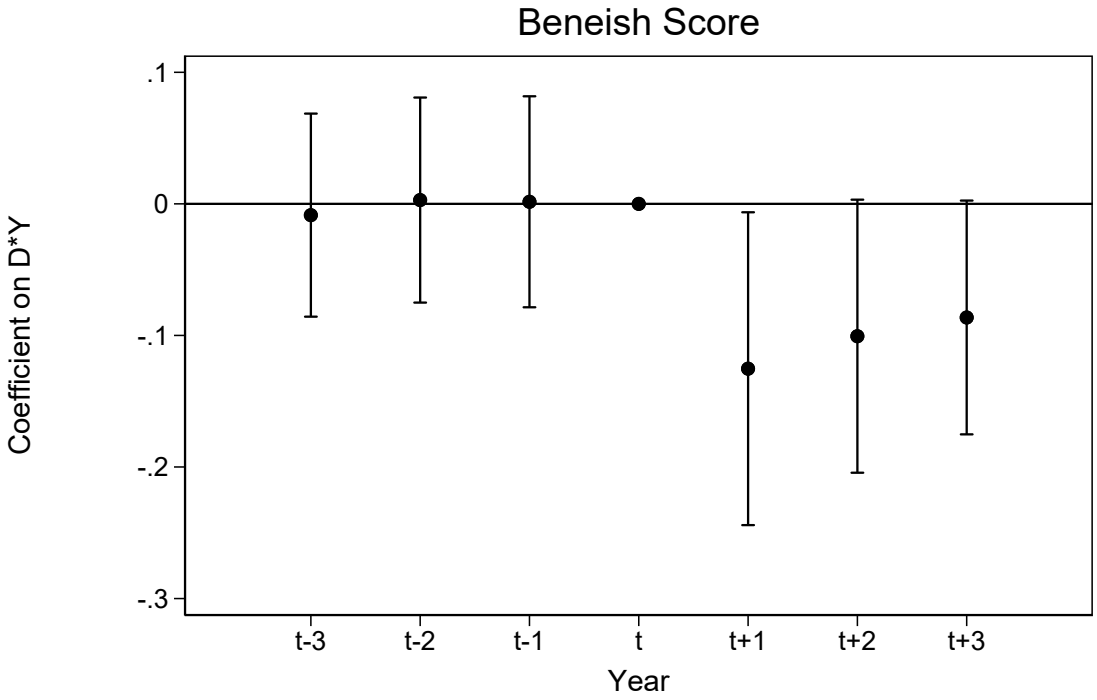

Figure 2: Voting–yearly

This figure presents the coefficients on the interaction between the treatment variable *Treat* and year indicators in the analysis of changes in the voting behavior of institutional investors who experience a corporate fraud incident. The regression model is as follows:

$$Vote\ with\ management_{it} = \alpha_i + \sum \beta_t Treat_i \times Y_t + \gamma_t + \beta Control_{it} + \epsilon_{it}$$

The indicator variable for the year 0 in which the relevant corporate fraud incident occurs is set at 0 such that all the other coefficients are measured incrementally to that of year 0. *Vote with management* is the proportion of votes that are in alignment with management of a given firm on a given year-month by a given fund. Control variables include the following. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six-month cumulative returns. *Avg std of 6 month return* is the standard deviation of the prior six-month returns. *Avg 6 month flow* is the average of the last six-month returns. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level. Bandwidths of standard errors at 10% significance levels are shown.

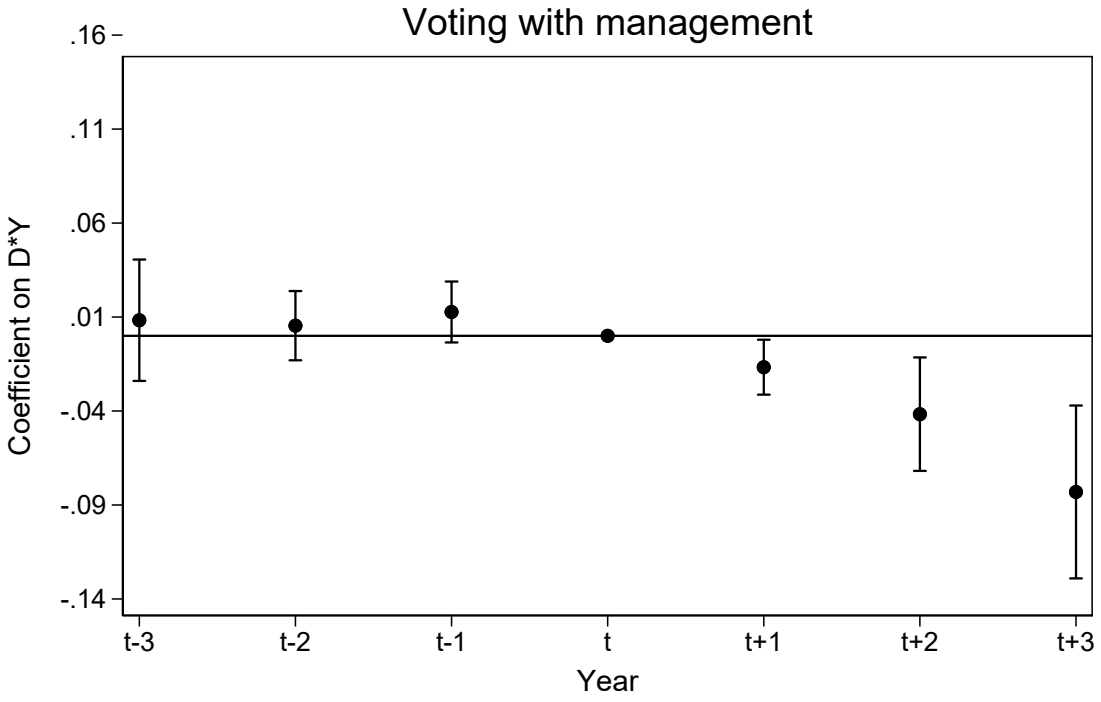

Figure 3: Voting–yearly

These figures present the coefficients on the interaction between the treatment variable *Treat* and year indicators in the analysis of changes in the voting behavior of institutional investors who experience a corporate fraud incident. The regression model is as follows:

$$Vote\ w/\ mgmt_{it} = \alpha_i + \sum \beta_t Treat_i \times Y_t + \gamma_t + \beta Control_{it} + \epsilon_{it}$$

The indicator variable for the year 0 in which the relevant corporate fraud incident occurs is set at 0 such that all the other coefficients are measured incrementally to that of year 0. *Vote w/ mgmt - elect issue* is the proportion of votes on issues related to firm election that are in alignment with management of a given firm on a given year-month by a given fund. *Vote w/ mgmt - director issue* is the proportion of votes on issues related to firm directors that are in alignment with management of a given firm on a given year-month by a given fund. *Vote w/ mgmt - audit issue* is the proportion of votes on issues related to firm election that are in alignment with management of a given firm on a given year-month by a given fund. Control variables include the following. *Vote w/ mgmt - finstate* is the proportion of votes on issues related to firm election that are in alignment with management of a given firm on a given year-month by a given fund. Control variables include the following. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six-month cumulative returns. *Avg std of 6 month return* is the standard deviation of the prior six-month returns. *Avg 6 month flow* is the average of the last six-month returns. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level. Bandwidths of standard errors at 10% significance levels are shown.

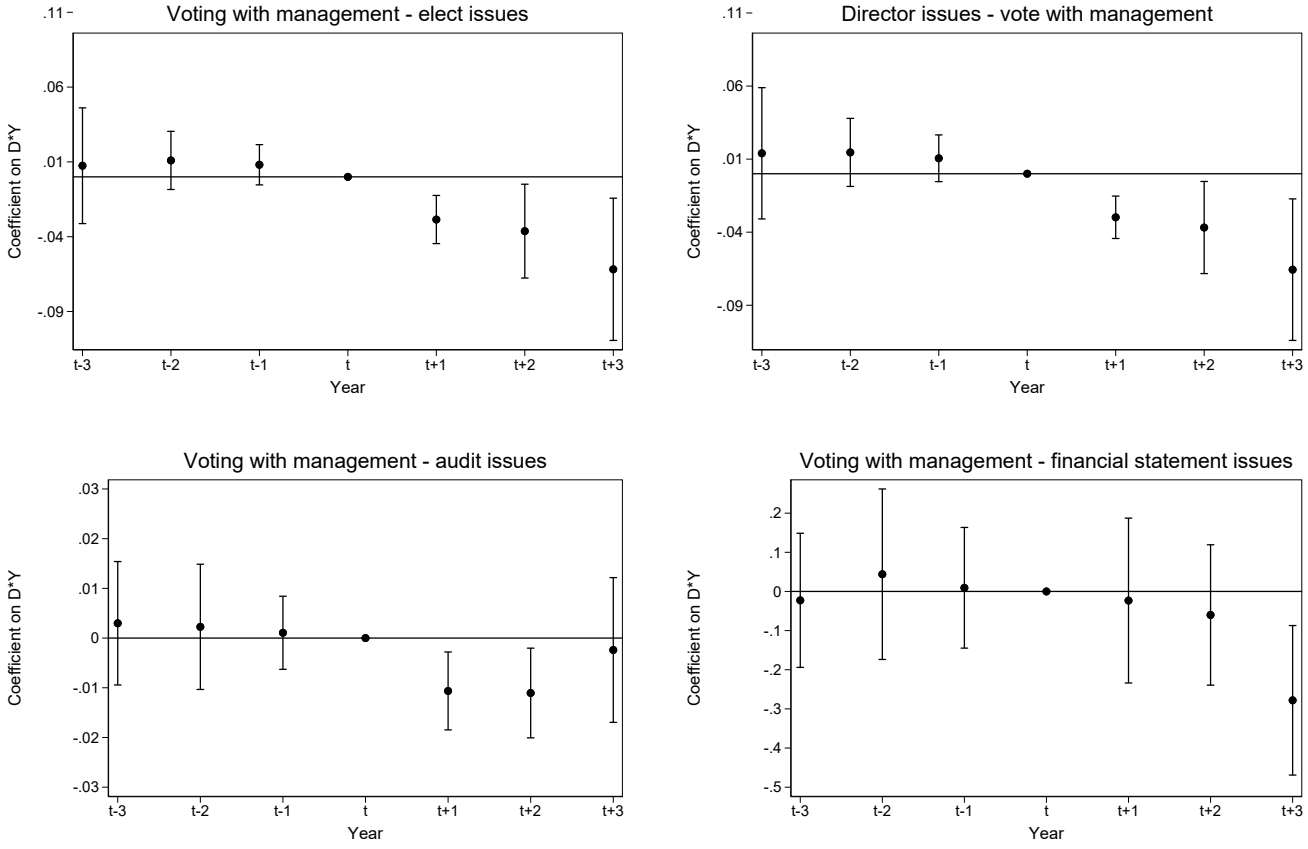

Table 1: Summary statistics

Panel A: Summary statistics for analysis of changes in Beneish score

	count	min	mean	max	sd
Mean M-Score	14790	-4.64	-2.01	0.00	0.39
% High M-score	14790	0.00	0.62	1.00	0.15
Avg cumulative 6 months return	14790	-0.44	0.04	0.32	0.07
Avg std of 6 months return	14790	0.00	0.04	0.19	0.02
Average 6 months flow	14790	-2.30e+07	-23876.79	31310584.00	1184631.76

Panel B: Summary statistics for analysis of voting with management

	count	min	mean	max	sd
Vote with management	229448	0.00	0.89	1.00	0.17
Value hold pct	229448	0.00	0.03	1.00	0.08
Avg cumulative 6 month return	229448	-0.59	0.03	0.81	0.14
Avg std of 6 month return	229448	0.01	0.04	0.20	0.03
Average 6 month flow	229448	-4.41e+07	436480.47	5.01e+08	7194956.61
ISS with MGMT	229448	0.00	0.85	1.00	0.22

Panel C: Summary statistics for analysis of changes in voting on "director" related issues

	count	min	mean	max	sd
Vote w/ mgmt director issue	217408	0.00	0.92	1.00	0.19
Value hold pct	217408	0.00	0.03	1.00	0.08
Avg cumulative 6 month return	217408	-0.55	0.03	0.81	0.14
Avg std of 6 month return	217408	0.00	0.04	0.20	0.03
Average 6 month flow	217408	-4.41e+07	438570.64	5.01e+08	7363396.56
ISS with mgmt on director issues	217408	0.00	0.91	1.00	0.21

Panel D: Summary statistics for the analysis of changes in voting on issues related to elections

	count	min	mean	max	sd
Vote w/ mgmt elect issue	216920	0.00	0.93	1.00	0.19
Value hold pct	216920	0.00	0.03	1.00	0.09
Avg cumulative 6 month return	216920	-0.55	0.03	0.74	0.14
Avg std of 6 month return	216920	0.00	0.04	0.20	0.03
Average 6 month flow	216920	-4.41e+07	443808.10	5.01e+08	7395935.60
ISS with mgmt on election issues	216920	0.00	0.91	1.00	0.21

Summary statistics (cont.)

Panel E: Summary statistics for the analysis of changes in voting on "audit" issues

	count	min	mean	max	sd
Vote w/ mgmt auditissue issue	208817	0.00	0.98	1.00	0.13
Value hold pct	208817	0.00	0.03	1.00	0.08
Avg cumulative 6 month return	208817	-0.55	0.03	0.81	0.14
Avg std of 6 month return	208817	0.01	0.04	0.16	0.03
Average 6 month flow	208817	-4.41e+07	398789.12	5.01e+08	6933717.83
ISS with mgmt on audit issue	208817	0.00	0.98	1.00	0.13

Panel F: Summary statistics for the analysis of changes in voting on "financial statement" issues

	count	min	mean	max	sd
Vote w/ mgmt finstate issue	872	0.00	0.79	1.00	0.38
Value hold pct	872	0.00	0.06	0.50	0.13
Avg cumulative 6 month return	872	-0.38	0.05	0.32	0.14
Avg std of 6 month return	872	0.02	0.04	0.11	0.02
Average 6 month flow	872	-4788359.50	-313883.48	455088.34	1150948.59
ISS with mgmt on finstate	872	0.00	0.00	0.00	0.00

Panel G: Summary statistics for the analysis of changes in voting on problematic and non-problematic directors

	count	min	mean	max	sd
Fund vote for director	604640	0.00	0.93	1.00	0.25
Number of shares	604640	0.00	7913058.88	1.70e+09	87504728.63
Age	604640	29.00	62.08	97.00	7.53
Female	604640	0.00	0.16	1.00	0.37
Committee member	604640	0.00	0.71	1.00	0.46
Value hold pct	604640	0.00	0.03	1.00	0.09
Avg cumulative 6 month return	604640	-0.55	0.02	0.81	0.15
Avg std of 6 month	604640	0.01	0.04	0.16	0.03
Avg 6 month flow	604640	-4.41e+07	434240.24	1.23e+08	6672853.27
ISS with mgmt	604640	0.00	0.94	1.00	0.23

Panel H: Summary statistics for the analysis of changes in a firm's likelihood of being targeted in an SEC accounting sanction given its institutional investors' fraud experience

	count	min	mean	max	sd
Accounting Sanction	40283	0.00	0.03	1.00	0.18
Percentage of trouble holdings	40283	0.00	0.37	1.00	0.33
Cumulative Returns	40283	-0.62	0.11	1.06	0.41
ME	40283	28419.60	2946456.37	21950752.00	5553016.33
Log(BM)	40283	4.80	6.25	7.38	0.67
SEC investigation	40283	0.00	0.48	1.00	0.50

Table 2: Beneish M-Score of portfolio holdings after fraud exposure

This table reports the coefficient estimates for the difference-in-differences analysis of the average Beneish score of the holdings of funds in the three years before and after the year in which they experienced a corporate fraud incident. *Treat* equals one if the given fund experienced a corporate fraud incident in one of its portfolio firms. *After* is an indicator variable that equals one if the year of the observation is after the year in which the fund experienced the corporate incident and zero otherwise. *Mean M-Score* is the average Beneish score of all the portfolio firms of a given institutional investor in a given year. *% High M-Scores* is the percentage of shares that have an M-Score in the top fifty percentile. Control variables are as follows. *Avg cumulative 6 month return* is the annual average of six-month cumulative returns. *Avg std of 6 month return* is the annual average of the standard deviation of six-month cumulative return. *Average 6 month flow* is the average of six-month flow. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

	(1) Mean Beneish Score	(2) Mean Beneish Score	(3) % High M-score	(4) % High M-score
After × Treat	-0.10***	-0.08***	-0.02*	-0.02***
	(-2.80)	(-2.68)	(-1.65)	(-3.22)
Control	No	Yes	No	Yes
		(-1.54)		(-0.68)
Year F.E.	No	Yes	No	Yes
Fund F.E.	Yes	Yes	Yes	Yes
Time Trend	Yes	Yes	Yes	Yes
Observations	14790	14790	14790	14790
Adjusted R^2	0.499	0.655	0.252	0.829

Table 3: Voting behavior after fraud exposure

This table reports the coefficient estimates for the analysis of the difference-in-differences analyses of changes in the voting behavior between funds that experienced corporate malfeasance incidents and those that do not have such experience. *Treat* is an indicator variable that equals one if a given institutional investor has experienced a corporate fraud incident and equals zero otherwise. *After* is an indicator variable that equals one for months after the month of the event, i.e., when the corporate incident became known, and zero otherwise. *Vote with management* is the proportion of votes that are in alignment with management of a given firm on a given year-month by a given fund. Control variables are as follows. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 month return* is the average of the last six-month cumulative returns. *Avg std of 6 month return* is the standard deviation of the prior six-month returns. *Avg 6 month flow* is the average of the last six-month returns. *ISS with MGMT* is the ratio of votes for which ISS's recommendations align with management. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

Panel A: Voting changes before and after analysis

	(1) Vote with management	(2) Vote with management
After × Treat	-0.02**	-0.02**
	(-2.34)	(-2.03)
Year F.E.	Yes	Yes
Time Trend	No	Yes
Control	No	Yes
Observations	229448	229448
Adjusted R^2	0.152	0.246

Panel B: Voting changes before and after analysis–director issues

	(1) Vote w/ mgmt director issue	(2) Vote w/ mgmt director issue
Treat × After	-0.03***	-0.03***
	(-2.88)	(-2.64)
Year F.E.	Yes	Yes
Fund F.E.	Yes	Yes
Time Trend	No	Yes
Control	No	Yes
Observations	217408	217408
Adjusted R^2	0.147	0.221

Table 3 (cont.)

Panel C: Voting changes before and after analysis–election issues

	(1) Vote w/ mgmt elect issue	(2) Vote w/ mgmt elect issue
Treat × After	-0.04**	-0.04**
	(-2.11)	(-2.26)
Year F.E.	Yes	Yes
Fund F.E.	Yes	Yes
Time Trend	No	Yes
Control	No	Yes
Observations	216920	216920
Adjusted R^2	0.121	0.222

Panel D: Voting changes before and after analysis–audit issues

	(1) Vote w/ mgmt audit issue	(2) Vote w/ mgmt audit issue
Treat × After	-0.01***	-0.01**
	(-2.61)	(-2.41)
Year F.E.	Yes	Yes
Fund F.E.	Yes	Yes
Time Trend	No	Yes
Control	No	Yes
Observations	208814	208814
Adjusted R^2	0.048	0.058

Panel E: Voting changes before and after analysis–financial statement issues

	(1) Vote w/ mgmt finstate issue	(2) Vote w/ mgmt finstate issue
Treat × After	-0.13**	-0.07*
	(-2.15)	(-1.86)
Year F.E.	Yes	Yes
Fund F.E.	Yes	Yes
Time Trend	No	Yes
Control	No	Yes
Observations	872	872
Adjusted R^2	0.790	0.862

Table 4: Propensity to vote for problematic vs. non-problematic directors
This table reports the coefficient estimates of a regression analysis that looks at whether a fund with fraud experience is less likely to vote for a director relative to a fund without such an experience on a given meeting date. *Fund vote for director* is an indicator variable that equals one if a given fund votes for the director and equals zero otherwise. Model (1) presents the coefficient estimates for the sample of problematic directors, i.e., directors who have three or more outside directorship engagements or have a social tie with the CEO. Model (2) presents the coefficient estimates for the sample of non-problematic directors. Control variables are as follows. *Number of shares* is the number of shares held by the given director. *Age* is the age of the given director. *Female* is an indicator variable for whether the director is female. *Committee member* is an indicator variable for whether the director is a member of the nomination committee, audit committee, or compensation committee. *Value hold pct* is the percentage of holdings of that given firm in the portfolio of the given fund. *Avg cumulative 6 months return* is the average of the last six-month cumulative returns. *Avg std of 6 month return* is the standard deviation of the prior six-month returns. *Avg 6 month flow* is the average of the last six-month returns. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

	(1)	(2)
	Problematic directors	Non-problematic directors
	Fund vote for director	Fund vote for director
Treat × After	-0.04**	-0.00
	(-2.25)	(-0.24)
Control	Yes	Yes
Fund F.E.	Yes	Yes
Year F.E.	Yes	Yes
Time Trend	Yes	Yes
Observations	91062	513578
Adjusted R^2	0.238	0.235

Table 5: Propensity to engage in accounting fraud when investors have fraud-experience

This table reports the coefficient estimates of regressing an indicator variable that marks whether a firm is targeted in an SEC accounting sanction on the average percentage of holdings of all the firm's institutional investors that experienced corporate malfeasance in the previous year. *Accounting Sanction* is an indicator variable that equals one if a firm is targeted in an SEC accounting sanction in a given year. *Percentage of trouble holdings* is the percentage of the value of all the firms that were involved in accounting sanctions or restatements that a given firm's institutional investors held in the last year. *Cumulative Returns* is the cumulative return in the previous year. *ME* is the market equity. *Log(BM)* is the natural logarithm of book-to-market. *SEC investigation* is an indicator variable that equals one if there is at least one SEC investigation in a given firm's state in the previous year. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the firm level.

	(1) Accounting Sanction	(2) Accounting Sanction
Percentage of troubled holdings	-0.03**	-0.03**
	(-1.97)	(-2.01)
Cumulative Returns		-0.01
		(-1.00)
ME		-0.00
		(-0.52)
Log(BM)		-0.01
		(-0.80)
SEC investigation		0.02***
		(3.55)
Year F.E.	Yes	Yes
Firm F.E.	Yes	Yes
Observations	40283	40283
Adjusted R^2	0.208	0.209

Table 6: Examples of vote issue

Voting issue	Keyword	Example
Dependent variables–white-collar criminal investigative activities		
Director	director	- Elect X as Director
		- Approve Retirement Bonuses for Directors
		- Classify the Board of Directors
		- Re-elect X as Director
		- Approve Remuneration of Directors in the Aggregate Amount of X
		- Approve Retirement Bonuses for Directors and Statutory Auditor
		- Approve Adjustment to Aggregate Compensation Ceilings for Directors and Statutory Auditors
		- Limit Composition of Committee(s) to Independent Directors
		- Adopt a Policy that will Commit Executive & Directors to Hold at least 75% of their Shares
Elect	elect	- Elect X as Director
Audit issues	audit or auditor	- Ratify X as Auditors
		- Approve Auditors and Authorize Board to Fix Their Remuneration Auditors

		- Limit Auditor from Providing Non-Audit Services
Financial statement	financial statement	- Accept Financial Statements and Statutory Reports
		- Approve Financial Statements, Allocation of Income, and Discharge Directors
		- Accept Consolidated Financial Statements and Statutory Reports

Appendix

Table A1: Change in Beneish M-Scores of portfolio holdings – Subset of SEC accounting sanctions versus restatements
Panel A reports the coefficient estimates for the difference-in-differences analysis of the average Beneish score of the holdings of funds in the three years before and after the year in which they experienced an SEC accounting sanction at one of their portfolio firms. Panel B reports the effect of experiences with restatements of firms in investors' portfolio. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

Panel A: Change in Beneish score of portfolio holdings–SEC accounting sanctions

	(1)	(2)
	Mean Annual Beneish Score	Mean Annual Beneish Score
After × Treat	-0.12***	-0.10***
	(-3.23)	(-3.74)
Control	No	Yes
Year F.E.	Yes	Yes
Fund F.E.	Yes	Yes
Time Trend	No	Yes
Observations	10536	10536
Adjusted R^2	0.582	0.602

Panel B: Change in Beneish score of portfolio holdings–restatements

	(1)	(2)
	Mean Annual Beneish Score	Mean Annual Beneish Score
After × Treat	-0.09	-0.07**
	(-1.34)	(-1.98)
Control	No	Yes
Year F.E.	Yes	Yes
Fund F.E.	Yes	Yes
Time Trend	No	Yes
Observations	4254	4254
Adjusted R^2	0.814	0.849

Table A2: Voting changes before and after analysis – Subset of SEC accounting sanctions versus restatements

Panel A reports the coefficient estimates for the analysis of the difference-in-differences analyses of changes in the voting behavior between funds that experienced an SEC accounting function at one of their portfolio firms and those that do not have such experience. Panel B reports the results for the analysis of changes in investors' voting behavior after restatements. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

Panel A: Voting changes before and after analysis–SEC accounting sanctions

	(1)	(2)
	Vote with management	Vote with management
After × Treat	-0.03**	-0.02**
	(-2.20)	(-2.15)
Control	No	Yes
Fund F.E.	Yes	Yes
Year F.E.	Yes	Yes
Time Trend	No	Yes
Observations	203927	203927
Adjusted R^2	0.130	0.131

Panel B: Voting changes before and after analysis–restatement

	(1)	(2)
	Vote with management	Vote with management
After × Treat	-0.02*	-0.02
	(-1.80)	(-1.42)
Control	No	Yes
Fund F.E.	Yes	Yes
Year F.E.	Yes	Yes
Time Trend	No	Yes
Observations	25521	25521
Adjusted R^2	0.199	0.202

Table A3: Change in Beneish M-Score after fraud exposure – Quarterly level analysis

This table reports the coefficient estimates for the difference-in-differences analysis of the average Beneish score of the holdings of funds in the three years before and after the year in which they experienced a fraud event, where the M-Scores are calculated at the quarterly level. *Treat* equals one if the given fund experienced a corporate fraud incident in one of its portfolio firms. *After* is an indicator variable that equals one if the year of the observation is after the year in which the fund experienced the corporate incident and zero otherwise. *Mean M-Score* is the average Beneish score of all the portfolio firms of a given institutional investor in a given year. *% High M-Scores* is the percentage of shares in firms that have M-Scores in the top fifty percentile. Control variables are as follows. *Avg cumulative 6 month return* is the average of the last six-month cumulative returns. *Avg std of 6 month return* is the annual average of the standard deviation of six-month cumulative return. *Average 6 month flow* is the average of six-month flow. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

	(1)	(2)	(3)	(4)
	Mean M-Score	Mean Annual Beneish Score	High M-Score	High M-Score
After × Treat	-0.06*	-0.04**	-0.02***	-0.02***
	(-1.95)	(-2.07)	(-3.59)	(-2.82)
Avg cumulative 6 months return		-270.43		-40.94
		(-1.62)		(-0.57)
Avg std of 6 months return		175.80		-405.12*
		(0.34)		(-1.74)
Average 6 months flow		-0.00		-0.00
		(-0.08)		(-0.04)
Year F.E.	Yes	Yes	Yes	Yes
Fund F.E.	Yes	Yes	Yes	Yes
Time Trend	No	Yes	No	Yes
Observations	55183	55183	55183	55183
Adjusted R^2	0.789	0.808	0.680	0.714

Table A4: Change in Beneish M-Score of funds in the same family as directly treated funds

Panel A and panel B report, respectively, the summary statistics and the coefficient estimates for the difference-in-differences analysis of the average Beneish score of the holdings of *indirectly* treated funds in the three years before and after the year when a family fund is *directly* exposed to fraud from their holdings. *Treat* equals one if the given fund experienced a corporate fraud incident in one of its portfolio firms. *After* is an indicator variable that equals one if the year of the observation is after the year in which the fund experienced the corporate incident and zero otherwise. *Mean M-Score* is the average Beneish score of all the portfolio firms of a given institutional investor in a given year. *% High M-Scores* is the percentage of shares in firms that have M-Scores in the top fifty percentile. Control variables are as follows. *Avg cumulative 6 month return* is the average of the last six-month cumulative returns. *Avg std of 6 month return* is the annual average of the standard deviation of six-month cumulative return. *Average 6 month flow* is the average of six-month flow. t-statistics are shown below the estimates, and statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Standard errors are clustered at the fund level.

Panel A: M-Score among funds in the same family as treated funds–Summary statistics

	count	min	mean	max	sd
Mean M-Score	23511	-8.69	-0.27	2.64	0.38
% High M-Scores	23511	0.00	0.51	1.00	0.23
Avg cumulative 6 months return	23511	-0.89	0.04	3.36	0.15
Avg std of 6 months return	23511	0.00	0.05	0.42	0.02
Average 6 months flow	23511	-3.99e+09	154458.73	2.06e+10	76034650.47

Panel B: M-Score among funds in the same family as treated funds

	(1) Mean M-Score	(2) Mean M-Score	(3) % High M-Scores	(4) % High M-Scores
After × Treat	-0.01	-0.01	-0.03***	-0.03**
	(-0.53)	(-0.68)	(-2.63)	(-2.45)
Control	No	Yes	No	Yes
Time F.E.	Yes	Yes	Yes	Yes
Fund F.E.	Yes	Yes	Yes	Yes
Observations	23511	23511	23511	23511
Adjusted R^2	0.255	0.255	0.273	0.273

Table A5: Voting changes before and after analysis

Panel A: Voting among funds in the same family as treated funds–Summary statistics

	count	min	mean	max	sd
Vote with management	211998	0.00	0.88	1.00	0.18
Value hold pct	211998	0.00	0.11	1.00	0.24
Avg cumulative 6 month return	211998	-0.60	0.03	0.81	0.15
Avg std of 6 months return	211998	0.00	0.04	0.16	0.03
Avg 6 month flow	211998	-1.56e+09	456047.88	5.01e+08	16405535.35

Panel B: Voting among funds in the same family as directly treated funds

	(1) Vote with management	(2) Vote with management
Treat*After	-0.01*	-0.01**
	(-1.93)	(-1.99)
Control	No	Yes
Fund F.E.	Yes	Yes
Year F.E.	Yes	Yes
Time Trend	No	Yes
Observations	211998	211998
Adjusted R^2	0.258	0.260

Table A6: Description of Variables used in this Study

Variable	**Definition**
Mean M-Score	Average Beneish score of all the portfolio firms of a given institutional investor
% High M-Scores	Percentage of shares in firms that have M-Scores in the top 50 percentile
Avg cumulative 6 month return	The average of six-month cumulative returns
Avg std of 6 month return	The average of six-month cumulative returns
Average 6 month flow	The average of six-month flow
Vote with management	The proportion of votes that are in alignment with management of a given firm on a given year-month by a given fund
Value hold pct	The percentage of holdings of that given firm in the portfolio of the given fund
Vote w/ mgmt - director issue	The proportion of votes on issues related to firm directors that are in alignment with management of a given firm on a given year-month by a given fund
Vote w/ mgmt - elect issue	The proportion of votes on issues related to firm election that are in alignment with management of a given firm on a given year-month by a given fund

Variable	Definition
Vote w/ mgmt - audit issue	The proportion of votes on issues related to firm dischargement that are in alignment with management of a given firm on a given year-month by a given fund
Vote w/ mgmt - finstate	The proportion of votes on issues related to firm financial statement that are in alignment with management of a given firm on a given year-month by a given fund
Fund vote for director	Indicator variable that equals one if a given fund votes for the director and equals zero otherwise.
Number of shares	The number of shares held by the given director
Age	Age of the given director
Female	An indicator variable for whether the director is female
Committee member	An indicator variable for whether the director is a member of the nomination committee, audit committee or compensation committee
Accounting Sanction	An indicator variable that equals one if a firm is targeted in an SEC accounting sanction in a given year

Variable	Definition
Percentage of trouble holdings	The percentage of the value of all the firms that were involved in accounting sanctions or restatements that a given firm's institutional investors held in the last year
Cumulative Returns	The cumulative return in the previous year
ME	Market equity
Log(BM)	The natural logarithm of book-to-market
SEC investigation	An indicator variable that equals one if there is at least one SEC investigation in a given firm's state in the previous year