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When are firms on the hot seat? An analysis of SEC investigation preferences

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ABSTRACT

Little is known about how the SEC selects its targets for investigation. We study this subject using a new database of formal SEC investigations. We predict and find that case selection is associated with a firm's (i) likelihood of regulatory noncompliance, (ii) exposure to private sector scrutiny, and (iii) conspicuous public trigger events. The relationship between investigations and regulatory noncompliance and private sector scrutiny preferences is sensitive to SEC constraints, whereas the relationship with triggers is not. We also examine the association between investigation motives and enforcement actions, an important SEC outcome reported to Congress. While regulatory noncompliance-motivated and public trigger-motivated investigations are more likely to result in public charges, specifically when the SEC is constrained, private sector scrutiny-motivated investigations are less likely to result in public charges. Finally, investigation rates of potential targets are associated with the career trajectories of SEC personnel, while investigation outcomes are not.

1. Introduction

Financial misreporting can destroy investor confidence and threaten the functioning of fair and efficient capital markets. Because of these threats, decades of academic literature have focused on the consequences of public enforcement and managers' incentives for misreporting. Despite this long stream of research, researchers know relatively little about how regulators pick potential targets for investigation. This is surprising since the SEC has limited investigatory resources. In fact, SEC officials have expressed the importance of case selection, noting, "Every case we pursue comes with opportunity costs in

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terms of cases not pursued" (Peiken, 2019). In this study, we examine (i) the incentives that shape SEC case selection and (ii) how these incentives impact enforcement outcomes.

The SEC can investigate firms only selectively. Discretion underlying its case selection resides at all levels, including with the enforcement staff and senior officers (SEC, 2017). Accordingly, studying the SEC's incentives and objectives and those of its enforcement agents is critical to understanding which firms it investigates and why. We develop several predictions about the drivers of case selection to explain how the SEC exercises its discretion.

Our first prediction is SEC case selection is driven by protecting investors from firms that have a greater likelihood of regulatory noncompliance. Here the SEC prioritizes cases that benefit the public or promote social welfare (e.g., Posner, 1974; Shleifer, 2005; Stigler, 1971). To do this, SEC case selection seeks to identify and rectify offenses promptly and prevent corporate misbehavior. Therefore, we predict the SEC will prioritize investigations with stronger case merit (i.e., a higher likelihood of misconduct and a greater ability to prove it) and a heightened deterrence message (i.e., legitimizing regulation and emphasizing areas of concern).

Our second prediction is SEC case selection is driven by a firm's exposure to private sector scrutiny, which may independently uncover misconduct and increase the SEC's perceived negligence. Like those of other bureaucrats, the incentives of the enforcement staff "typically come in the form of a cost of later exposure of negligence" (Schantl and Wagenhofer, 2020). Here, the enforcement division, particularly the enforcement staff members, act in a manner that protects them from reputational harm. This incentive produces reactive efforts to avoid appearing negligent if another party were to uncover misconduct.

Our final prediction is SEC case selection is driven by conspicuous public trigger events. These disclosures, by firm management or third parties, are commonly surveilled by the SEC and likely represent low-hanging fruit for enforcement. We predict the enforcement staff will be incentivized to pursue these cases, given their ease of identification. Additionally, given that the enforcement division operates with resource constraints, a public trigger benefits the staff by not requiring as much investigative effort.

We use a new database of formal SEC investigations to investigate SEC case selection. Like Blackburne et al., 2021a, we obtain a listing of formal SEC investigations through the Freedom of Information Act (FOIA). This listing includes the beginning and ending dates of all formal SEC investigations closed between 2000 and 2017. We also obtain the primary classification of each investigation through FOIA to focus on accounting and disclosure investigations.[1] This data provides insights into SEC case selection, which has previously been unobservable. Furthermore, it allows us to identify investigatory activity not conditioned on the firm being found culpable of misconduct. This contrasts with prior work that largely examines determinants of enforcement actions, which result from investigations that identify evidence of financial misreporting.

To put this distinction in perspective, we find that approximately 0.5 percent of firm quarters are associated with the initiation of a formal accounting and disclosure SEC investigation (hereafter "SEC investigation" or "investigation").[2] Of these formal investigations, however, only 18 percent (in our sample) result in an enforcement action. The fact that so few formal investigations lead to an enforcement action emphasizes the importance of understanding how the SEC picks its cases.

To proxy for firms with a greater likelihood of regulatory noncompliance, we use three empirical measures that should increase the SEC's goal of deterrence and case merit. First, to capture the idea of legitimizing regulation, we create a proxy that identifies the firm's exposure to newly enacted accounting standards and SEC regulations. Second, we use the number of recent patents to capture the firm's propensity to engage in newly emerging transactions, which may be targeted by the SEC due to the risk of increased information asymmetry for investors. Finally, we proxy for case merit with a measure that captures heightened pressures to misreport and therefore an increased likelihood of misconduct (historical earnings beat percentage). In supplemental analyses, we also consider case merit with previously used misconduct indicators.[3]

We also use three empirical proxies to measure a firm's exposure to private sector scrutiny. We select proxies for external watchdogs that have incentives to disseminate news about possible misconduct. In particular, we use proxies that capture private enforcement likelihood (i.e., percentage of industry recently subjected to securities litigation), negative media exposure, and the level of analyst following.

Last, we consider two types of events to proxy for conspicuous public triggers. The first type represents instances where managers directly admit to financial irregularities and potential wrongdoing. The second represents instances where third-party disclosures allege negative or unusual firm or manager behavior.

Our evidence is consistent with the three predictions above. First, with respect to the likelihood of regulatory noncompliance, SEC investigations are positively associated with the deterrence message proxies (i.e., firm exposure to newly enacted regulations and the amount of patenting) and the case merit proxy (percentage of historical earnings announcements that

[1] These cases provide meaningful insights on the case selection process because they are the "bread and butter of many different parts of the Division" (see Andrew Ceresney's 9/19/2013 speech, Available at: https://www.sec.gov/news/speech/spch091913ac).

[2] We focus on the initiation of SEC investigations because of our focus on case selection. If we were to instead calculate the percentage of firm quarters associated with an open investigation (i.e., set to one for any quarter residing in an open investigation window), the percentage of firm quarters under investigation equals approximately 5 percent. Our investigation total reconciles with prior research (e.g., Blackburne et al., 2021a) when considering all investigation types at an annual level.

[3] In Appendix B, we examine the extent to which investigation starts are associated with the M-Score (Beneish, 1999b) and F-Score (Dechow et al., 2011) components.

beat expectations).[4] These results are consistent with the SEC seeking out cases to increase case merit and enhance deterrence. Second, with respect to private scrutiny exposure, SEC investigations are positively associated with all three external watchdog proxies (industry securities litigation risk, negative media exposure, and high analyst following). These findings are consistent with the SEC selecting cases to mitigate the cost of appearing negligent. Last, with respect to public triggers, SEC investigations are positively associated with events where management admits potential wrongdoing and those where third parties allege firm misdeeds. This is consistent with the SEC prioritizing cases that are easily identified and likely require less resources or effort to resolve.

To help contextualize the public triggers, we also provide insights into the individual events aggregated in the management's admission and third-party-event variables. While management admissions, such as restatements and late filings, increase the probability of an investigation initiation by nearly tenfold and fourfold respectively, management disclosures of material internal control weaknesses are not significant predictors. From a third-party perspective, securities litigation increases the probability by sixteenfold, while media articles about negative credit rating actions increase the probability by more than 100%. Stock price crashes and media coverage of CEO resignations/firings and negative analyst information also meaningfully predict SEC investigation initiations, whereas auditor turnover and media coverage of negative earnings guidance or layoff information generally do not.

Next we examine whether these SEC preferences change as the opportunity costs from case selection increase. To do so, we explore the interaction of regional office busyness (i.e., larger case log per enforcement office employee) with the predicted factors above. First, consistent with prior work (e.g., Bonsall et al., 2021), we find investigation initiations to be less likely when regional offices are busy. Second, and more importantly, we show that the relationship between investigations and regulatory noncompliance and private sector scrutiny preferences is sensitive to SEC constraints, whereas the relationship with public triggers is not.[5] This is consistent with regulators consistently pursuing low-hanging fruit (i.e., the triggers) and leaning more heavily on the other two preferences as opportunity costs rise.

Having shed light on the determinants of SEC investigation initiations, we turn to examining how these preferences correlate with enforcement outcomes. We focus on SEC enforcement actions, given their high-profile nature in both practice and prior research.[6] We use our determinants model to calculate partial probabilities associated with the predicted factors and examine their association with enforcement actions. The results yield an interesting dichotomy across investigations associated with regulatory noncompliance or public triggers versus those associated with private sector scrutiny. Regulatory noncompliance-motivated and public trigger-motivated investigations are more likely to result in public charges, specifically when the SEC is constrained; however, private sector scrutiny-motivated investigations are less likely to result in public charges. Given the SEC's overarching enforcement goal of deterrence and the high-profile nature of enforcement actions, these findings should be of interest to those overseeing the SEC.

In our final analysis, we consider the role of case selection and investigation outcomes on the career outcomes of SEC personnel. On the one hand, career outcomes may be driven by concluding cases (i.e., issuing an enforcement action), particularly given the SEC's goal of deterrence and the public nature of reporting enforcement actions to Congress. On the other hand, career outcomes may be driven by opening cases, as investigation initiations may mitigate the appearance of negligence.[7] To examine these incentives, we obtain employment records for attorneys by SEC regional office and examine whether attorney turnover and promotion rates are associated with their office's rates of concluding cases, opening cases, or both. While office investigation rates are negatively (positively) associated with turnover (promotion) rates, the rates of concluding cases are not. These findings suggest it is important to minimize the likelihood of appearing negligent for enforcement personnel career concerns and help explain why certain cases might be opened, even if they are less likely to result in public charges.

This study contributes to the literature in several ways. First, our analyses provide empirical evidence on SEC investigation selection. While decades of literature have explored the determinants of AAERs, “these enforcement actions represent the end product of such investigations as opposed to the initial investigations themselves” (Kedia and Rajgopal 2011). We highlight three factors associated with the SEC's selection of investigations. Interestingly, we find that the regulatory noncompliance and public trigger motives are more likely to result in formal resolution, whereas the private sector scrutiny motive is less likely.

A better understanding of the SEC selection process is vital to advancing a variety of research streams. For example, because research on the motives for financial misreporting often uses the receipt of enforcement actions to proxy for financial misreporting, the determinants could reflect managers' incentives to misreport and the SEC investigation process (Beneish, 1999a). Furthermore, enforcement actions are widely used to proxy for poor earnings quality even though their presence depends at least partially on the case selection preferences of a constrained regulator (Dechow et al., 2010). Future research

[4] SEC investigation initiations are also positively associated with three (four) of the M-Score (F-Score) components.

[5] We note that, taken together, these two findings indicate that while the regulatory noncompliance and private sector scrutiny preferences are heightened when the SEC is constrained, these preferences predominantly attenuate the reduced investigation likelihood attributed to being busy.

[6] For practice, we highlight the fact that the Division of Enforcement annually reports the number of enforcement actions filed to Congress and is scrutinized on this number. For research, we note the high number of studies that use enforcement actions (and most prominently AAERs) as a measure of corporate misreporting.

[7] Consistent with this idea, former SEC Chairman Arthur Levitt noted that enforcement staff with the appearance of negligence “will have a difficult time gaining advancement in the future and will have a ‘mark of Cain’ attached to their names at the SEC” (Ackerman, 2011).

can work to address these confounds by taking into consideration the SEC's investigation preferences. For instance, in addition to accounting for regulator constraints, research can account for the likelihood of regulatory noncompliance-motivated, private sector scrutiny-motivated, and public trigger-motivated investigations.

2. Background and predictions

2.1. SEC investigatory process

The typical SEC investigation involves several steps (see Fig. 1) and generally begins when SEC agents obtain a "lead" suggesting the possibility of a securities law violation.[8] If a lead (often discovered through surveillance, tips, or complaints) is determined by the SEC staff to be worth pursuing, typically a matter under inquiry (MUI), also referred to as an informal investigation, will be initiated. SEC staff review firm filings, tips, complaints, and media reports during this stage. In addition, SEC staff often contact the company to request additional information. These informal investigations are generally concluded within 60 days.

If the initial findings in the MUI support the possibility of irregularities, a formal investigation is often initiated to complete fact-finding (e.g., compelling testimony by subpoena and the production of relevant documents). Following the formal investigation, the SEC will send a "Wells Notice" to the target firm if the results continue to support the SEC's concerns. A Wells Notice lays out allegations and requests the company to promptly respond with exculpatory evidence. Should the target choose not to respond or if the target's response does not persuade the enforcement staff, then allegations are presented to the commission to determine whether formal charges are necessary.[9]

Formal charges by the SEC generally proceed in two ways (based on the gravity of the perceived irregularity): (i) an administrative law judge hearing can proceed in-house, (ii) a civil action can be filed in federal court, or both. If the SEC succeeds in either forum, an enforcement action (e.g., Accounting and Auditing Enforcement Release, "AAER") is disclosed on the SEC's website. The potential outcomes of an enforcement action include payment of civil monetary penalties, cessation of current business or reporting practices, special supervision, and individual bars from practice. Investigations can cease at any point in the process, resulting in no penalties.

2.2. Prior literature

Amiram et al. (2018) provide a multidisciplinary review of financial misreporting and the associated literatures. This review highlights large literatures in finance, law, and accounting examining financial misreporting and the effectiveness of public enforcement by regulators. While this literature often focuses on the determinants of AAERs, these enforcement actions are a subset of investigations that resulted in a settlement or ruling against the target firm (Kedia and Rajgopal, 2011). Thus, despite a focus on understanding financial misreporting and the effectiveness of enforcement, "we know little about the objective function of regulatory agencies in detecting financial misreporting" (Amiram et al., 2018).

Understanding the case selection process underlying SEC enforcement is important because the SEC operates as a constrained regulator. Many prior directors of the SEC's enforcement division have openly lamented the division's resource challenges (e.g., Ceresney, 2013; Avakian, 2018). Moreover, research supports this supposition, as the SEC is less likely to open an investigation when an office's case backlog is high (Bonsall et al., 2021) and enforcement actions are less likely when the target is farther from SEC offices (Kedia and Rajgopal, 2011). Furthermore, contemporaneous research shows that the SEC may use simple heuristics in its disclosure reviews (Stice-Lawrence, 2021).[10] Because of these resource constraints, the SEC can only selectively investigate firms. This highlights the importance of understanding the investigation selection process and provides further motivation for our study.

While our understanding of SEC case selection is limited, several contemporaneous studies have begun to explore the responses of managers and other parties to SEC investigations (given the newly available SEC investigation data). For example, extant work examines managerial disclosure of SEC investigations (Blackburne and Quinn, 2022; Solomon and Soltes, 2021) and changes in accounting and operating practices around investigations (Blackburne et al., 2021b). Blackburne et al., 2021a examine the behavior of insiders around the advent of SEC investigations and show that they potentially exploit the undisclosed nature of the investigations for personal gain. Additionally, Coleman et al. (2021) examine investor behavior surrounding SEC investigations and show that investors can anticipate undisclosed SEC investigations through SEC denials of FOIA requests.

[8] Fig. 1 and our discussion of the SEC investigatory process are based on the following sources: SEC *How Investigations Work* description (https://www.sec.gov/enforce/how-investigations-work.html); Karpoff et al. (2008); Nelson et al. (2009); Kedia and Rajgopal (2011); SEC 2017; Morrison and Foerster (2014); and discussions with current and former SEC employees.

[9] During Mary Schapiro's tenure as chair of the commission, she relieved the Division of Enforcement of having to get approval from the commission before filing public charges against a target firm. http://www.washingtonpost.com/wp-dyn/content/article/2009/02/06/AR2009020602876.html.

[10] Stice-Lawrence (2021) shows that simple heuristics, such as peer firm events, organizational boundaries, and company name placement in the alphabet, are associated with disclosure review practices by the SEC. Stice-Lawrence (2021) uses internet downloads of regulatory filings by SEC employees to proxy for disclosure reviews and notes that it is unclear which SEC division is responsible for the downloads (e.g., Division of Enforcement, Division of Corporate Finance, or others). Cox et al. (2003) also show the presence of heuristic actions when analyzing SEC enforcement actions.

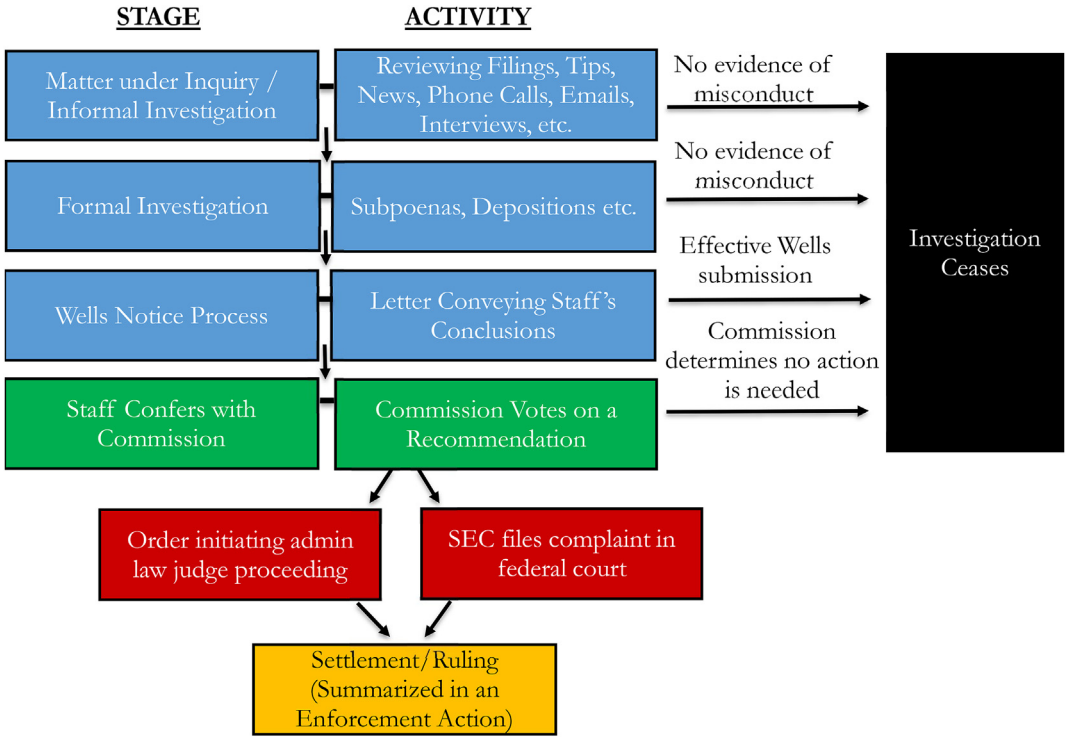

Fig. 1. Typical SEC investigation flowchart.
This figure presents a flowchart of the typical stages SEC investigations follow from the initial stage (i.e., Matters under Inquiry) to the final stage (i.e., Enforcement Action). The activity boxes provide a brief description of what activities SEC enforcement staff is engaging in at each phase in the process.

Finally, while research has explored the determinants of securities litigation and SEC comment letter activity, we do not believe that these insights generalize to SEC enforcement case selection. First, the actors (and associated incentives) differ across these activities. For example, securities litigation results from a strategic decision made by investors, whereas public enforcement is performed by an independent regulatory agency (Schantl and Wagenhofer, 2020). Second, the underlying events rarely overlap. For example, only 3% of comment letters result in a restatement, with presumably an even smaller proportion being passed to enforcement staff for investigation (Cassell et al., 2013), while less than 10% of all securities litigation filings are associated with enforcement actions (Kim and Skinner, 2012).[11] Third, while there may be strategic interactions across these parties and functions (Schantl and Wagenhofer, 2020), research has not examined these interdependencies given the historic lack of available SEC investigation data. As such, beyond the consensus belief of the SEC as a constrained regulator, we have very few insights into SEC case selection. We develop three (non-mutually exclusive) predictions to examine the factors that drive SEC case selection.

2.3. Likelihood of Regulatory Noncompliance

Our first prediction is SEC case selection is driven by protecting investors from firms that have a greater likelihood of regulatory noncompliance. As a constrained regulator, the SEC cannot undertake every possible investigation, so instead it chooses those that benefit the public at large or promote social welfare (e.g., Posner, 1974; Shleifer, 2005; Stigler, 1971). This view is consistent with the SEC's stated mission of protecting investors through enforcement.[12]

To protect the investor public, SEC case selection seeks not only to identify and rectify offenses promptly but also to prevent corporate misdeeds.[13] That is, priority should be given based on (i) the case merit or the likelihood of proving misconduct and (ii) the deterrence effect or the ability to send a message of prevention. The first dimension—merit—centers on the effective use of resources. To maximize investor protection, a constrained regulator must prioritize cases where misconduct is most likely to have occurred as well as those it is most likely to win. The SEC's enforcement manual highlights

[11] Our discussions with SEC enforcement staff support this premise, as the staff indicated that they rarely receive tips or referrals from the comment letter process.

[12] See Cox et al. (2003). In addition, public messaging by the SEC also emphasizes this mission. For example, Chairman Jay Clayton recently communicated the agency's "top priorities of protecting investors and making sure we continue to have the most vibrant and well-functioning capital markets in the world" (SEC, 2018a). Furthermore, the Division of Enforcement's website clearly notes that the "Commission's mandate is to protect investors" (see https://www.sec.gov/enforce/Article/enforce-about.html).

[13] While this premise has not been directly tied to case selection, prior work interprets it in this manner for regulation more broadly (e.g., Hail et al., 2018).

the importance of case merit, indicating that a key consideration when considering investigation is "whether the matter involves particularly egregious or extensive misconduct." Furthermore, the manual recommends that enforcement personnel consider whether a "sufficiently credible source or set of facts" suggests that an investigation "could lead to an enforcement action that would address a violation of the federal securities laws."

The second dimension toward protecting investors—deterrence—is pervasive throughout enforcement policy documentation and academic literature. For example, the enforcement manual recommends that staff consider whether "the matter presents an opportunity to send a particularly strong and effective message of deterrence." Similarly, the academic literature has long acknowledged the deterrence effects of a regulator's commitment to punish wrongdoing more broadly (e.g., Becker, 1968) and in the SEC enforcement setting more directly (Cox et al., 2003; Schantl and Wagenhofer, 2020). In particular, Cox et al. (2003) note that enforcement actions "serve as a bright beacon regarding what the SEC believes is important" with deterrence being of top priority.

The enforcement manual highlights important deterrence considerations in establishing priority cases, including newly emerging transactions and products, and whether the potential misconduct violates newly enacted regulation (SEC, 2017 p. 4). Consistent with this, recent reports highlight SEC probes into cloud computing, cyber security, cryptocurrency, fintech, and computer software.[14] The SEC presumably prioritizes these emerging areas because of the greater potential for investor harm, due to heightened information asymmetry. Furthermore, Cox et al. (2003) provide historical anecdotes supporting the importance of newly enacted regulation. For example, they point out that, in the early 2000s, the SEC brought a series of enforcement actions against firms violating the recently enacted Regulation FD, which made issuers more aware of the SEC's commitment to the equal access regulation. Similarly, Cox et al. (2003) highlight the SEC's pioneering role in the Foreign Corrupt Practices Act, which stemmed from the agency's aggressive pursuit of corporate bribery. SEC officials have also publicly discussed reinforcing newly enacted reporting standards with enforcement (Turner, 2001; White, 2015).

Collectively, our likelihood for regulatory noncompliance prediction proposes that SEC case selection will reflect proactive efforts taken in the public interest to heighten case merit (presence of and ability to prove misconduct) and a deterrence message (legitimizing regulation and emphasizing areas of concern).

2.4. Exposure to private sector scrutiny

Our second prediction is SEC case selection is driven by a firm's exposure to private sector scrutiny, which may independently uncover misconduct and increase the SEC's perceived negligence. Underlying this prediction is the idea that agency funding and enforcement staff career concerns influence case selection. Further, the resource limitations faced by the SEC not only limit the agency's ability to undertake every possible investigation, but also underscore the funding needs of the agency as a primary incentive.

The incentives of the SEC enforcement division, like those of other bureaucratic agencies, come from the cost of exposure of agency or agent negligence (Schantl and Wagenhofer, 2020). This is typical of agencies operating on fixed budgets where incentive compensation is a marginal component of overall compensation. In these instances, "career concerns are paramount in prodding officials to pursue the agencies' goals" (Dewatripont et al., 1999). For example, police officers are not rewarded when they arrest someone. Instead, the primary means of controlling their behavior is through a costly investigation of their actions (Prendergast, 2003). Officers (and other bureaucrats) are well aware that "their performance is under the spotlight when complaints are made against them," motivating them to limit complaints (Prendergast, 2003).

Based on this economic framework, we predict the enforcement division, particularly its staff members, will act in a manner that protects their reputations. That is, the SEC will seek to avoid costs associated with later exposure of negligence. This incentive is best exemplified by instances where the SEC missed its mark. For example, following the Enron and WorldCom scandals, the SEC was criticized for negligence, resulting in a "systemic and catastrophic failure" (Weil and Wilke, 2002). Similarly, SEC employees were disciplined and left with "a mark of Cain" after they failed to identify the Madoff Ponzi scheme (Ackerman, 2011).

Reputational harm could occur in many ways. At an agency level, the appearance of negligence could result in the loss of political support, potential replacement, a budget reduction, or more political oversight. Threats to agency funding are real and have been publicly discussed by former SEC officials. For example, in discussing his experience with congressional committees with oversight of the SEC, former Chairman Arthur Levitt, recounted: "They kept the heat on me by telephone calls, by letters, by congressional hearings, and ultimately by threatening the funding of the agency by threatening its very existence" (Levitt, 2002).

For the enforcement staff, the reputational penalties could include suspensions, pay cuts, demotion, termination, a reduction in the likelihood of promotion, or losing outside job opportunities (Schantl and Wagenhofer, 2020; deHaan et al., 2015). Additionally, recent research suggests government agency promotion incentives can affect financial regulator decisions

[14] See, for example, "IBM Defends Cloud-Computing Accounting Amid SEC Probe," *Bloomberg*, July 31, 2013; "Yahoo Faces SEC Probe Over Data Breaches," *The Wall Street Journal*, January 23, 2017; "Cryptocurrency Firms Targeted in SEC Probe" *The Wall Street Journal*, February 28, 2018; "The Morning Risk Report: SEC Targets Fintech Founder for Fraud," *The Wall Street Journal*, April 3, 2018; and "SEC Starts Formal Probe of SkillSoft," *The Wall Street Journal*, February 4, 2003.

(Kalmenovitz, 2021). Thus, we propose that case selection will reflect efforts to avoid appearing negligent and to protect the agency and its employees from reputational harm.

2.5. Conspicuous public trigger events

Our third prediction is SEC case selection is driven by conspicuous public trigger events. These disclosures, by firm management or third parties, are commonly surveilled by the SEC and likely represent low hanging fruit for the enforcement staff. We predict the enforcement staff will be incentivized to pursue these cases for at least two reasons. First, public triggers can lower the investigative burden on the enforcement staff to develop a lead. For example, based on an informal conversation with a former SEC staff member, we learned that all restatements are reviewed by the SEC. Additionally, the SEC has a delinquent filings program where late filings are regularly reviewed by the Division of Enforcement for investigation leads.[15]

Second, public triggers benefit the enforcement staff by not requiring as much effort to identify potential misconduct. For example, in instances such as restatements and late filings, company management has already acknowledged irregularities in disclosures or filings. Similarly, third-party reports of potential wrongdoing often provide justification for their allegations. Collectively, this proposes that the SEC prioritizes cases with public trigger events because these cases are easily identified or require less resources or effort to resolve.

3. Data and descriptive statistics

3.1. SEC investigation data and sample selection

Our research goals necessitate a proxy for investigatory activity by the SEC. To speak to case selection, the proxy should not be conditioned on the firm ultimately being found culpable of misconduct. This has been a fundamental challenge of prior work because historically researchers have only been able to observe enforcement actions (i.e., only the "successful" investigations). We use a new database of formal SEC investigations to overcome this challenge.

We obtain the same dataset of formal SEC investigations as Blackburne et al., 2021a through FOIA. This dataset produced by the SEC contains the targets of all formal SEC investigations that have closed from January 1, 2000, through August 2, 2017. It identifies over 12,000 closed formal investigations, relating not only to public companies but also to investment advisers, broker-dealers, mutual funds, and other parties under the SEC's authority. Each record includes the name of the company or issue investigated as well as the opening and closing dates of the investigation. Most of the records relate to non-registrants, money management firms, investment advisers, and ETFs. We merge these cases with Compustat and CRSP, resulting in 3,556 cases against public corporations.[16] In a separate FOIA request, we also obtain the primary classification of each investigation, which allows us to hone in on SEC case selection by focusing on accounting and disclosure cases.

Because this list of formal investigations only includes *closed* cases, the list is likely to be incomplete in later periods. We calculate the average formal investigation length (i.e., the difference between the beginning and ending investigation dates) and find that it is approximately 3.5 years. Based on this, we only include investigations opened on or before March 31, 2014, to increase the likelihood that we are observing the entire set of formal investigations for any given quarter (as March 31, 2014 is the last calendar quarter with the requisite 3.5 years in the data) and begin the sample with investigations opened after March 31, 2000 to ensure an equal distribution of calendar quarters. Finally, to allow for better identification of case selection, we limit our sample to accounting and disclosure investigations and the first investigation within a given quarter for a firm.[17] We summarize this sample selection—resulting in 1,296 qualified investigations—in Panel A of Table 1 and plot the investigations by calendar quarter in Fig. 2.

Having established a dataset of formal SEC investigations, we now turn to the main sample selection procedures for the study. Our focus on SEC case selection necessitates measuring determinants prior to the formal opening of a case. Although we observe the exact date that a formal SEC investigation is opened in our data, the length of time of pre-investigation is unknown. The SEC enforcement manual provides some guidance, however, noting that, as a general matter, informal investigations (or MUIs) "should be closed or converted to an investigation within sixty days." We validate this timeline empirically in Fig. 3 using the number of weekly SEC-initiated downloads of financial disclosures from the EDGAR servers.[18]

Based on this, we use a one calendar quarter lag from determinant measurement to investigation start (i.e., we examine the association between determinant variables measured in calendar quarter t and SEC investigations opened in calendar

[15] See https://www.sec.gov/divisions/enforce/delinquent.htm.

[16] To identify public corporations in the dataset (which was produced in the form of 299 PDF pages), we use optical character recognition technology and hand cleaning of the data to convert it to a machine-ready dataset. We then employ fuzzy matching to merge the dataset with company names in EDGAR. Finally, one of the authors and a research assistant confirm samples of the matches by hand and filter through the remaining observations to identify incremental matches (where possible). After our initial hand matching, we also obtain data from Blackburne et al. (2021a) and cross-reference our matches to ensure consistency and maximum sample size.

[17] We identify accounting and disclosure cases in the investigation logs with the "Financial Fraud/Issuer Discl." primary classification.

[18] Specifically, we plot the weekly average number of SEC-initiated downloads in Fig. 3. The figure supports the general timeline suggested in the enforcement manual, as there is a noticeable spike in SEC downloads approximately 60 days prior to the formal SEC investigation start date. This method of estimating pre-investigation activity is consistent with research exploring regulatory monitoring (Stice-Lawrence 2017, 2021).

Table 1
Sample selection for the determinants of formal SEC investigations.

Panel A: Number of Investigations		
		Investigations
Total number of closed formal SEC investigations between January 1, 2000 and August 2, 2017		12,861
Less: Investigations without a valid gvkey match or with no Compustat coverage in calendar quarter before investigation opens	−8,703	
Less: Investigation without a permno match	−602	
Less: Investigations opened before April 1, 2000 and after March 31, 2014	−244	
Less: Investigations not associated with accounting/disclosure	−1,844	
Less: Multiple investigations opened in same quarter for the same firm	−7	
Less: Investigations missing determinants variables	−165	
Total Qualified Investigations		1,296
Panel B: Main Sample Selection		
		Sample Size
Firm-quarters in the intersection of Compustat and CRSP, 2000 to 2013		382,353
Less: international firms	−46,536	
Less: missing CIK or CUSIP	−27,039	
Less: missing stock returns or market value of equity	−2,015	
Less: missing address data from EDGAR	−5,914	
Less: missing determinant variables	−35,166	
Less: observations during formal SEC investigation	−11,824	
Final Sample		253,859
Number of quarters associated with an SEC investigation in subsequent calendar quarter		1,296
		(0.51%)

This table reports the sample selection procedures for the main sample.

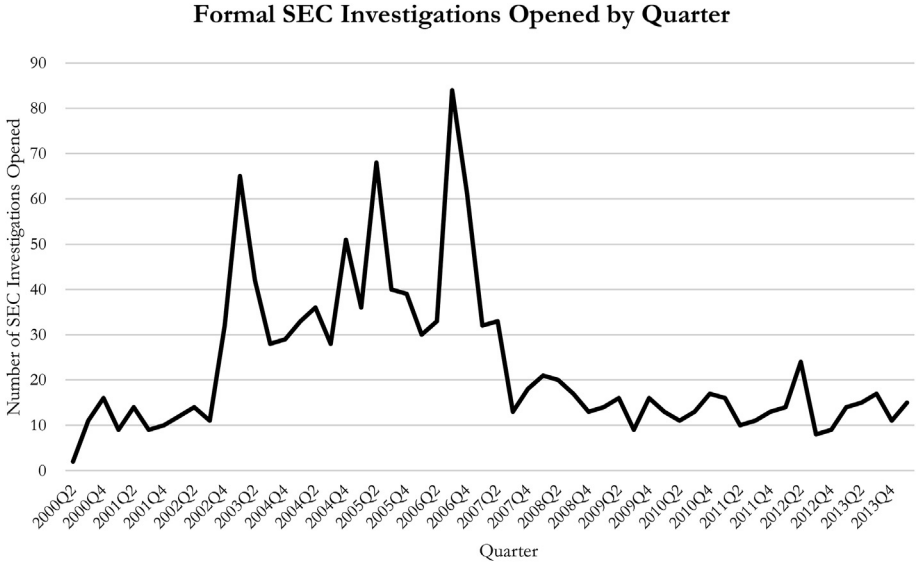

Fig. 2. Formal SEC investigations opened by quarter.
This figure graphs the total number of formal SEC accounting and disclosure investigations in our sample by calendar quarter, from 2000Q2 to 2014Q1.

quarter t+1) and organize observations by calendar quarter to align with the perspective of the SEC.[19] We begin our firm-quarter data collection with all U.S. firm-quarters in the intersection of Compustat and CRSP from January 1, 2000, through December 31, 2013 (i.e., one calendar quarter prior to our investigation sample duration), resulting in 335,817 observations (382,353 worldwide observations less 46,536 non-U.S.). We then remove firm-quarters with missing CIK/CUSIPs, missing stock return data, missing headquarters address data in EDGAR, and other missing determinant variables.[20] Last, because we are interested in case selection, we remove firm-quarters under formal SEC investigation to focus only on the initiation quarter. These steps—summarized in Panel B of Table 1—result in a final sample of 253,859 firm quarters.

[19] For example, the SEC's enforcement manual provides guidance that the staff should rank investigations and allocate resources on a quarterly basis (SEC, 2017, p.4). When variables require financial accounting information, we use the firm's most recent report during the calendar quarter.

[20] We obtain CIKs from WRDS SEC Analytics and historical CUSIPs from CRSP. In the event that a CIK is unavailable in WRDS SEC Analytics, we attempt to backfill it with a historical CIK from CRSP and then a CIK from Compustat to maximize sample size. Headquarters addresses are obtained from 10-K filings in EDGAR.

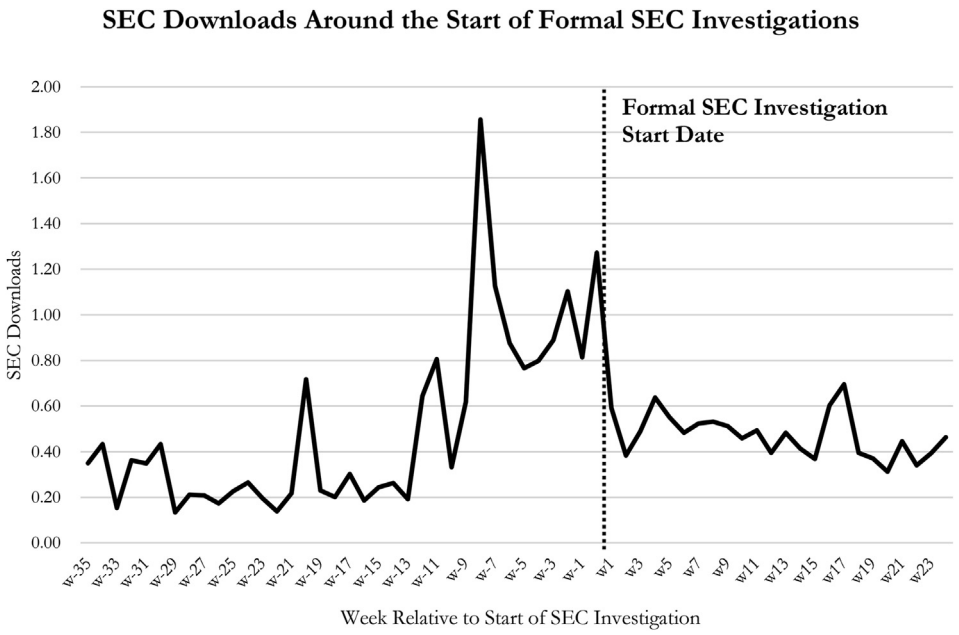

Fig. 3. SEC downloads around the start of formal SEC investigations.
This figure graphs weekly SEC downloads of 10-K, 10-Q, 8-K, Form 4, and S-1 filings around the start of formal SEC investigations related to accounting/disclosure. SEC downloads are winsorized at the 1% and 99% level by week.

3.2. Likelihood of Regulatory Noncompliance variables

To proxy for firms with a greater likelihood of regulatory noncompliance, we use three empirical proxies that should increase the SEC's goal of deterrence and case merit. First, to capture the idea of legitimizing regulation, we create a proxy that captures the firm's exposure to newly enacted regulation (*NewRegulationExposure*). To construct this proxy, we obtain the *Rel_Imp* measure data from Folsom et al. (2017). This measure calculates the relative importance of a particular accounting standard, regulation, or both to a firm each year based on the number of times it is referenced in the 10-K filing.[21] We use these scores to calculate an aggregate annual measure of the firm's exposure to *new regulation*. To do so, we set each standard's value equal to the Folsom et al. (2017) measure if it is within three years from the passage of the standard and zero otherwise. We then sum all of the standard scores to create an aggregate score of a firm's exposure to new regulation.

We next focus on the firm's propensity to engage in newly emerging transactions and technologies, as the SEC has acknowledged the importance of protecting investors in these areas due to the increased opportunity for misconduct and abuse.[22] To do so, we follow a long literature in economics and finance that proxies for technological innovation with patenting. Specifically, we obtain patent data from Kogan et al. (2017) and use the natural log of one plus the number of filed patents in the quarter (*LnNumPatents*) to proxy for this construct (Allen et al., 2021).

Finally, we proxy for case merit with a measure that captures heightened pressures to misreport and therefore an increased likelihood of misconduct.[23] Research shows that firms that frequently and consistently beat earnings benchmarks face pressure to continue to do so and that this pressure can lead to misconduct (Jensen, 2005; Chu et al., 2019). Following this premise, we use the percentage of consensus earnings forecasts that have been beaten in the last three years (*PctBeatForecast*) to proxy for instances where the SEC is more likely to find misconduct.

3.3. Exposure to private sector scrutiny variables

We use three empirical proxies to measure a firm's exposure to private sector scrutiny. We select proxies for external watchdogs that unambiguously have incentives to disseminate news about possible misconduct. While we believe other stakeholders may have incentives to uncover misreporting (e.g., auditors and blockholders), it is unclear whether these

[21] Specifically, Folsom et al. (2017) create a keyword dictionary for each standard (based on phrases firms use when discussing the underlying transaction or accounting associated with the standard) and tabulate the number of times the standard's keywords are mentioned in a firm's annual filing. The idea behind the measure is that the more a standard's keywords are mentioned in a firm's 10-K, the greater the reliance on the standard.

[22] See https://www.sec.gov/news/public-statement/corpfin-enforcement-statement-report-investigation-dao.

[23] We also consider case merit in the context of previously used misconduct indicators. Specifically, we focus on two common indices—the M-Score (Beneish 1999b) and the F-Score (Dechow et al., 2011). While these scores are intuitively appealing, they are trained on AAERs, limiting our ability to use them. Furthermore, they would significantly reduce our sample. We present supplemental results in Appendix B using the components of these measures, to avoid relying on the weights that were determined with AAER data.

parties have strong incentives to disseminate news about the uncovered misconduct.[24] Therefore we select three proxies for external watchdogs: one to capture private enforcement likelihood, one to capture general negative media exposure, and one to capture the level of analyst following.

We start with a focus on private enforcement, as recent research identifies the strategic interaction whereby private litigation in effect monitors public enforcement (Schantl and Wagenhofer, 2020). To capture this idea, we measure the proportion of industry firms with a securities litigation filing in the past three years (*PastIndustryLitigation*). We also use proxies for negative media exposure (*NegPressArticles*) and *AnalystFollowing*, as prior work documents the role of these parties as influential watchdogs with incentives to disseminate news about misconduct (e.g., Miller, 2006; Dyck et al., 2010).

3.4. Conspicuous public trigger event variables

We use two empirical proxies to measure a firm's exposure to public trigger events.

The first proxy measures instances where managers directly admit to financial irregularities and potential wrongdoing. Here we construct an indicator variable, *MgmtAdmitsEvent*, which is set to one if there is a nonreliance restatement, late filing notice, or internal weakness disclosure in the quarter. The second proxy measures instances where third-party disclosures allege negative or conspicuous firm or manager behavior. Here we use an indicator variable, *ThirdPartyEvent*, which is set to one for securities litigation, large stock price drops, auditor turnovers, and media articles on events including CEO firings/resignations, negative credit ratings, negative guidance, negative financial analyst ratings or opinions, and layoffs.

3.5. Regional office busyness variable

In our empirical analyses, we employ a measure of regional office busyness to proxy for SEC workload constraints. To construct this variable, we first calculate the number of open formal investigations at the end of the calendar quarter for the SEC regional office with a geographic nexus over a firm's headquarters (*RegionalOfficeOpenCases*).[25] Next we regress *RegionalOfficeOpenCases* on the number of full-time equivalent employees in the firm's regional SEC office (*RegionalOfficeFTE*) and fixed effects for each regional office.

We present the results of this regression in Panel A of Table 2. We find the result economically intuitive, as the coefficient estimate on *RegionalOfficeFTE* suggests that adding one enforcement staffer yields the ability to open approximately three additional investigations, on average. The specification also indicates strong goodness of fit with an adjusted R-squared of 83.8%. We use the residual from this regression to measure a regional office's abnormal level of caseload busyness (*RegionalOfficeBusyness*).

3.6. Descriptive statistics

Table 2 Panel B provides descriptive statistics and univariate tests across investigation started and non-investigation started firm-quarters. In terms of the likelihood of regulatory noncompliance proxies, the univariate results indicate that investigated firms tend to have greater exposure to new regulation, more patents, and higher historical earnings beat rates. In terms of the exposure to private sector scrutiny proxies, investigated firms tend to be in industries with more past securities litigation, have more negative media articles, and have greater analyst coverage. Last, in terms of public trigger events, investigated firms tend to have a greater percentage of management admissions and a greater percentage of third party communications alleging negative or conspicuous behavior.

We also find several significant differences in the control variables that we employ. Investigated firms tend to be larger, more visible (i.e., in the S&P 500), and older than non-investigated ones on average. They also tend to have lower quarterly returns, higher leverage, a lower book-to-market ratio, and are closer to the regional office.[26]

We also present a correlation table in Panel C of Table 2. Consistent with the results in Panel B, we find positive univariate correlations between *InvestigationStart* and all of the likelihood of regulatory noncompliance, exposure to private sector scrutiny, and public trigger event proxies. That is, *NewRegulationExposure*, *LnNumPatents*, *PctBeatForecast*, *PastIndustryLitigation*, *NegPressArticles*, *AnalystFollowing*, *MgmtAdmitsEvent*, and *ThirdPartyEvent* are all positively correlated with *InvestigationStart* with a significance level of 0.05 or better. Furthermore, while the correlation magnitudes may appear modest at face value, they should be taken in context with the unconditional probability of an investigation start at 0.51 percent per quarter. We also find a positive correlation between *InvestigationStart* and the firm size controls.

[24] In addition, these other stakeholders can influence the governance and reporting of the firm. By focusing on external watchdogs, we avoid these alternative explanations.

[25] The *RegionalOfficeOpenCases* variable is consistent with the constraint variable used by Bonsall et al. (2021).

[26] These univariate results also indicate that investigated firms tend to be in regions with busier SEC regional offices. These univariate results are difficult to interpret, however, as they do not account for differential SEC resources and time trends. We account for this limitation with regional office-year fixed effects in our regressions.

Table 2
Descriptive statistics.

Panel A: Estimating Regional Office Busyness

Dep. Var.: RegionalOfficeOpenCases$_t$	Coeff. Est.	T-Stat
RegionalOfficeFTE$_t$	2.8839***	153.45
Regional Office FE	Yes	
N	253,859	
Adjusted R^2	83.77%	

Panel B: Univariate Statistics

	InvestigationStart$_{t+1}$ = 1 (n = 1,296)		*InvestigationStart$_{t+1}$ = 0 (n = 252,563)*		Test of Difference (P-values)	
	Mean	Median	Mean	Median	Mean	Median
Likelihood of Regulatory Noncompliance (NonComply) Variables:						
NewRegulationExposure$_t$	2.1114	0.3510	1.5194	0.0554	<0.01	<0.01
LnNumPatents$_t$	0.5717	0.0000	0.2341	0.0000	<0.01	<0.01
PctBeatForecast$_t$	0.5299	0.5833	0.4072	0.4167	<0.01	<0.01
Exposure to Private Sector Scrutiny (PrivateScrutiny) Variables:						
PastIndustryLitigation$_t$	0.0537	0.0435	0.0394	0.0290	<0.01	<0.01
NegPressArticles$_t$	13.5116	7.0000	5.8147	3.0000	<0.01	<0.01
AnalystFollowing$_t$	9.1998	7.0000	4.9937	3.0000	<0.01	<0.01
Public Trigger Events:						
MgmtAdmitsEvent$_t$	0.3210	0.0000	0.0608	0.0000	/	<0.01
ThirdPartyEvent$_t$	0.5571	1.0000	0.2860	0.0000	/	<0.01
Control Variables:						
QtrRet$_t$	−0.0570	−0.0564	0.0170	−0.0037	<0.01	<0.01
LnMVE$_t$	6.7501	6.6854	5.6428	5.5981	<0.01	<0.01
SmallIndicator$_t$	0.2608	0.0000	0.4451	0.0000	/	<0.01
SP500$_t$	0.2569	0.0000	0.0909	0.0000	/	<0.01
Leverage$_t$	0.1815	0.1162	0.1718	0.0956	0.0891	0.0250
BTM$_t$	0.6599	0.4677	0.7122	0.5468	0.0117	<0.01
Age$_t$	2.7428	2.7081	2.5684	2.5649	<0.01	<0.01
RegionalOfficeBusyness$_t$	10.9233	10.0813	−0.0561	−3.2328	<0.01	<0.01
RegionalOfficeDistance$_t$	141.1373	41.7000	148.3826	81.8000	0.1302	<0.01

Panel C: Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(1) Investigation Start$_{t+1}$	1	**0.01**	**0.02**	**0.03**	**0.03**	**0.04**	**0.04**	**0.08**	**0.04**	**−0.02**	**0.04**	**−0.03**	**0.04**	**0.00**	**−0.01**	**0.01**	**0.02**	**−0.01**
(2) NewRegulation Exposure$_t$	**0.02**	1	**0.01**	**0.04**	**0.06**	**−0.03**	**0.01**	0.00	**0.01**	**0.02**	**0.03**	**−0.04**	0.00	**0.02**	**−0.03**	**−0.07**	**−0.02**	**−0.02**
(3) LnNumPatents$_t$	**0.04**	**0.05**	1	**0.14**	**0.11**	**0.25**	**0.49**	**−0.06**	**0.14**	0.00	**0.38**	**−0.35**	**0.15**	**0.06**	**−0.04**	**0.04**	**0.02**	**−0.01**
(4) PctBeatForecast$_t$	**0.02**	**0.03**	**0.15**	1	**0.14**	**0.23**	**0.29**	**−0.03**	**0.12**	**0.01**	**0.28**	**−0.21**	**0.27**	**−0.04**	**−0.18**	**0.10**	**−0.02**	**−0.02**
(5) PastIndustry Litigation$_t$	**0.03**	**0.13**	**0.10**	**0.08**	1	**0.10**	**0.10**	**0.04**	**0.07**	**−0.05**	**−0.03**	**0.02**	**0.01**	**−0.24**	**−0.12**	**−0.07**	**0.06**	**−0.12**
(6) NegPress Articles$_t$	**0.06**	**−0.01**	**0.34**	**0.21**	**0.05**	1	**0.50**	**−0.01**	**0.39**	**−0.02**	**0.49**	**−0.41**	**0.34**	**0.11**	**−0.17**	**0.19**	**0.11**	**−0.03**
(7) Analyst Following$_t$	**0.05**	**0.03**	**0.38**	**0.37**	**0.07**	**0.51**	1	**−0.10**	**0.31**	**0.02**	**0.78**	**−0.67**	**0.42**	**0.13**	**−0.24**	**0.12**	**0.04**	**−0.01**
(8) MgmtAdmits Event$_t$	**0.08**	0.00	**−0.04**	**−0.06**	**0.02**	**−0.02**	**−0.08**	1	**0.03**	**−0.05**	**−0.12**	**0.10**	**−0.05**	**−0.02**	**0.00**	**−0.03**	**0.06**	**−0.03**
(9) ThirdPartyEvent$_t$	**0.04**	**0.03**	**0.14**	**0.14**	**0.06**	**0.35**	**0.31**	**0.03**	1	**−0.18**	**0.23**	**−0.19**	**0.21**	**0.06**	**−0.05**	**0.08**	**0.03**	**−0.02**
(10) QtrRet$_t$	**−0.02**	**0.03**	**0.01**	**−0.01**	0.00	**−0.02**	**−0.01**	**−0.04**	**−0.20**	1	**0.14**	**−0.12**	**0.02**	**0.03**	**−0.14**	**0.04**	**−0.04**	**0.02**
(11) LnMVE$_t$	**0.04**	**0.04**	**0.35**	**0.37**	**−0.05**	**0.50**	**0.74**	**−0.12**	**0.23**	**0.09**	1	**−0.86**	**0.48**	**0.22**	**−0.33**	**0.26**	**0.05**	**−0.01**
(12) SmallIndicator$_t$	**−0.03**	**−0.05**	**−0.23**	**−0.35**	**0.04**	**−0.33**	**−0.57**	**0.10**	**−0.19**	**−0.08**	**−0.81**	1	**−0.28**	**−0.18**	**0.28**	**−0.19**	**−0.05**	**0.01**
(13) SP500$_t$	**0.04**	**0.01**	**0.36**	**0.15**	0.00	**0.50**	**0.55**	**−0.05**	**0.21**	0.00	**0.55**	**−0.28**	1	**0.12**	**−0.12**	**0.30**	0.00	**−0.01**
(14) Leverage$_t$	0.00	**0.04**	**−0.03**	**0.06**	**−0.16**	**0.08**	**0.06**	**−0.01**	**0.06**	**0.01**	**0.15**	**−0.15**	**0.06**	1	**0.01**	**0.13**	0.00	**0.06**
(15) BTM$_t$	**−0.01**	**−0.01**	**−0.13**	**−0.05**	**−0.05**	**−0.09**	**−0.19**	**0.01**	**−0.02**	**−0.14**	**−0.33**	**0.28**	**−0.09**	**−0.06**	1	**0.03**	**−0.06**	**0.06**
(16) Age$_t$	**0.02**	**−0.07**	**0.14**	**0.06**	**−0.09**	**0.20**	**0.17**	**−0.03**	**0.08**	**0.02**	**0.27**	**−0.19**	**0.31**	**0.07**	**−0.01**	1	**0.04**	**0.05**
(17) RegionalOffice Busyness$_t$	**0.01**	**−0.08**	**−0.01**	**0.02**	**0.01**	**0.06**	**0.01**	**0.06**	**0.03**	**−0.04**	**0.04**	**−0.04**	0.00	**−0.01**	**−0.06**	**0.02**	1	**0.02**
(18) RegionalOffice Distance$_t$	0.00	**−0.03**	**−0.04**	0.00	**−0.10**	**−0.03**	**0.00**	**−0.03**	**−0.01**	**0.01**	**0.00**	**−0.01**	**−0.01**	**0.02**	**0.03**	**0.04**	**0.01**	1

Panel A reports the results of estimating regional office busyness. Regional office busyness is estimated by calculating the residual from regressing the total number of cases outstanding for the regional office at the end of the quarter on the number of full-time equivalents at the regional office and a regional office fixed effect. Panel B reports descriptive statistics and univariate tests of differences for the sample summarized in Table 1. Tests of differences are based on two-sided t-tests for means, Wilcoxon rank-sum tests for medians, and X^2 tests for binary variables (shown in the median column) for investigation and non-investigation observations. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendix A for variable definitions.

Panel C reports a correlation matrix for the sample summarized in Table 1. Pearson (Spearman) correlations are reported in the lower (upper) triangle. Correlation coefficients with a significance level of 0.05 or better are bolded. See Appendix A for variable definitions.

4. Research design and empirical results

4.1. Determinants of formal investigation initiations

We begin our analysis of the factors that drive SEC formal investigation initiations with the following linear probability model.

$$\begin{aligned} InvestigationStart_{i,[t+1]} = {} & \beta_0 + \beta_{1\text{-}3} Likelihood\ of\ Regulatory\ Noncompliance_{it} \\ & + \beta_{4\text{-}6} Exposure\ to\ Private\ Sector\ Scrutiny_{it} \\ & + \beta_{7\text{-}8}\ Public\ Trigger\ Events + \beta_{9\text{-}17} Controls_{it} \\ & + \text{Regional Office-Year Fixed Effects}_t + \varepsilon_{it}, \end{aligned} \quad (1)$$

where the dependent variable is the presence of an accounting/disclosure SEC investigation start in calendar quarter t+1. *Likelihood of Regulatory Noncompliance*, *Exposure to Private Sector Scrutiny*, and *Public Trigger Events* represent the vector of proxies described in sections 3.2, 3.3, and 3.4, respectively.

We follow Kedia and Rajgopal (2011) to determine the appropriate set of control variables. Specifically, we include variables to control for firm size and visibility (*LnMVE*, *SmallIndicator*, and *SP500*), firm *Leverage*, the book-to-market ratio (*BTM*), and firm *Age*. We also supplement these controls with the quarterly stock return (*QtrRet*) to account for firm performance. Finally, because research documents the importance of resource constraints to SEC activity, we include *RegionalOfficeBusyness* (as described in section 3.5) and the distance of a firm's headquarters from its regional SEC office (*RegionalOfficeDistance*), following Kedia and Rajgopal (2011). We also include regional office-calendar year fixed effects (consistent with Bonsall et al., 2021) to control for regional office leadership, personnel makeup, and office technologies, all of which likely change over time for each regional office during our sample period. We use a linear probability model to ease interpretation and accommodate the number of fixed effects.[27] We cluster standard errors by firm. All variables are defined in Appendix A.

We present the results of estimating equation (1) in Table 3. Column (1) reports results with only the controls and fixed effects; columns (2), (3), and (4) add the *Likelihood of Regulatory Noncompliance*, *Exposure to Private Sector Scrutiny* and *Public Trigger Events* variables, respectively, while column (5) includes the full results of equation (1). We also consider a parsimonious specification that aggregates the continuous measures within the *Likelihood of Regulatory Noncompliance* and *Exposure to Private Sector Scrutiny* variables using principal component analysis in column (6).

Column (1) documents the role of resource constraints, as suggested by prior work. For example, *RegionalOfficeBusyness* is negative and significant, consistent with prior resource constraint arguments (Bonsall et al., 2021). Furthermore, many of the controls from prior work, largely examining AAERs, load as expected.

Columns (2)–(6) provide strong support for all three predictions. First, column (2) shows a positive association between *InvestigationStart* and each of the likelihood of regulatory noncompliance proxies (*NewRegulationExposure*, *LnNumPatents*, and *PctBeatForecast*). Second, column (3) shows a positive association between *InvestigationStart* and each of the exposure to private sector scrutiny proxies (*PastIndustryLitigation*, *NegPressArticles*, and *AnalystFollowing*). Third, column (4) shows a positive association between *InvestigationStart* and both public trigger proxies (*MgmtAdmitsEvent* and *ThirdPartyEvent*). Finally, column (5) reveals that all eight proxies remain statistically significant when they are all included in the model. Column (6) also provides further support for the three predictions with a more parsimonious presentation. We also note the models provide strong predictive ability even though the adjusted R-squared measures appear modest at face value.[28]

The predictors in Table 3 are not only statistically significant but also economically meaningful. For example, in column (5), moving across the interquartile range of *NewRegulationExposure* or *PctBeatForecast* increases the probability of an investigation start by 8% and 21%, respectively, relative to the unconditional probability of 0.51%. Similarly, moving from zero to one patent increases the probability by 15%.[29] Further, moving across the interquartile range of *PastIndustryLitigation*, *NegPressArticles*, and *AnalystFollowing* increases the probability of an investigation start by 18%, 41%, and 41%, respectively.[30] Finally, the presence of a *MgmtAdmitsEvent* increases the probability by over four and a half times, whereas the presence of a *ThirdPartyEvent* increases it by 37%.

[27] In addition, linear probability models with fixed effects outperform logistic regressions when the dependent measure is a relatively rare event (Timoneda 2021). However, we note the results in Table 3 are generally consistent when estimating equation (1) with logistic regression.

[28] While we present adjusted R^2 measures for comparison purposes with other OLS models, Kim and Skinner (2012) indicate such measures do not adequately assess fit for models such as ours. Instead, they recommend the area under the ROC curve (AROC). In untabulated analyses, we estimate the corresponding logistic regressions for columns (1) through (6) and find that the AROC metric compares favorably to litigation models in Kim and Skinner (2012). For example, the AROC increases from 76% in column (1) to 84% in column (5), which is generally classified as excellent discrimination.

[29] Specifically, the coefficient estimate of 0.0002 (0.0014) on *NewRegulationExposure* (*PctBeatForecast*) indicates that a move across the interquartile range, from 0 to 2.0495 (0–0.7500), would yield an increase of 0.0004 (0.0011) or 8% (21%) of the unconditional probability of 0.51%. The coefficient estimate of 0.0011 on *LnNumPatents* indicates that an increase from 0 to 1 patent (0–0.6931 in the log-transformed variable) would yield an increase of 0.0008 or 15% of the unconditional probability of 0.51%.

[30] Specifically, the coefficient estimates of 0.0236, 0.0003, and 0.0003 on *PastIndustryLitigation*, *NegPressArticles*, and *AnalystFollowing*, respectively, indicate increases of 0.0009, 0.0021, and 0.0021 when moving across the respective interquartile ranges (from 0.0140 to 0.0526 for *PastIndustryLitigation*, 0 to 7 for *NegPressArticles*, and 0 to 7 for *AnalystFollowing*). These increases are 18%, 41%, and 41% of the unconditional probability of 0.51%.

Table 3
Determinants of formal SEC investigation initiations.

Dep. Var.: $InvestigationStart_{t+1}$	Column (1)		Column (2)		Column (3)		Column (4)		Column (5)		Column (6)	
	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
Likelihood of Regulatory Noncompliance (NonComply):											0.0011***	4.63
NewRegulation Exposure$_t$	/	/	0.0003***	3.72	/	/	/	/	0.0002**	2.52	/	/
LnNumPatents$_t$	/	/	0.0020***	4.55	/	/	/	/	0.0011**	2.59	/	/
PctBeatForecast$_t$	/	/	0.0022***	5.00	/	/	/	/	0.0014***	3.13	/	/
Exposure to Private Sector Scrutiny (PrivateScrutiny):											0.0041***	9.85
PastIndustryLitigation$_t$	/	/	/	/	0.0292***	5.72	/	/	0.0236***	4.62	/	/
NegPressArticles$_t$	/	/	/	/	0.0003***	8.50	/	/	0.0003***	6.85	/	/
AnalystFollowing$_t$	/	/	/	/	0.0004***	6.32	/	/	0.0003***	5.24	/	/
Public Trigger Events:												
MgmtAdmitsEvent$_t$	/	/	/	/	/	/	0.0234***	17.30	0.0231***	17.09	0.0232***	17.14
ThirdPartyEvent$_t$	/	/	/	/	/	/	0.0038***	10.06	0.0019***	4.97	0.0019***	4.98
Controls:												
QtrRet$_t$	−0.0054***	−9.05	−0.0052***	−8.68	−0.0044***	−7.40	−0.0036***	−6.16	−0.0033***	−5.66	−0.0032***	−5.51
LnMVE$_t$	0.0011***	6.42	0.0007***	4.48	−0.0001	−0.69	0.0015***	8.66	0.0003**	2.00	0.0002	1.12
SmallIndicator$_t$	0.0004	0.69	0.0005	0.87	0.0001	0.13	0.0008	1.51	0.0006	1.07	0.0006	1.14
SP500$_t$	0.0066***	6.75	0.0058***	6.03	0.0015	1.55	0.0051***	5.22	0.0009	0.88	0.0008	0.78
Leverage$_t$	0.0002	0.30	0.0004	0.51	0.0009	1.15	−0.0005	−0.71	0.0002	0.25	0.0001	0.13
BTM$_t$	0.0010***	4.39	0.0009***	4.09	0.0008***	3.43	0.0011***	4.86	0.0009***	3.98	0.0009***	3.85
Age$_t$	0.0002	1.01	0.0002	1.14	0.0005**	2.55	0.0002	1.08	0.0005**	2.44	0.0005**	2.55
RegionalOfficeBusyness$_t$	−0.0001***	−5.45	−0.0001***	−5.45	−0.0001***	−5.48	−0.0001***	−5.62	−0.0001***	−5.58	−0.0001***	−5.55
RegionalOfficeDistance$_t$	0.0000	−1.48	0.0000	−0.89	0.0000	−0.02	0.0000	−0.45	0.0000	0.99	0.0000	0.76
Regional Office-Year FE	Yes		Yes		Yes		Yes		Yes		Yes	
N	253,859		253,859		253,859		253,859		253,859		253,859	
Adjusted R^2	0.58%		0.63%		0.79%		1.25%		1.42%		1.41%	

This table reports the results of regressions examining the determinants of formal SEC investigations. The dependent variable, $InvestigationStart_{t+1}$, is an indicator variable set to one if the SEC opens a formal investigation related to accounting/disclosure in the next calendar quarter and zero otherwise. In Column 6, factor variables based on the first three *NonComply* and *PrivateScrutiny* variables are reported in the row titled "Likelihood of Regulatory Noncompliance (NonComply)" and "Exposure to Private Sector Scrutiny (PrivateScrutiny)," respectively. Standard errors are clustered by firm. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendix A for variable definitions.

Finally, supplemental analyses using conventional misconduct indicator components yield additional support for the likelihood of regulatory noncompliance prediction. In Appendix B, Table B.1 (Table B.2), we examine the association between SEC investigations and the M-Score (F-Score) components. That is, we augment the column (6) specification with the M-Score (F-Score) components and find that three of the eight (four of the seven) components are positively and significantly associated with *InvestigationStart*, as predicted. The likelihood of regulatory noncompliance, exposure to private sector scrutiny, and public trigger proxies remain positive and significant in these alternative specifications.

4.2. Analysis of public trigger events

Prior research studies investigation triggers (e.g., Karpoff et al., 2008), but because it only examines a subset of investigations that resulted in a settlement or ruling against the target firm, the extent to which these events influence case selection is unknown. Therefore, we next provide insights into the cross-sectional importance within the management admits disclosures and the third-party allegations. Specifically, starting with equation (1), we replace *MgmtAdmitsEvents* with its component events: the filing of restated firm financials (*Restate*); failure to file a 10-K, 10-Q, or 8-K before the required deadline (*LateFiler*); and management's reporting of a material internal control weakness (*ICWeakness*). Similarly, we replace *ThirdPartyEvent* with its component events: the presence of a securities litigation filing (*Litigation*), *AuditorTurnover*, the presence of a *StockPriceCrash*, and a series of business press events. These media-related events feature the company and prominently discuss executive resignation/firing (*ExecTurnoverArticles*), negative firm guidance (*NegGuidanceArticles*), credit rating downgrades (*NegCreditRatingArticles*), negative financial analyst ratings or opinions (*NegAnalystArticles*), and layoffs (*LayoffsArticles*).[31] We define variables in Appendix A.

We first present univariate evidence of the potential trigger events in Table 4 Panel A. All of the events, both management-admits and third-party related, are significantly more prevalent for investigation-start quarters than for non-investigation-

[31] We chose these specific article categories by reviewing article frequencies and average article sentiment scores in RavenPack (i.e., ESS scores). These article types occur with regular frequency during our sample period and, on average, are scored by RavenPack as having negative sentiment.

Table 4
Analysis of public trigger events.

Panel A: Univariate Statistics

	$InvestigationStart_{t+1} = 1$ ($n = 1{,}296$)	$InvestigationStart_{t+1} = 0$ ($n = 252{,}563$)		
Variable	Mean	Mean	Difference	P-Value
Management Admits Events:				
$Restate_t$	0.2029	0.0158	0.1871	<0.01
$LateFiler_t$	0.1998	0.0304	0.1694	<0.01
$ICWeakness_t$	0.0787	0.0261	0.0526	<0.01
Third Party Events:				
$Litigation_t$	0.0826	0.0039	0.0787	<0.01
$AuditorTurnover_t$	0.0255	0.0168	0.0087	0.015
$StockPriceCrash_t$	0.1366	0.0541	0.0825	<0.01
$ExecTurnoverArticles_t$	0.1690	0.0678	0.1012	<0.01
$NegGuidanceArticles_t$	0.0725	0.0357	0.0368	<0.01
$NegCreditRatingArticles_t$	0.0818	0.0224	0.0594	<0.01
$NegAnalystArticles_t$	0.3264	0.1466	0.1798	<0.01
$LayoffsArticles_t$	0.0525	0.0206	0.0319	<0.01

Panel B: Analysis of Public Trigger Events

	Column (1)		Column (2)		Column (3)	
Dep. Var.: $InvestigationStart_{t+1}$	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
Management Admits Events:						
$Restate_t$	0.0514***	14.26	/	/	0.0497***	13.95
$LateFiler_t$	0.0224***	11.78	/	/	0.0214***	11.35
$ICWeakness_t$	−0.0002	−0.10	/	/	−0.0003	−0.21
Third Party Events:						
$Litigation_t$	/	/	0.0880***	9.77	0.0824***	9.33
$AuditorTurnover_t$	/	/	0.0034**	2.55	0.0011	0.85
$StockPriceCrash_t$	/	/	0.0048***	4.90	0.0038***	3.91
$ExecTurnoverArticles_t$	/	/	0.0033***	3.87	0.0028***	3.37
$NegGuidanceArticles_t$	/	/	−0.0009	−0.85	−0.0008	−0.77
$NegCreditRatingArticles_t$	/	/	0.0062***	3.41	0.0059***	3.23
$NegAnalystArticles_t$	/	/	0.0012**	2.13	0.0012**	2.10
$LayoffsArticles_t$	/	/	−0.0002	−0.10	−0.0003	−0.17
Likelihood of Regulatory Noncompliance (NonComply):						
$NonComplyFactor_t$	0.0011***	4.57	0.0011***	4.61	0.0011***	4.74
Exposure to Private Sector Scrutiny (PrivateScrutiny):						
$PrivateScrutinyFactor_t$	0.0044***	10.93	0.0034***	8.69	0.0032***	8.14
Controls:						
$QtrRet_t$	−0.0037***	−6.34	−0.0016***	−2.75	−0.0015***	−2.66
$LnMVE_t$	0.0001	0.75	−0.0002	−1.36	0.0003	1.62
$SmallIndicator_t$	0.0006	1.07	0.0003	0.48	0.0006	1.12
$SP500_t$	0.0009	0.93	0.0018*	1.85	0.0014	1.50
$Leverage_t$	0.0000	−0.03	0.0003	0.35	−0.0005	−0.66
BTM_t	0.0008***	3.66	0.0006***	2.64	0.0007***	3.16
Age_t	0.0005**	2.41	0.0006***	3.37	0.0006***	2.98
$RegionalOfficeBusyness_t$	−0.0001***	−5.55	−0.0001***	−5.74	−0.0001***	−5.82
$RegionalOfficeDistance_t$	0.0000	0.68	0.0000	0.16	0.0000	0.83
Regional Office-Year FE	Yes		Yes		Yes	
N	253,859		253,859		253,859	
Adjusted R^2	2.12%		1.52%		2.74%	

Panel A reports descriptive statistics for the public trigger events analysis. The last column displays the results of a X^2 test of the differences in the mean for investigation and non-investigation observations (two-tailed test). See Appendix A for variable definitions.
Panel B reports the results of regressions of the association between public trigger event proxies and the initiation of SEC investigations. The dependent variable, $InvestigationStart_{t+1}$, is an indicator variable set to one if the SEC opens a formal investigation related to accounting/disclosure in the next calendar quarter and zero otherwise. Standard errors are clustered by firm. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendix A for variable definitions.

start quarters. The events with the largest disparity include *Restate* (18.7% larger), *NegativeAnalystArticles* (18.0% larger), and *LateFiler* (16.9% larger).

Next we present the regression results in Panel B of Table 4. Column (1) presents the results using only the management admits events, while column (2) presents only the third-party events. Finally, column (3) estimates the column (6) specification of Table 3, disaggregating the management admits and third-party events. For the management admits events in column (1), both *Restate* and *LateFiler* are strongly associated with *InvestigationStart*, whereas *ICWeakness* is not. Turning to the third-party events in column (2), six of the eight are associated with *InvestigationStart*. In particular, *Litigation*, *AuditorTurnover*, *StockPriceCrash*, and three of the five media-related events (*ExecTurnoverArticles*, *NegCreditRatingArticles*, and *NegAnalystArticles)* are significant predictors of *InvestigationStart*.

From an economic magnitude perspective, restatements and late filings have the largest impact on the likelihood of SEC investigations in the management admits events, while securities litigation and negative media articles related to credit rating downgrades have the largest effect in third-party events. For example, the probability of an investigation start increases by nearly tenfold when preceeded by a restatement (*Restate*) and by fourfold when preceeded by a late filing notification (*LateFiler*), relative to the unconditional probability of 0.51%. The probability increases by sixteenfold when preceeded by *Litigation* and by over 100% when preceeded by *NegCreditRatingArticles*. Collectively, the evidence provides greater context on the importance of conspicuous public triggers as drivers of SEC case selection.

4.3. SEC investigation preferences conditional on regulator constraints

Given the importance of resource constraints in regulator decision making (e.g., Gunny and Hermis, 2020; Bonsall et al., 2021), we next examine whether the SEC preferences on investigation initiations change as the opportunity costs from case selection increase.[32] To do so, we explore the interaction of regional office busyness (i.e., larger case log per enforcement office employee) with the predicted factors examined earlier. For this analysis, we dichotomize the continuous variable, *RegionalOfficeBusyness*, described in section 3.5, into an indicator variable (*HighBusyness*) set to one for the top tercile (high busyness) and zero otherwise (low busyness) to ease interpretation of the interactions. We present descriptive statistics of residual office caseloads partitioned on *HighBusyness* in Panel A of Table 5. The interquartile range of *HighBusyness* = 1 ranges from 28.1 to 72.1 additional investigations than predicted by the model tabulated in Table 2 Panel A. In contrast, the interquartile range for *HighBusyness* = 0 remains consistently below zero (−46.2 to −3.1, or fewer investigations than predicted).

To examine whether and how constraints affect other SEC investigation preferences, we interact the preference proxies in Table 3, column 6 (*NonComplyFactor*, *PrviateScrutinyFactor*, *MgmtAdmitsEvent*, and *ThirdPartyEvent*) with *HighBusyness*. We present the results separately for the likelihood of regulatory noncompliance factor, the exposure to private sector scrutiny factor, and the public trigger events in columns (1), (2), and (3) of Table 5, Panel B, respectively, with the full model in column (4). We focus our discussion on column (4) for brevity.

First, consistent with prior work (Bonsall et al., 2021), we show that investigation initiations are overall less likely when regional office busyness is high (i.e., there is a significantly negative association between *HighBusyness* and *InvestigationStart*). Second, and more importantly, we show that the relationship between investigations and regulatory noncompliance and private sector scrutiny preferences is sensitive to SEC constraints, whereas the relationship with public triggers is not. For example, the coefficients on *NonComplyFactor x HighBusyness* and *PrivateScrutinyFactor x HighBusyness* are both significantly positive, whereas *MgmtAdmitsEvent x HighBusyness* and *ThirdPartyEvent x HighBusyness* are not significant at conventional levels.[33] Taken together, these two findings indicate that while the regulatory noncompliance and private scrutiny preferences are heightened when the SEC is busy, these preferences predominantly attenuate the reduced investigation likelihood attributed to being busy. Meanwhile, the low-hanging fruit (i.e., the triggers) are consistently pursued.

4.4. SEC investigation preferences and enforcement action likelihood

Having shed light on the determinants of SEC investigation initiations, we turn to examining how these preferences impact enforcement outcomes. We focus on enforcement actions given their high-profile nature in practice. For example, while the SEC discusses organizational performance across many dimensions in its annual reports, one prominent metric always discussed is the number of enforcement actions in the year (e.g., SEC, 2018b, 2020). Furthermore, the number of enforcement actions metric is frequently discussed in congressional testimony (White, 2016a; Clayton, 2020), the SEC's budgeting process (SEC, 2022), and the financial press (Frenkel, 2017). Last, prior SEC chairpersons have indicated that enforcement actions have the greatest potential for deterrence as they are highly publicized (White, 2016b).[34]

To test whether the motives for investigation initiations have differing likelihoods for being resolved in an enforcement action, we use our determinants model to calculate the drivers of the cases the SEC chooses to open (i.e., $InvestigationStart_{t+1} = 1$). Specifically, we calculate the partial predicted probabilities associated with the likelihood of regulatory noncompliance (*NonComplyProbability*), exposure to private sector scrutiny (*PrivateScrutinyProbability*), public trigger events (*PublicTriggersProbability*), and the controls (*ControlsProbability*) for each opened investigation.[35] We then examine the

[32] Opportunity costs arise on at least two dimensions for investigations: (i) every case pursued comes with opportunity costs in terms of cases not pursued (Peiken, 2019), and (ii) for each additional case that is opened, staff members can work less on their existing cases.

[33] There is some evidence of a positive interaction between *ThirdPartyEvent* and *HighBusyness* in column (3); however, it attenuates in the full model in column (4).

[34] Enforcement actions also have a prominent place in academic research. In particular, many studies use enforcement actions (and most prominently AAERs) as a measure of corporate misreporting. See Dechow et al. (2010) and Amiram et al. (2018) for reviews of the many papers that use AAERs.

[35] We use the column (5) specification from Table 3. Results are consistent if we use the column (6) specification from Table 3 instead, however the significance level for row (1) in Panel C of Table 6 decreases from 5% to 10%. *NonComplyProbability* is the partial predicted probability from *NewRegulationExposure*, *LnNumPatents*, and *PctBeatForecast*. *PrivateScrutinyProbability* is the partial predicted probability from *PastIndustryLitigation*, *NegPressArticles*, and *AnalystFollowing*. *PublicTriggersProbability* is the partial predicted probability from *MgmtAdmitsEvent* and *ThirdPartyEvent*. *ControlsProbability* is the partial predicted probability from *QtrRet*, *LnMVE*, *SmallIndicator*, *SP500*, *Leverage*, *BTM*, *Age*, *RegionalOfficeBusyness*, and *RegionalOfficeDistance*.

Table 5
SEC investigation preferences conditional on regulator constraints.

Panel A: Descriptive Statistics of Residual Regional Office Busyness

	P25	Median	P75
HighBusyness = 0	−46.2382	−18.0506	−3.0506
HighBusyness = 1	28.1063	45.3122	72.0801

Panel B: Analysis Conditional on Regional Office Busyness

Dep. Var.: InvestigationStart$_{t+1}$	Column (1)		Column (2)		Column (3)		Column (4)	
	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
Likelihood of Regulatory Noncompliance (NonComply):								
NonComplyFactor$_t$	0.0012***	4.66	/	/	/	/	0.0007***	2.87
NonComplyFactor x HighBusyness$_t$	0.0021***	4.04	/	/	/	/	0.0013**	2.52
Exposure to Private Sector Scrutiny (PrivateScrutiny):								
PrivateScrutinyFactor$_t$	/	/	0.0043***	10.31	/	/	0.0036***	8.35
PrivateScrutinyFactor x HighBusyness$_t$	/	/	0.0018***	3.13	/	/	0.0011*	1.73
Public Trigger Events:								
MgmtAdmitsEvent$_t$	/	/	/	/	0.0227***	13.32	0.0222***	13.01
MgmtAdmitsEvent x HighBusyness$_t$	/	/	/	/	0.0017	0.65	0.0023	0.90
ThirdPartyEvent$_t$	/	/	/	/	0.0028***	6.37	0.0015***	3.27
ThirdPartyEvent x HighBusyness$_t$	/	/	/	/	0.0029***	3.37	0.0014	1.64
Regional Office Busyness:								
HighBusyness$_t$	−0.0015*	−1.84	−0.0017**	−2.14	−0.0026***	−3.39	−0.0021***	−2.72
Controls:								
QtrRet$_t$	−0.0053***	−8.84	−0.0044***	−7.46	−0.0038***	−6.42	−0.0034***	−5.82
LnMVE$_t$	0.0007***	4.45	−0.0003*	−1.78	0.0015***	8.62	0.0002	1.27
SmallIndicator$_t$	0.0006	1.11	0.0001	0.27	0.0008	1.48	0.0007	1.25
SP500$_t$	0.0059***	6.11	0.0014	1.38	0.0051***	5.25	0.0008	0.81
Leverage$_t$	0.0004	0.53	0.0007	0.97	−0.0005	−0.70	0.0001	0.13
BTM$_t$	0.0009***	3.97	0.0007***	3.19	0.0011***	4.90	0.0009***	3.76
Age$_t$	0.0002	1.23	0.0005***	2.67	0.0002	1.05	0.0005**	2.50
RegionalOfficeDistance$_t$	0.0000	−0.96	0.0000	−0.30	0.0000	−0.45	0.0000	0.76
Regional Office-Year FE	Yes		Yes		Yes		Yes	
N	253,859		253,859		253,859		253,859	
Adjusted R^2	0.62%		0.78%		1.24%		1.42%	

This table reports the results of regressions examining the determinants of formal SEC investigations conditional on SEC regional office busyness. Panel A reports descriptive statistics for *RegionalOfficeBusyness*, estimated by calculating the residual from regressing the total number of cases outstanding for the regional office at the end of the quarter on the number of full-time equivalents at the regional office and a regional office fixed effect, by high versus low busyness. *HighBusyness* is defined as observations with *RegionalOfficeBusyness* in the upper tercile. Panel B reports the results of the analyses conditional on high regional office busyness. In Panel B, the dependent variable, *InvestigationStart$_{t+1}$*, is an indicator variable set to one if the SEC opens a formal investigation related to accounting/disclosure in the next calendar quarter and zero otherwise. Standard errors are clustered by firm. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendix A for variable definitions.

association of these predicted probabilities with the likelihood of formal case resolution, identified by the issuance of an enforcement action. Specifically, we estimate the following linear probability model.

$$\begin{aligned} EnforcementAction_{it} = {} & \beta_0 + \beta_1 NonComplyProbability_{it} + \beta_2 PrivateScrutinyProbability_{it} \\ & + \beta_3 PublicTriggersProbability_{it} + \beta_4 ControlsProbability_{it} \\ & + \text{Regional Office-Year Fixed Effects}_t + \varepsilon_{it}, \end{aligned} \quad (2)$$

where *EnforcementAction* is an indicator set to one if the investigation concludes with any enforcement action (not limited to AAERs) as tracked by the SEC.[36]

We first present univariate tests in Panel A of Table 6. Results show that the *PrivateScrutinyProbability* is lower for investigations resulting in an enforcement action versus those that do not. The regional office is also less likely to be busy (*AboveMedBusy*) when the investigation results in an enforcement action, consistent with Bonsall et al. (2021).

We present the results of estimating equation (2) in Panel B of Table 6. Column (1) presents the results with regional office and year fixed effects, and column (2) presents the results with regional office-year fixed effects (as in equation (1)). The coefficients on *NonComplyProbability*, *PublicTriggersProbability*, and *ControlsProbability* are positive; however, only *ControlsProbability* is significant at conventional levels. In contrast, we find a significant negative association between *PrivateScrutinyProbability* and *EnforcementAction.*

[36] This data is consistent with and was obtained from Blackburne and Quinn (2022).

Table 6
SEC investigation preferences and enforcement action likelihood.

Panel A: Univariate Statistics

Variable	EnforcementAction = 1 (n = 235) Mean	EnforcementAction = 0 (n = 1,061) Mean	Difference	P-Value
$NonComplyProbability_t$	0.0016	0.0018	−0.0002	0.121
$PrivateScrutinyProbability_t$	0.0065	0.0079	−0.0014	<0.01
$PublicTriggersProbability_t$	0.0091	0.0084	0.0007	0.324
$ControlsProbability_t$	0.0048	0.0042	0.0006	0.038
$AboveMedBusy_t$	0.3787	0.5250	−0.1463	<0.01

Panel B: Baseline Analysis of Enforcement Actions

	Column (1)		Column (2)	
Dep. Var.: EnforcementAction	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
$NonComplyProbability_t$	7.8421	1.11	4.7993	0.65
$PrivateScrutinyProbability_t$	−7.9395***	−4.32	−7.8025***	−3.77
$PublicTriggersProbability_t$	0.8011	0.80	0.9694	0.90
$ControlsProbability_t$	6.5151**	2.07	6.5483*	1.77
Fixed Effects	Regional Office and Year		Regional Office x Year	
N	1,296		1,282	
Adjusted R^2	13.28%		14.34%	

Panel C: Analysis of Enforcement Actions Conditional on Regional Office Busyness

	Column (1)		Column (2)	
Dep. Var.: EnforcementAction	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
(1) NonComplyProbability x $AboveMedBusy_t$	20.4043**	2.17	21.8197**	2.19
(2) NonComplyProbability x $BelowMedBusy_t$	−5.8068	−0.56	−11.0488	−0.99
(3) PrivateScrutinyProbability x $AboveMedBusy_t$	−7.6899***	−3.39	−7.9027***	−3.04
(4) PrivateScrutinyProbability x $BelowMedBusy_t$	−6.0230**	−1.99	−5.4187	−1.63
(5) PublicTriggersProbability x $AboveMedBusy_t$	2.2245*	1.72	2.1705	1.55
(6) PublicTriggersProbability x $BelowMedBusy_t$	−0.9619	−0.62	−0.8264	−0.50
(7) ControlsProbability x $AboveMedBusy_t$	5.5378	1.20	4.4761	0.85
(8) ControlsProbability x $BelowMedBusy_t$	−9.9198	−1.58	−10.3264	−1.40
(9) $AboveMedBusy_t$	−0.2349***	−4.04	−0.2468***	−3.79
(1)–(2) = 0: Fstat (P-Value)	3.58 (0.059)		4.80 (0.029)	
(3)–(4) = 0: Fstat (P-Value)	0.19 (0.663)		0.35 (0.556)	
(5)–(6) = 0: Fstat (P-Value)	2.48 (0.116)		1.92 (0.166)	
(7)–(8) = 0: Fstat (P-Value)	3.72 (0.054)		2.53 (0.112)	
Fixed Effects	Regional Office and Year		Regional Office x Year	
N	1,296		1,282	
Adjusted R^2	14.56%		15.72%	

This table reports the results of regressions examining enforcement outcomes of formal SEC investigations. Panel A reports univariate statistics, Panel B reports the results of the baseline analysis, and Panel C reports the results of the analysis conditional on regional office busyness. *EnforcementAction* is an indicator variable set to one if the investigation ultimately led to an enforcement action and zero otherwise. In Panel C, regional office busyness is estimated by calculating the residual from regressing the total number of cases outstanding for the regional office at the end of the quarter on the number of full-time equivalents at the regional office and a regional office fixed effect. *AboveMedBusy (BelowMedBusy)* is defined as observations with a residual above (below) the sample median. Standard errors are clustered by firm. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendix A for variable definitions.

We further this analysis by examining the extent to which these motives correlate with enforcement action resolution when the SEC is (or is not) constrained. To do so, in Panel C of Table 6, we allow the coefficients on the predicted probability variables in equation (2) to vary based on high versus low busyness. We continue to rely on *RegionalOfficeBusyness* as the measure of resource constraints; however, to ensure equal power across low-versus high-busyness subsamples, we use a median split for high versus low (i.e., *AboveMedBusy* and *BelowMedBusy*). For each preference variable, we estimate its coefficient separately for *AboveMedBusy* and *BelowMedBusy*.[37] As with Panel B, column (1) uses regional office and year effects, and column (2) estimates the full model specification.

We find that, when the SEC is constrained, there is a positive association between *EnforcementAction* and *NonComplyProbability* (i.e., *NonComplyProbability x AboveMedBusy* is significantly positive, and the coefficients in rows (1) and (2)

[37] While we prefer the reported specification for exposition purposes (i.e., so a reader can easily identify how these preferences correlate within high- versus low-busy groups), an alternative (albeit parallel) specification would be to report the main effect of each preference and its interaction with *AboveMedBusy*. This alternative presentation identifies the incremental effect of being in *AboveMedBusy*, rather than the total coefficient within that partition. For readers interested in the incremental coefficient, we provide the parallel (and equivalent) F-tests at the bottom of the table (e.g., *NonComply x AboveMedBusy* is significantly positive with a p-value of 0.059 under the alternative presentation, which is the same as that reported in our (1)–(2) test).

are significantly different—p-values of 0.059 and 0.029 in columns (1) and (2), respectively.). Similarly, we find some evidence of a positive association between *EnforcementAction* and *PublicTriggersProbability* when the SEC is constrained; however, the coefficients in rows (5) and (6) are not significantly different at conventional levels (p-values 0.116 and 0.166, respectively). In contrast, the negative association with *PrivateScrutinyProbability* is generally insensitive to regulator constraints (i.e., rows (3) and (4) are not significantly different—p-values of 0.663 and 0.556 in columns (1) and (2), respectively.[38]

These motives are also economically meaningful, particularly when the regional office is constrained. For example, when *AboveMedBusy* = 1, a one standard deviation increase in the regulatory noncompliance-motivated (public trigger-motivated) probability increases the enforcement likelihood by approximately 19% (13%), whereas a similar increase in private scrutiny-motivated probability decreases the enforcement likelihood by 27%.[39] Collectively, the evidence in Table 6 indicates that investigations associated with regulatory noncompliance and public triggers are more likely to result in public charges, specifically when the SEC is constrained, and those associated with private sector scrutiny are less likely to result in public charges. Given the SEC's overarching enforcement goal of deterrence, and the high-profile nature of enforcement actions, these findings should be of great interest to those overseeing the SEC.

4.5. SEC personnel incentives and career outcomes

In our final analysis, we consider the role of case selection and investigation outcomes on the career outcomes of SEC personnel. On the one hand, career outcomes may be driven by concluding cases (i.e., issuing an enforcement action), particularly given the SEC's goal of deterrence and the public nature of reporting enforcement actions to Congress. On the other hand, career outcomes may be driven by opening cases, as investigation initiations may mitigate the appearance of negligence.

To examine this distinction, we obtain employment records for attorneys by SEC regional office (from 2004 to 2013) and examine whether attorney turnover and promotion rates are associated with their office's rates of concluding cases, opening cases, or both.[40] We aggregate the individual attorney data into a regional office-year dataset to better identify career outcomes for enforcement personnel, along with the associated investigation and conclusion rates by office.[41] To test our predictions, we use the regional office-year dataset and estimate the following regression.[42]

$$\begin{aligned} CareerIncentive_{j,[t+1,t+2]} = {} & \beta_0 + \beta_1 InvestigationRate_{jt} + \beta_2 ConcludeRate_{jt} + \text{Controls} \\ & + \text{Regional Office Fixed Effects} + \varepsilon_{jt}, \end{aligned} \tag{3}$$

where *CareerIncentive* is either the regional office's turnover rate or its promotion rate over the subsequent two years. *InvestigationRate* is the percentage of high probability cases that were investigated. We use our determinants model (i.e., column 5 of Table 3) to define high probability cases.[43] That is, we consider all observations in the top quintile of predicted probability as likely investigation candidates and calculate the percentage of those for which an investigation was opened by the SEC. *ConcludeRate* is the percentage of investigations opened in a regional office that resulted in formal resolution (i.e., an *EnforcementAction*). We also include regional office fixed effects and control variables—year-over-year change in the enforcement budget and a financial crisis indicator—to account for time trends.[44] We provide additional detail on the variable construction in Appendix A.

We present the results of equation (3) in Table 7, with the results for the turnover rate (promotion rate) in Panel A (Panel B). While office investigation rates are negatively associated with employee turnover and positively associated with promotion rates, the rates of concluding cases are not significantly associated with these outcomes. These findings highlight the

[38] Furthermore, the *NonComplyProbability* coefficients are significantly different across both specifications (i.e., the tests of rows '(1)−(2) = 0' is statistically significant in both columns with both p-values less than 0.10), whereas the *PrivateScrutinyProbability* coefficients are not significantly different in any specification.

[39] Specifically, based on the results in column (2) of Panel C of Table 6, a one standard deviation increase in the *NonComplyProbability* (*PublicTriggersProbability*) [*PrivateScrutinyProbability*] when *AboveMedBusy* = 1 increases (increases) [decreases] the probability that an investigation yields an enforcement action by approximately 3.5% (2.3%) [4.9%]. This increase (increase) [decrease] is 19.4% (12.8%) [27.2%] of the unconditional probability of an enforcement action or 18%.

[40] We focus on attorneys because they are the primary labor force of the Division of Enforcement. We obtain SEC employee salary, title, office, and SK-rank data by year from Jonathon Weber of Marathon Studios at www.FederalPay.org. This data is available starting in 2004.

[41] For example, our discussions with SEC enforcement personnel indicate that attorneys working in regional offices are almost always working in an enforcement role. The regional office focus therefore helps us identify enforcement personnel career outcomes. Furthermore, focusing on regional offices helps us identify both investigation rates and conclusion rates. In particular, because regional offices are assigned geographic areas to police, we can assign potential investigation targets to a particular office based on its headquarters address.

[42] There are a total of 110 possible regional office years (i.e., 2004 to 2013 for 11 offices) for which employment data is available. Our analyses, however, only use 103 observations because seven regional office-years (all in the Salt Lake City office) did not contain a single accounting-related investigation, limiting our ability to calculate conclusion rates.

[43] The results are consistent if we use the column (6) specification from Table 3 to define high probability cases.

[44] We use the control variables in lieu of year fixed effects to maintain degrees of freedom for estimation but still account for time trends (i.e., including additional fixed effects gives us concern about the power of the regression, given that we only have 103 observations). Results are consistent when the control variables are omitted.

Table 7
SEC personnel incentives and career outcomes.

Panel A: Turnover Rate

	Column (1)		Column (2)		Column (3)	
Dep. Var.: TurnoverRate	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
$InvestigationRate_t$	−0.8965**	−3.15	/	/	−0.9058**	−3.06
$ConcludeRate_t$	/	/	0.0100	0.33	0.0169	0.58
$\Delta EnforcementBudget_t$	0.0003	1.51	0.0003	1.60	0.0003	1.49
$FinancialCrisis_t$	−0.0215*	−1.98	−0.0183	−1.61	−0.0217*	−2.01
Regional Office FE	Yes		Yes		Yes	
N	103		103		103	
Adjusted R^2	30.99%		25.22%		30.35%	

Panel B: Promotion Rate

	Column (1)		Column (2)		Column (3)	
Dep. Var.: PromotionRate	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
$InvestigationRate_t$	1.1009**	2.97	/	/	1.1167**	3.04
$ConcludeRate_t$	/	/	−0.0202	−0.58	−0.0287	−0.77
$\Delta EnforcementBudget_t$	0.0006***	3.24	0.0006***	3.46	0.0006***	3.27
$FinancialCrisis_t$	0.0293**	2.51	0.0255**	2.26	0.0297**	2.57
Regional Office FE	Yes		Yes		Yes	
N	103		103		103	
Adjusted R^2	26.84%		20.53%		26.33%	

This table reports the results of regressions of the association of investigation rates and investigation conclusion rates with SEC employee turnover and promotion rates. In Panel A, the dependent variable, *TurnoverRate*, is the two-year regional office attorney turnover rate. In Panel B, the dependent variable, *PromotionRate*, is the two-year regional office attorney promotion rate. Standard errors are clustered by regional office. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendix A for variable definitions.

importance of minimizing the likelihood of appearing negligent for enforcement personnel career concerns and help explain why certain cases might be opened, even if they have a lower likelihood of being resolved with public charges.

5. Conclusion

Little is known about how the SEC selects its targets for investigation. We study this subject using a new database of formal SEC investigations. We predict and find that case selection is associated with a firm's (i) likelihood of regulatory noncompliance, (ii) exposure to private sector scrutiny, and (iii) conspicuous public trigger events. The relationship between investigations and regulatory noncompliance and private sector scrutiny preferences is sensitive to SEC constraints, whereas the relationship with triggers is not. We also examine the association between these investigation motives and enforcement actions, an important SEC outcome reported to Congress. While regulatory noncompliance-motivated and public trigger-motivated investigations are more likely to result in public charges, specifically when the SEC is constrained, private sector scrutiny-motivated investigations are less likely to result in public charges. Finally, investigation rates of potential targets are associated with the career trajectories of SEC personnel, while concluding investigations with enforcement actions are not.

This study contributes to the literature by shedding light on the preferences of the SEC in selecting target firms for investigation. Our evidence speaks directly to unanswered questions in the literature, such as how the SEC picks its targets and which firms are formally investigated. Additionally, our results can help advance research streams that use enforcement actions, such as the motives for financial misreporting and measuring earnings quality, by providing a means to account for a fundamental antecedent, the SEC's investigation preferences.

Appendix A. Variable Definitions

Variable	Definition	Source
Dependent Variables		
InvestigationStart	An indicator set to one if the SEC opens a formal investigation into the subject firm during the calendar quarter, zero otherwise. Note: throughout our analyses we examine the association between determinant variables in calendar quarter t and *InvestigationStart* in calendar quarter t+1.	SEC/FOIA
EnforcementAction	An indicator variable set to one if the investigation results in an enforcement action (i.e., regulatory proceedings are commenced against the firm), zero otherwise.	SEC, obtained from Blackburne and Quinn (2022)

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(*continued*)

Variable	Definition	Source
TurnoverRate	The turnover percentage at the regional office-year frequency, calculated as the number of lawyer turnovers within a SEC regional office over the next two years scaled by the number of lawyers employed during the current year. A turnover is inferred based on the final year in which a lawyer is identified in the SEC payroll records.	SEC employee payroll records, obtained from Matt Kubic and Jonathan Weber
PromotionRate	The promotion percentage at the regional office-year frequency, calculated as the number of lawyer promotions within a SEC regional office over the next two years scaled by the number of lawyers employed during the current year. A promotion is inferred if an employee's SK-pay scale ranking is increased.	SEC employee payroll records, obtained from Matt Kubic and Jonathan Weber
Likelihood of Regulatory Noncompliance (NonComply) Variables		
NewRegulationExposure	The aggregate annual firm exposure to new regulation based on the number of times new standards are referenced in the firm's 10-K. We obtain the *Rel_Imp* measure from Folsom et al. (2017), which calculates the relative importance of a particular standard and/or regulation to a firm year. We set each standard's value equal to *Rel_Imp* if it is within 3 years from the passage of the standard, zero otherwise. We then sum all of the standard scores to create the aggregate score of a firm's exposure to new regulation.	10-K filings, Folsom et al. (2017)
LnNumPatents	The natural log of one plus the number of patents filed by the firm during the quarter.	Kogan et al. (2017)
PctBeatForecast	The percentage of quarterly earnings announcements over the prior three years where the announced EPS beat the prevailing analyst consensus (i.e., [value] > [meanest]). For analyst consensus [meanest], we use the calculation date [statpers] immediately preceding the earnings announcement.	IBES
NonComplyFactor	The first principle component of *NewRegulationExposure*, *LnNumPatents*, and *PctBeatForecast*. We use principle component factoring with a promax (oblique) rotation and extract the first principal component (Rogers and Stocken 2005; Arif et al., 2019). No other factors have eigenvalues greater than one.	NA
NonComplyProbability	The partial linear probability of the determinants model (Table 3, column 5) associated with *NewRegulationExposure*, *LnNumPatents*, and *PctBeatForecast*.	NA
Exposure to Private Sector Scrutiny (PrivateScrutiny) Variables		
PastIndustryLitigation	Percentage of firms in the same 6-digit GICS industry subjected to securities litigation in the past three years. Securities litigation is identified via filings in the Stanford class action database.	Stanford Securities Class Action Clearinghouse; Compustat
NegPressArticles	The number of Dow Jones media articles featuring the firm (i.e., relevance score of at least 90) during the quarter with a negative sentiment score (i.e., CSS score <50).	Ravenpack
AnalystFollowing	The number of sell-side analysts covering the firm as of the end of the quarter. Analyst coverage is based on the number of outstanding quarterly earnings forecasts (NUMEST) as of the last consensus date preceding the earnings announcement.	IBES
PrivateScrutinyFactor	The first principle component of *PastIndustryLitigation*, *NegPressArticles*, and *AnalystFollowing*. We use principle component factoring with a promax (oblique) rotation and extract the first principal component (Rogers and Stocken 2005; Arif et al., 2019). No other factors have eigenvalues greater than one.	NA
PrivateScrutinyProbability	The partial linear probability of the determinants model (Table 3, column 5) associated with *PastIndustryLitigation*, *NegPressArticles*, and *AnalystFollowing*.	NA
Public Trigger Event Variables		
MgmtAdmitsEvent	An indicator variable set to one if *Restate* = 1, *LateFiler* = 1, or *ICWeakness* = 1, zero otherwise. We define the component variables below.	Audit Analytics, SEC Edgar
ThirdPartyEvent	An indicator variable set to one if *Litigation* = 1, *AuditorTurnover* = 1, *StockPriceCrash* = 1, *ExecTurnoverArticles* = 1, *NegGuidanceArticles* = 1, *NegCreditRatingArticles* = 1, *NegAnalystArticles* = 1, or *LayoffsArticles* = 1, zero otherwise. We define the component variables below.	Stanford Securities Class Action Clearinghouse, Ravenpack, Audit Analytics, CRSP
Restate	An indicator variable set to one if the firm filed a non-reliance restatement with the SEC during the quarter, zero otherwise.	Audit Analytics
LateFiler	An indicator variable set to one if the firm reports a late filing to the SEC during the quarter (i.e., NT 10-K, NT 10-K/A, NTN 10 K, NT 10-Q, NT 10-Q/A, and NTN 10Q), zero otherwise.	SEC EDGAR
ICWeakness	An indicator variable set to one if the firm reports a SOX 302 internal control weakness in a 10-K filed during the quarter.	Audit Analytics
Litigation	Indicator variable set to one if a securities litigation was filed against the firm during the quarter, zero otherwise.	Stanford Securities Class Action Clearinghouse
AuditorTurnover	An indicator variable set to one if the firm files an auditor change disclosure with the SEC during the quarter, zero otherwise.	Audit Analytics
StockPriceCrash	Indicator variable set to one if the cumulative market-adjusted stock return during the quarter is below the fifth percentile of stock returns based on all firms in CRSP during the quarter, zero otherwise.	CRSP
ExecTurnoverArticles	An indicator variable set to one if the firm was featured (relevance score of at least 90) in a Dow Jones media article categorized as 'executive-resignation' or 'executive-firing' during the quarter, zero otherwise.	Ravenpack

(*continued*)

Variable	Definition	Source
NegGuidanceArticles	An indicator variable set to one if the firm was featured (relevance score of at least 90) in a Dow Jones media article categorized as 'earnings-guidance-down' or 'revenue-guidance down' during the quarter, zero otherwise.	Ravenpack
NegCreditRatingArticles	An indicator variable set to one if the firm was featured (relevance score of at least 90) in a Dow Jones media article categorized as 'credit-rating-downgrade-rater, 'credit-rating-downgrade, 'credit-rating-outlook-negative-rater', or 'credit-rating-outlook-negative' during the quarter, zero otherwise.	Ravenpack
NegAnalystArticles	An indicator variable set to one if the firm was featured (relevance score of at least 90) in a Dow Jones media article categorized as 'earnings-estimate-downgrade', 'analyst-ratings-change-negative', 'analyst-ratings-change-negative-rater', 'price-target-downgrade-rater', or 'price-target-downgrade' during the quarter, zero otherwise.	Ravenpack
LayoffsArticles	An indicator variable set to one if the firm was featured (relevance score of at least 90) in a Dow Jones media article categorized as 'layoffs' during the quarter, zero otherwise.	Ravenpack
PublicTriggersProbability	The partial linear probability of the determinants model (Table 3, column 5) associated with *MgmtAdmitsEvent* and *ThirdPartyEvent*.	NA
Other Variables		
QtrRet	Cumulative market-adjusted stock return during the current quarter, calculated as the difference between the firm return [ret] and the value-weighted CRSP market return [vwretd].	CRSP
LnMVE	Natural logarithm of the market value of equity as of the end of the current quarter, calculated as [prc] * [shrout/1000] in CRSP. If MVE is not calculable using CRSP inputs, we use the analogous Compustat measures at fiscal quarter end to preserve sample size. From Compustat we start with [mkvalt] and move to [prcc_f*csho] if that is also unavailable.	CRSP, Compustat
SmallIndicator	An indicator variable set to one if the market value of equity (as calculated for *LnMVE*) is less than $200 million, zero otherwise.	CRSP, Compustat
SP500	An indicator variable set to one if the firm is in the S&P 500 Index as of the end of the current quarter, zero otherwise. We rely on a 2020 download of the S&P 500 index membership file to calculate this variable as Compustat has discontinued its use.	Compustat
Leverage	Ratio of long-term debt [dlttq] to total assets [atq] at the end of the fiscal quarter ending during the calendar quarter. If dlttq is missing, we assume that it is immaterial and set *Leverage* = 0.	Compustat
BTM	The book-to-market ratio, calculated as the ratio of book equity [ceqq] to market value of equity as calculated in *LnMVE*. If ceqq is missing, we use seqq and then teqq from Compustat as needed to preserve sample size. MVE is measured consistently with *LnMVE*, while book equity is measured at the end of the fiscal quarter ending during the calendar quarter.	Compustat, CRSP
Age	Natural logarithm of the age of the firm in years, measured as the number of years the firm has appeared in Compustat.	Compustat
RegionalOfficeFTE	The number of full-time equivalents (FTE) working in the SEC regional office that has jurisdiction over the state or geographic area where a company is headquartered. FTE by SEC regional office was acquired through a FOIA request and was provided for each government fiscal year (e.g., October 1, 2005 through September 30, 2006 is government year 2006). Firm headquarter locations are identified primarily with historical header information from SEC EDGAR 10-K filings. If address information is unavailable in 10-K filings, we use the Compustat company file to obtain this information.	SEC, FOIA, EDGAR
RegionalOfficeOpenCases	The number of open formal investigations at the end of the quarter in the SEC regional office that has jurisdiction over the state or geographic area where a company is headquartered. Number of open cases data provided by Bonsall et al. (2021). Firm headquarter locations are identified primarily with historical header information from SEC EDGAR 10-K filings. If address information is unavailable in 10-K filings, we use the Compustat company file to obtain this information.	SEC, FOIA, EDGAR, Bonsall et al. (2021)
RegionalOfficeBusyness	The residual number of *RegionalOfficeOpenCases* after regressing *RegionalOfficeOpenCases* on *RegionalOfficeFTE* and SEC regional office fixed effects. The result of estimating this regression is tabulated in Table 2 Panel A.	NA
RegionalOfficeDistance	The distance in miles from the company headquarter zip code to the zip code of the SEC regional office that has jurisdiction over the state or geographic area. Firm headquarter locations are identified primarily with historical header information from SEC EDGAR 10-K filings. If address information is unavailable in 10-K filings, we use the Compustat company file to obtain this information.	SEC, FOIA, EDGAR
HighBusyness	An indicator set to one when SEC regional office busyness is high, zero otherwise. We set the indicator to one if *RegionalOfficeBusyness* is in the top tercile, zero otherwise.	SEC, FOIA, EDGAR
ControlsProbability	The partial linear probability of the determinants model (Table 3, column 5) associated with control variables. That is, the partial probability attributable to *QtrRet*, *LnMVE*, *SmallIndicator*, *SP500*, *Leverage*, *BTM*, *Age*, *RegionalOfficeBusyness*, and *RegionalOfficeDistance*.	NA
AboveMedBusy	An indicator set to one if *RegionalOfficeBusyness* is above the median in the investigation sample, zero otherwise.	SEC, FOIA, EDGAR

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(*continued*)

Variable	Definition	Source
BelowMedBusy	An indicator set to one if *RegionalOfficeBusyness* is below the median in the investigation sample, zero otherwise.	SEC, FOIA, EDGAR
InvestigationRate	The investigation rate by regional office-year, calculated as the percentage of high-likelihood cases for which an SEC investigation is opened. We define high-likelihood cases as those in the top quintile of predicted probability of investigation from Table 3, column 5 determinants model. *InvestigationRate* is the percentage of these top-quintile observations that are investigated by the SEC (i.e., $InvestigationStart_{t+1} = 1$).	SEC/FOIA, components of determinants model
ConcludeRate	The investigation conclusion rate by regional office-year, calculated as the percentage of SEC investigations opened that result in an *EnforcementAction*.	SEC/FOIA; Blackburne and Quinn (2022)
ΔEnforcementBudget	The year-over-year change in the budget of the SEC's Division of Enforcement. Annual levels are obtained from the annual Congressional Budget Requests by the SEC. We use the "Actual" budget amounts, which are disclosed in the congressional request two years later (i.e., 2004 actual budget disclosed in the 2006 congressional request). We obtained the Congressional Budget Requests via FOIA. However, Congressional Budget Request documents after 2005 are available on the SEC's website. E.g., https://www.sec.gov/files/secfy06budgetreq.pdf	SEC, FOIA
FinancialCrisis	An indicator set to one if the observation is during the years 2007–2009, zero otherwise. This definition is based on the NBER definition of the recession related to the financial crisis (https://www.nber.org/research/data/us-business-cycle-expansions-and-contractions).	NBER

Appendix B Additional Analyses

Table B.1
Components of M-Score and Start of Formal SEC Investigation

Panel A: Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) $InvestigationStart_{t+1}$	1	-0.001	**0.005**	0.001	-0.004	**-0.005**	**0.011**	**0.013**	**-0.011**
(2) $DSRI_t$	-0.001	1	**-0.006**	**0.008**	**-0.211**	**0.141**	**0.265**	**0.086**	**0.239**
(3) GMI_t	**0.005**	**-0.006**	1	**0.021**	**0.014**	**0.031**	**-0.056**	**0.072**	**-0.025**
(4) AQI_t	0.001	**0.009**	**0.021**	1	**0.009**	**-0.074**	**0.084**	**0.041**	**-0.037**
(5) SGI_t	-0.004	**-0.211**	**0.014**	**0.009**	1	**-0.048**	**-0.440**	**-0.011**	**0.186**
(6) $DEPI_t$	**-0.005**	**0.142**	**0.031**	**-0.074**	**-0.048**	1	**0.088**	-0.004	**0.035**
(7) $SGAI_t$	**0.011**	**0.265**	**-0.054**	**0.084**	**-0.441**	**0.088**	1	**0.037**	**-0.083**
(8) $LVGI_t$	**0.013**	**0.088**	**0.070**	**0.041**	**-0.012**	-0.004	**0.038**	1	**-0.152**
(9) $TATA_t$	**-0.011**	**0.238**	**-0.024**	**-0.037**	**0.187**	**0.035**	**-0.083**	**-0.152**	1

Panel B: Tests of M-Score Components

	Column (1)		Column (2)		Column (3)	
Dep. Var.: $InvestigationStart_{t+1}$	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
M-Score Components:						
$DSRI_t$	-0.0004	-0.62	-0.0007	-1.02	-0.0004	-0.61
GMI_t	0.0020***	3.00	0.0016**	2.42	0.0013*	1.90
AQI_t	-0.0003	-0.54	-0.0010	-1.59	-0.0008	-1.30
SGI_t	0.0020***	2.70	0.0004	0.54	0.0010	1.33
$DEPI_t$	-0.0014**	-2.15	-0.0019***	-2.98	-0.0011*	-1.76
$SGAI_t$	0.0034***	4.75	0.0028***	3.98	0.0030***	4.19
$LVGI_t$	0.0024***	3.77	0.0033***	5.10	0.0018***	2.83
$TATA_t$	-0.0019***	-2.80	-0.0017***	-2.65	-0.0009	-1.32
Likelihood of Regulatory Noncompliance (NonComply):						
$NonComplyFactor_t$	/	/	/	/	0.0013***	4.44
Exposure to Private Sector Scrutiny (PrivateScrutiny):						
$PrivateScrutinyFactor_t$	/	/	/	/	0.0036***	6.74
Public Triggers:						
$MgmtAdmitsEvent_t$	/	/	/	/	0.0233***	13.63
$ThirdPartyEvent_t$	/	/	/	/	0.0019***	3.79
Controls:						
$QtrRet_t$	/	/	-0.0057***	-7.58	-0.0036***	-4.88
$LnMVE_t$	/	/	0.0014***	5.99	0.0003	1.24
$SmallIndicator_t$	/	/	0.0002	0.33	0.0000	0.05

Table B.1 (*continued*)

Panel B: Tests of M-Score Components

	Column (1)		Column (2)		Column (3)	
Dep. Var.: $InvestigationStart_{t+1}$	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
$SP500_t$	/	/	0.0046***	3.84	-0.0002	-0.21
$Leverage_t$	/	/	-0.0021**	-2.08	-0.0019*	-1.91
BTM_t	/	/	0.0005**	2.02	0.0004	1.42
Age_t	/	/	-0.0001	-0.45	0.0007**	2.18
$RegionalOfficeBusyness_t$	/	/	-0.0001***	-4.53	-0.0001***	-4.59
$RegionalOfficeDistance_t$	/	/	0.0000	-0.50	0.0000	0.76
Sum of M-Score Components = 0	Fstat (P-Val.):	10.61 (<0.01)	Fstat (P-Val.):	2.45 (0.12)	Fstat (P-Val.):	4.68 (0.03)
Regional Office-Year FE	Yes		Yes		Yes	
N	1,44,729		1,44,729		1,44,729	
Adjusted R2	0.50%		0.76%		1.53%	

This table reports the results of regressions testing the association between the components of the M-Score and the start of a formal SEC investigation. The dependent variable, $InvestigationStart_{t+1}$, is an indicator variable set to one if the SEC opens a formal investigation related to accounting/disclosure in the next calendar quarter and zero otherwise. We use the quarterly scaled decile ranks of each M-Score component for ease of interpretation. Standard errors are clustered by firm. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendices A & B for variable definitions.

Table B.2
Components of F-Score and Start of Formal SEC Investigation

Panel A: Correlation Matrix

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) $InvestigationStart_{t+1}$	1	**-0.009**	**-0.008**	**0.008**	-0.002	**0.008**	**-0.013**	**0.004**
(2) $RSSTAccruals_t$	**-0.009**	1	**0.338**	**0.275**	**0.043**	**-0.138**	**0.201**	**0.087**
(3) $DReceivables_t$	**-0.008**	**0.338**	1	**0.199**	**0.190**	**-0.472**	**0.125**	**0.087**
(4) $DInventory_t$	**0.009**	**0.262**	**0.191**	1	**0.023**	**-0.035**	**0.067**	**0.069**
(5) $SoftAssets_t$	-0.002	**0.044**	**0.189**	**0.031**	1	**0.021**	**-0.008**	**-0.049**
(6) $DCash_t$	**0.008**	**-0.139**	**-0.472**	**-0.033**	**0.021**	1	**-0.076**	**-0.067**
(7) $DROA_t$	**-0.013**	**0.195**	**0.125**	**0.064**	**-0.008**	**-0.076**	1	**0.058**
(8) $Issue_t$	**0.004**	**0.087**	**0.087**	**0.072**	**-0.049**	**-0.067**	**0.058**	1

Panel B: Tests of F-Score Components

	Column (1)		Column (2)		Column (3)	
Dep. Var.: $InvestigationStart_{t+1}$	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
F-Score Components:						
$RSSTAccruals_t$	-0.0021***	-3.27	-0.0033***	-5.06	-0.0020***	-2.98
$DReceivables_t$	0.0019**	2.42	0.0014*	1.79	0.0016**	2.02
$DInventory_t$	0.0019***	3.32	0.0012**	2.07	0.0015***	2.66
$SoftAssets_t$	0.0032***	4.65	0.0035***	4.93	0.0022***	3.08
$DCash_t$	0.0034***	4.26	0.0027***	3.35	0.0023***	2.93
$DROA_t$	-0.0022***	-4.03	-0.0020***	-3.71	-0.0011**	-2.05
$Issue_t$	0.0001	0.30	-0.0005	-1.32	-0.0004	-1.06
Likelihood of Regulatory Noncompliance (NonComply):						
$NonComplyFactor_t$	/	/	/	/	0.0012***	4.32
Exposure to Private Sector Scrutiny (PrivateScrutiny):						
$PrivateScrutinyFactor_t$	/	/	/	/	0.0036***	7.44
Public Triggers:						
$MgmtAdmitsEvent_t$	/	/	/	/	0.0234***	14.86
$ThirdPartyEvent_t$	/	/	/	/	0.0019***	4.04
Controls:						
$QtrRet_t$	/	/	-0.0053***	-7.64	-0.0033***	-4.87
$LnMVE_t$	/	/	0.0014***	6.56	0.0004*	1.72
$SmallIndicator_t$	/	/	0.0000	0.07	0.0000	-0.05
$SP500_t$	/	/	0.0045***	4.17	-0.0002	-0.19
$Leverage_t$	/	/	-0.0005	-0.52	-0.0003	-0.33
BTM_t	/	/	0.0007**	2.47	0.0005**	2.03
Age_t	/	/	-0.0005	-1.58	0.0005*	1.73
$RegionalOfficeBusyness_t$	/	/	-0.0001***	-5.77	-0.0001***	-5.78

(*continued on next page*)

Table B.2 (*continued*)

Panel B: Tests of F-Score Components

	Column (1)		Column (2)		Column (3)	
Dep. Var.: $InvestigationStart_{t+1}$	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat	Coeff. Est.	T-Stat
$RegionalOfficeDistance_t$	/	/	0.0000	-0.61	0.0000	0.73
Sum of F-Score Components = 0	Fstat (P-Val.):	15.97 (<0.01)	Fstat (P-Val.):	3.43 (0.06)	Fstat (P-Val.):	6.97 (<0.01)
Regional Office-Year FE	Yes		Yes		Yes	
N	1,71,249		1,71,249		1,71,249	
Adjusted R2	0.45%		0.72%		1.48%	

This table reports the results of regressions testing the association between the components of the F-Score and the start of a formal SEC investigation. The dependent variable, $InvestigationStart_{t+1}$, is an indicator variable set to one if the SEC opens a formal investigation related to accounting/disclosure in the next calendar quarter and zero otherwise. We use the quarterly scaled decile ranks of each continuous F-Score component for ease of interpretation. Standard errors are clustered by firm. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively (two-tailed test). See Appendices A & B for variable definitions.

Variable Definitions for Appendix B Variables

Notes:
[1] ** indicates trailing twelve month (TTM) measure. We convert quarterly income statement measures to TTM by summing the trailing four quarters. E.g., saleq* = current quarter sales plus prior three quarter sales.*
[2] *t-1 indicates same quarter prior year.*
[3] *We use the quarterly scaled decile rank for all continuous variables in the regressions and correlation tables.*

DSRI	The days' sales in receivables index from Beneish (1999b). {Receivables [rectq] divided by sales [saleq*]} divided by {receivables from *t-1* [rectq] divided by sales from *t-1* [saleq*]}.	Compustat
GMI	The gross margin index from Beneish (1999b). {1-((costs of goods sold from *t-1* [cogsq*]) divided by sales from *t-1* [saleq*])} divided by {1-((costs of goods sold [cogsq*]) divided by sales [saleq*])}.	Compustat
AQI	The asset quality index from Beneish (1999b). {1-((net property, plant, and equipment [ppentq] + current assets [actq]) divided by (total assets [atq]))} divided by {1-((net property, plant, and equipment at *t-1* [ppentq] + current assets at t-1 [actq]) divided by (total assets at *t-1* [atq]))}.	Compustat
SGI	The sales growth index from Beneish (1999b). {sales [saleq*]} divided by {sales from *t-1* [saleq*]}.	Compustat
DEPI	The depreciation index from Beneish (1999b). {(Depreciation expense from *t-1* [dpq*]) divided by (Depreciation expense from *t-1* [dpq*] + net property, plant, and equipment at *t-1* [ppentq])} divided by {(depreciation expense [dpq*]) divided by (depreciation expense [dpq*] + net property, plant, and equipment [ppentq])}.	Compustat
SGAI	The sales, general, and administrative index from Beneish (1999b). {Sales, general, and administrative expense [xsgaq*] divided by sales [saleq*]} divided by { sales, general, and administrative expense from *t-1* [xsgaq*] divided by sales from *t-1* [saleq*]}.	Compustat
LVGI	The leverage index from Beneish (1999b). {(Current liabilities [lctq] + long-term debt [dlttq]) divided by total assets [atq]} divided by {(current liabilities at *t-1* [lctq] + long-term debt at *t-1* [dlttq]) divided by total assets at *t-1* [atq]}.	Compustat
TATA	Total accruals to total assets from Beneish (1999b), i.e., sum of quarterly ΔWC/Average total assets for prior four quarters, where quarterly WC = (current assets [actq] − cash and short-term investments [cheq]) − (current liabilities [lctq]−debt in current liabilities [dlcq]).	Compustat
RSSTAccruals	Richardson et al. (2005) accruals, i.e., sum of quarterly (ΔWC + ΔNCO + ΔFIN)/Average for prior four quarters, where quarterly WC is as defined in TATA, quarterly NCO = (total assets [atq]−current assets [actq] − investments and advances [ivaoq]) − (total liabilities [lctq] − current liabilities [lctq] − long-term debt [dlttq]), and FIN = (short-term investments [ivstq] + long-term investments (ivaoq)) − (long-term debt [dlttq] + debt in current liabilities [dlcq] + preferred stock [pstkq]).	Compustat
ΔReceivables	Change in receivables. {(Receivables [rectq] − receivables at *t-1* [rectq])} divided by {(total assets [atq] + total assets at *t-1* [atq]) divided by two}.	Compustat
ΔInventory	Change in inventory. {(Inventory [invtq] − inventory at *t-1* [invtq])} divided by {(total assets [atq] + total assets at *t-1* [atq]) divided by two}.	Compustat
SoftAssets	Soft asset percentage. {Total assets [atq] − net property, plant, and equipment [ppentq] − cash and short-term investments [cheq]} divided by {total assets (atq)}.	Compustat
ΔCash	Change in percentage of cash sales, where cash sales = {Sales [saleq*] − Δ Receivables from *t-1* to *t* [rectq] } divided by {sales [saleq*]}.	Compustat
ΔROA	Change in return on assets, where return on assets = {Earnings [ibq*]} divided by {(total assets [atq] + total assets at *t-1* [atq]) divided by two}.	Compustat
Issue	A new capital issuance. Indicator variable set to one if the firm has sale of common or preferred stock [sstkq*>0], or a long-term debt issuance [dltisq*>0], zero otherwise.	Compustat

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