Watching the Watchdogs: Tracking SEC Inquiries using Geolocation Data

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Abstract

The Securities and Exchange Commission's investigative process remains opaque and challenging to study due to limited observability. Leveraging de-identified smartphone geolocation data, we provide new insights into the SEC's monitoring practices by tracking SEC-associated devices that visit firm headquarters. Our findings reveal that the majority of SEC visits occur outside of formal investigations, with larger firms and those with a history of SEC enforcement actions being more frequently visited. These visits often cluster within industries. Notably, the SEC-associated devices venture to firms both within and outside their own regions. On average, these visits are material, evidenced by significant stock price reactions, even in the absence of subsequent formal investigations or enforcement actions. Last, we observe a chilling effect on insider behavior around these SEC interactions; insiders are less likely to sell around visits. However, when sales do occur, insiders avoid substantial losses.

☆This study was determined to be exempt from review by the University of Kentucky IRB.

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The Securities and Exchange Commission (SEC) plays a crucial role in maintaining the integrity of financial markets through its enforcement of securities laws and its efforts to detect and deter various forms of financial misconduct. While a substantial body of academic literature has examined the end products of the enforcement process (Karpoff et al., 2017), the investigative process itself remains intentionally concealed from the public, leaving much of the earlier stages understudied. Recent advancements have been made by obtaining dates of formal investigations through Freedom of Information Act requests (Blackburne et al., 2021; Blackburne and Quinn, 2023; Holzman et al., 2023). However, relying solely on official dates from the SEC still leaves many initial and ongoing SEC-firm interactions unobserved. As Rajgopal and White (2017) note, "even for those cases that are made public eventually, identifying the trigger event and the date on which such event was publicly known is difficult." Furthermore, many other interactions occur with firms that do not ultimately enter formal proceedings. Nearly half of the SEC's Matters Under Inquiry (MUIs) do not lead to a formal investigation, creating potential selection issues and leaving a significant fraction of interactions unexamined. This paper addresses these challenges by leveraging novel data to shed light on these early, previously unobservable stages of the SEC's investigative process.

To address these challenges, we take advantage of detailed smartphone geolocation data to observe instances when SEC-associated devices visit corporate headquarters. Specifically, we collect raw, "ping"-level data from de-identified smartphones in 26 major Metropolitan Statistical Areas (MSAs) that encompass nearly every SEC office and the majority of public firm headquarters (HQs) for all of the entirety of 2019 and the first quarter of 2020. We merge this data with building shapefiles for public firm HQs and SEC offices. We then define an SEC-associated device as one that pings in at least 20 unique hours in a month at one of the SEC offices. Using this definition, we identify dates when these SEC-associated devices ping in public firms' HQs. This novel measure enables us to document patterns of SEC device visits, investigate the materiality of these visits to the stock price of visited firms, and examine insider trading behavior around these visits. Crucially, this methodology allows us to: 1) identify SEC interactions prior to formal

announcement periods, 2) quantify interactions preceding and during active investigations, and 3) assess firms that the prior literature has overlooked because they do not meet the threshold for opening a formal investigation.

Our analysis of SEC device visit patterns yields several findings. We find visits are associated with industry sweeps and are more likely to happen at larger firms, which supports evidence found in the existing enforcement literature (Choi et al., 2023). We also document a significant amount of "cross-region" visits, where an SEC device associated with a particular SEC office visits a firm HQ located in the region of a different SEC office suggesting factors beyond travel costs influence visits. Official SEC investigations, enforcement actions, and the amount of regulations a firm is subject to also predict the likelihood of SEC device visits. Interestingly, the vast majority of visits occur outside of formal investigations. 84% of visits occur at firms that are never under formal investigation. Among firms that are under formal investigation during our sample period, 74% of visits occur before the case formally opens.

After characterizing the determinants of SEC device visits, we study whether physical monitoring by the SEC affects a firm's stock returns and insider behavior. We predict that a visit from an SEC device will have adverse effects for a firm's stock price, as it may be a sign of future regulatory enforcement or increased regulatory burden.[1] Though SEC device visits are not publicized, sophisticated investors are adept at uncovering signs of firm misconduct (Karpoff and Lou 2010; Fang et al. 2016), suggesting there is potential for information leakage. We find a significant reduction in stock prices after a visit, with three-month abnormal returns between -1.4% and -1.94%. We find a much stronger negative return after visits for firms that have an SEC enforcement action brought against them. Importantly, negative returns are found even after excluding firms that are later part of a formal SEC investigation suggesting that the visits are material beyond the formal investigation.

We next examine how insiders react to these visits given their materiality. Firm insiders are

[1]Consistent with this conjecture, Kalmenovitz and Antill (2023) find that firms overreact to regulator audits which affects their subsequent sales and client matching.

likely aware of SEC visits to the firm HQ. On one hand, firm insiders may avoid transactions to avoid the appearance of impropriety. On the other hand, since these visits are not publicly released, they may be tempted to sell shares in order to avoid abnormal losses. On average we find insiders - especially firm officers, those most likely to be physically at the headquarters - are less likely to sell around an SEC device visit. Specifically, insiders are 16% less likely to sell in the two weeks surrounding an SEC visit relative to periods with no visits. We also find this chilling effect is stronger when the firm experiences a subsequent SEC enforcement action. We find no effect on insiders buys.

Notwithstanding the chilling effect, some insiders still place numerous trades around SEC device visits. When these insiders do sell around visits, they avoid three-month abnormal losses of 4.9%, on average. We then test whether the informativeness of the insider trades around visits is greater for officers than other insiders. Consistent with negative signals stemming from physical monitoring, we find the losses are stronger when firm officers of the firm sell around a visit than when insiders who are not officers (e.g., board members or blockholders) sell. We also document that the abnormal losses only occur when opportunistic (nonroutine via Cohen et al. (2012)) insiders sell and find no evidence of a stock price drop when routine traders sell.

Our study contributes to the literature on the SEC's investigative process. As investigations are typically conducted privately, most existing studies rely on the date of an enforcement action. For example, Karpoff et al. (2008) tracks market reactions around SEC enforcement actions for firms engaging in financial misrepresentation. However, there is evidence that information about the investigation may leak out before these announcements. Dechow et al. (1996) show a sharp decrease in stock returns and analyst coverage months before the announcement of the SEC enforcement action. More recently, Blackburne et al. (2021), Blackburne and Quinn (2023), Holzman et al. (2023), and Bonsall et al. (2024) use Freedom of Information Act (FOIA) requests to examine closed formal investigations. Even these formal investigations only occur after the Commission has already approved a request for a formal order stating that it is likely that a securities law violation has occurred. By conditioning on adverse findings, the existing literature misses much of

the earlier (and ongoing) investigative process. By directly capturing SEC interactions with firms and not relying on formal outcomes (which only occur after positive findings), we can observe a fuller picture of the investigative process.[2]

This paper also extends the growing body of literature employing digital footprints derived from geospatial data to study questions in finance and economics. Taxi ridership data covering New York City has been used to study interactions between the Federal Reserve and banks (Bradley et al., 2024), sell-side analysts and firms (Choy and Hope, 2023), and institutional investors and firms (Cicero et al. 2021; Kirk and Piao 2024). Research using GPS data sourced from smartphones has researched a diverse set of economic outcomes including patenting activity (Atkin et al., 2022), infrastructure investment (Gupta et al., 2022), acquisitions (Testoni et al., 2022), and geographic mobility (Chen and Pope, 2020). Our use of geolocation data is novel in that we systematically characterize the nationwide visit patterns of regulators of public firms, a crucial interaction in financial markets.

1. Data

1.1. Geolocation Data

To create a proxy for SEC interactions with firms, we use de-identified smartphone geolocation data for a sample of US phones from January 2019 to February 2020 for the top 26 major metropolitan statistical areas (MSAs). We obtain this data from an online data vendor that provides data commercially to businesses, governments, and researchers. The data vendor works with numerous mobile application providers that track "pings" of the location of a phone while the application is either currently in use or is running in the background.[3] Reassuringly, prior research has shown that this data is representative of the demographics of the US population, with

[2]Our approach also complements work on SEC monitoring using EDGAR downloads by SEC employees (Stice-Lawrence, 2021) or FOIA logs (Coleman et al., 2023).

[3]The data does not give continuous location feedback, but it is possible to estimate within-day movement for each device using intermittent ping signals.

the exception of a skew towards wealthier individuals (Chen and Pope, 2020).[4] The frequency of pings captured in the data is also reliant on the popularity of the applications that the data vendor has access to, which may vary over time. To mitigate this concern, we include day-level fixed effects in all regressions that analyze reactions to physical monitoring. To the extent that an individual loans out their phone to another party, leaves their device turned off, or chooses not to bring it into the workplace, the data will inevitably contain noise. Additionally, not all individuals have phones and not all phones are captured in the data; approximately 10% of phones ping each day on average, and 50% of phones ping each month. We are thus likely capturing the lower bound of monitoring activity.

We retrieve addresses for SEC offices from an archived version of the SEC's regional offices webpage, and we obtain historical corporate headquarters addresses from the 2019 10-X header data obtained from the Notre Dame Software Repository for Accounting and Finance.[5] Building on this data, we utilize the Bing Maps Locations API to geolocate the latitude and longitude of each address. To further improve precision and accuracy, we manually verify the geolocated coordinates for each firm, ensuring they are within the boundaries of the corresponding building shapes.[6] The building shapes primarily originate from the Microsoft US Building Footprint dataset, featuring over 125 million rooftop shapes generated through computer vision. To enhance this dataset, we incorporate a more precise city-level shapefile for locations where local governments provide open data on building shapes, including Boston, Chicago, Los Angeles, New York City, Washington DC, and San Francisco.

To identify the list of relevant phones, we use the *spatial join* algorithm from python-geopandas to compile the universe of phones which ever appear in an SEC office building during our sample period. Subsequently, we retrieve all corresponding pings of these phones and join the relevant

[4]Other applications of similar datasets include studying interactions between knowledge workers (Atkin et al., 2022), face-to-face meetings between firms that are potentially merging (Testoni et al., 2022), and measuring commuting time for workers (Gupta et al., 2022).

[5]The archived website ensures the addresses are accurate as of our sample period. The page is available here: https://web.archive.org/web/20190325164116/https://www.sec.gov/page/sec-regional-offices.

[6]We find that the accuracy of the BingAPI is about 80%.

pings to building shapefiles. This process substantially reduces the potential noise associated with a centroid spatial join, which would capture visits within a certain radius of the center of a building. Incorporating shapefiles of the actual buildings allows us to use the exact geometry of the building shape to identify devices that ping inside. Figure 1 illustrates how SEC device visits are captured in our data. In Panel A, we display the spatial distribution of building visits by SEC devices (in red) and other devices (in blue) over a typical day from 7 am – 7 pm, aggregated into hexagons with a 1-kilometer radius. This figure demonstrates our method's effectiveness in reducing visit misattribution as the hexagons that flag SEC device pings are typically clustered around the SEC office or firm headquarters. In Panel B, we zoom into the Atlanta region to show how the use of building shapefiles allows us to precisely capture when a phone pings within a firm headquarters (red markers), rather than within a nearby building, road, or parking lot (blue markers).

We adopt a restrictive definition in our mapping of devices to potential SEC offices. Specifically, each phone-month pair is associated with an SEC office only if the phone meets two criteria: (1) it must have pinged for at least 20 unique workday hours within one SEC location during the month, and (2) the accumulated time in that SEC building must be greater than in any other buildings in the respective month. To establish the phone's primary location, we assign the most frequently identified work location as the likely SEC office throughout the sample period. Finally, in order to be assigned an SEC-associated device, the phone must also visit (ping inside) a firm's headquarters during workday hours at least once in our sample period. This restrictive approach ensures that our analysis primarily captures devices genuinely associated with SEC activity when evaluating visits to corporate headquarters.

Figure 1 Panel C demonstrates the process of mapping devices to particular buildings and identifying devices associated with each building. Specifically, it shows the spatial distribution of median aggregated unique working hours at the building level for two groups of devices in a month. The devices in Panel C (a) are assigned to the Atlanta SEC building as they pinged inside the SEC building with a median 104 unique working hours during the month. Alternatively,

Panel C (b) illustrates an example of devices which spend non-zero working hours inside the Atlanta SEC building (which also contains a small cafe on the ground floor) but also pings inside the business center across the street (Resurgens Plaza) for a median of 121 unique hours in the month. We assume such devices likely belong to those who visit the SEC office building while working elsewhere, and thus these devices are not identified as SEC-associated devices. Once we identify the devices associated with SEC buildings, we can construct measures of directional visits from SEC buildings to firms. By utilizing building shapefiles, we can accurately capture SEC device visits entering headquarters as well as other buildings nearby, but outside of, firm headquarters.

We next present nationwide visit characteristics in Figure 2. Panel A depicts the MSAs for which we have geolocation coverage (shaded yellow), the SEC office locations (red markers), and the instances of SEC device visits to firm headquarters that are captured in our data (origin of device in red, to destination visited in orange). Though the majority of visits happen between a SEC office and a corporate HQs in the same MSA, there is a substantial proportion of cross-region visits that occur. Approximately 14% of the visits in our data are cross-region visits. In Panel B, we again zoom into the Atlanta MSA to display instances of visits from devices linked to either the Atlanta SEC office or other SEC regional offices (depicted by buildings with blue markers) for one month of our data. This figure highlights a few aspects of our data, including that Atlanta-based SEC devices visit firms within and outside of the Atlanta region and that SEC devices from other regions visit firms headquartered in Atlanta (see the red-orange line entering from out of frame in the lower left side of Panel B). The figure also illustrates that some headquarters are not visited by the SEC (highlighted shapefiles without blue marker) as well as non-headquarter buildings.

1.2. SEC Investigations

Firms are not legally required to report formal SEC investigations. Blackburne et al. (2021) find that only 19% of SEC investigations are initially disclosed, despite the material significance of these investigations. To determine which firms were formally investigated, we utilize Freedom of

Information Act (FOIA) requests to obtain comprehensive details on formal SEC investigations. Our dataset encompasses all closed investigations between 2000 and 2021, as of the end of 2022. Over this 22-year period, the SEC conducted more than 16,000 investigations into both public and private firms. On average, the SEC closed approximately 750 cases per year; however, the number of cases closed in any given year ranged from just over 200 in 2003 and 2005 to a peak of more than 1,300 cases in 2012.[7]

1.3. SEC Enforcement Actions

After the SEC concludes the investigative inquiries, the SEC Division of Enforcement presents evidence to the SEC's Commissioners who vote to determine whether to pursue further action. If further action is warranted, the SEC can pursue an enforcement action either in federal court (civil action) or internally through administrative proceedings.[8] We collect information on enforcement actions from the Securities Enforcement Empirical Database (SEED) which tracks SEC enforcement actions filed by the SEC.[9] The database covers enforcement actions against public firms and subsidiaries starting in 2009 and is updated through 2023. The data includes significant allegations against firms and excludes low-cost actions such as delinquent filings and follow-on actions brought after an initial primary action against a defendant. For instance, in a notable case, the SEC alleged that AmTrust failed to adequately disclose material information regarding its methods for estimating insurance losses and revenues. On June 17, 2020, these allegations were made public, and two days later, on June 19, 2020, AmTrust agreed to pay a fine of $10.5 million to settle the SEC's charges.[10] We map all cases to firms in our sample and count the number of enforcement actions by year using the first document date.

[7]For more details on a similar dataset, see Blackburne et al. (2021) and Blackburne and Quinn (2023).
[8]In June 2024 the Supreme Court ruled in a 6-3 decision that the SEC's longstanding practice of using administrative proceedings to impose civil penalties infringed upon the right to a jury trial guaranteed by the Seventh Amendment (Bravin and Michaels, 2024).
[9]The SEED database is created by the NYU Pollack Center for Law & Business and Cornerstone Research. For more details about the database and cases included, see Choi (2020).
[10]Details about the case be found here: https://research.seed.law.nyu.edu/Search/ActionDetail/3333/5336.

1.4. Insider Transactions

We collect insider trading transaction information from the WRDS Insider Database. This database aggregates and compiles SEC Insider filings from the EDGAR platform. Following the prior literature (i.e., Cohen et al. 2012; Goldie et al. 2023) we limit our sample to Form 4s filed by corporate insiders involving open market purchases and sales of common stocks. We identify the direction of the trade (purchase or sale), the amount traded, and the role of the insider (Officer, Director, 10% Owner, or "Other" from Form 4 in field # 5). For each trading day in our sample, we identify if any insiders sold (purchased) stock and the number of insiders who sold (purchased) stock. We also aggregate this information at the firm-level on a rolling two-week window basis. $Ins\ Sell_{-5,+5}$ ($Ins\ Buy_{-5,+5}$) is equal to one if a firm insider sold (purchased) shares in the previous five trading days or will sell (purchase) shares in the subsequent five trading days. $Num\ Ins\ Sell_{-5,+5}$ ($Num\ Ins\ Buy_{-5,+5}$) is equal to the number of times an insider sold (purchased) shares in the time frame.

1.5. Descriptive Statistics

We merge the insider transaction data with quarterly firm-level financial statement data from Compustat and stock return data from CRSP using CRSP/Compustat Merged (CCM). For our analysis we require firms to be covered in our geolocation data, have insider transaction data, and have (lagged) quarterly data to create firm-level control variables. The regional distribution of the resulting sample is presented in Table 1 at the MSA level. We observe 2,342 firms located at least 1 kilometer from the nearest SEC regional office. During our sample period, 17% of firms are visited by an SEC device at least once during work hours.[11] The table displays considerable variation in the likelihood of being visited; the percent of firms visited varies from 0% to 41%. The table also reports the nearest SEC office and the median distance from the nearest SEC office to firms headquartered in that region.[12]

[11] We define work hours to include pings that occur between 7 am – 7 pm local time. We also exclude weekends and federal holidays and observances in the US.

[12] There are 11 regional offices in addition to the headquarters office located in Washington, DC. Our geolocation data does not include coverage in Utah; therefore, we do not observe any SEC devices associated with the Salt Lake

Panel A of Table 2 provides further descriptive statistics for the firms in our sample. Our main independent variable of interest is *SEC Device Visit* which equals one if an SEC device pings within the shapefile of a corporate headquarters during work hours on a given day. Many SEC regional offices are located in downtown areas near other firms which may share a building with coffee shops, restaurants, or other shopping outlets. To reduce noise associated with firms located near SEC offices, we exclude headquarters that are within 1 kilometer of an SEC office.[13] If the device travels less than 5 kilometers from their respective SEC office to the firm headquarters, we further require the device to ping inside the building for multiple hours.

Table 2 Panel A shows that visits are relatively rare, occurring on 0.2% of the trading days during our sample period, which translates to about 0.3 days per firm, on average. Consistent with previous literature, the median of both insider trading measures equals 0 implying that insider trading is infrequent and insiders are more likely to sell stock than purchase. The two-week probability one or more insiders sells is 17.5% and the probability of purchases is 5.9%.

$Abn\ Ret_{0,t}$ (abnormal returns) are calculated as the stock return of firm i in excess of the CRSP value-weighted return from the day until trading day t. These variables vary in length from 10 trading days (two weeks) to 63 trading days (3 months) and the unconditional averages are slightly negative. Firm-specific control variables are measured as of the previous quarter and include *Size* (natural logarithm of total assets), *Leverage* (ratio of long-term debt to total assets), *Book-to-market* (book value of equity divided by market value of equity), *Turnover* (natural logarithm of the total shares traded in a quarter divided by common shares outstanding), and *Distance to nearest SEC office* (natural logarithm of the distance in kilometers from the firm headquarters to the nearest SEC office).[14] On average, firms are located about 140 kilometers from the nearest SEC office, although as displayed in Table 1, this widely varies by region.

Panel B summarizes the visit intensity among the visited firms and SEC devices. The average

Regional Office.

[13] Our main results are qualitatively similar without this exclusion.

[14] Distance is calculated using Stata's "geodist" command written by Picard (2019), which relies on the Vincenty (1975) formula.

firm is visited approximately four days, although some firms are visited on a single day by a single SEC device and other firms are visited up to 25 days and by as many as 10 unique devices. Each SEC device visits, on average, 3 unique firms.

Panel C compares firm characteristics and SEC observable actions between visited firms and non-visited firms in a univariate setting. On average, visited firms are larger, more indebted, and located nearer SEC regional offices than are non-visited firms. Interestingly, firms with prior SEC enforcement actions are significantly more likely to be visited; firms with one or more prior SEC enforcement actions are about three times as likely (9% compared to 3%) to be visited. Further, visited firms have over three times the amount of prior SEC enforcement actions than non-visited firms (0.25 compared to 0.8).

As a means of validating our main visit measure, we next compare SEC observable actions between visited and non-visited firms during our sample period (January 2019 to February 2020). On average, we find 13% of visited firms are under an active formal SEC investigation (as proxied by our FOIA logs), which is 44% larger than the amount of non-visited firms under investigation. While this is a large effect, there are at least three reasons we may be under-reporting the true likelihood of investigation. First, our sample of formal SEC investigations from FOIA logs is limited to investigations closed by December 2021. Blackburne et al. (2021) find that the average case investigation takes over three years; hence, it is likely that some visited firms were under investigations that were not yet closed and disclosed by the time of our FOIA request. Second, as mentioned in Section 1.1, not all phones are captured in the geolocation data, so we do not observe all true visits. In addition, we are careful to not report false positives and thus do not include visits outside of business hours, visits on holidays or over weekends, or visits to firms within 1 kilometer from a SEC office. Third, it is possible that visits occurred prior to the start of our sample period that we are unable to observe. On the other hand, only 13% of visited firms were under a formal investigation, which is consistent with the notion that MUIs are often concluded without a formal SEC investigation.

We next examine if visits materialize into more formal observable actions after our sample

period. We compare the likelihood of being under a formal SEC investigation and receiving an SEC enforcement action.[15] While not statistically significant, visited firms are about more likely to be under a formal SEC investigation in the post-sample period. Given we only observe investigations closed through the end of 2021, it is not too surprising that the (28.5%) difference is not statistically significant or a larger observable effect. On the other hand, when we look at SEC penalties and enforcement actions through the end of 2023, we see that visited firms are twice as likely (6% compared to 3%) to receive an SEC enforcement action than unvisited firms. While these results are not controlling for a host of other factors, they do offer suggestive evidence that these are meaningful visits. At a minimum, this analysis serves as a data validation exercise and provides reassurance for our primary variable of interest.

Prior literature typically relies on the publicly disclosed date of enforcement actions (Karpoff et al., 2008) or, more recently, closed formal investigations which precede enforcement actions (Blackburne et al., 2021; Holzman et al., 2023; Bonsall et al., 2024). To shed light on the timing of visits relative to commencement of formal SEC investigations, we limit our attention to a small subset of firms where the formal investigation begins during our sample period. We further limit our attention to firms that were visited and the formal SEC investigation closed by the end of 2021. Among the resulting sample of 15 firms, we observe 23 visits on or prior to the case opening and 8 visits after the opening of the formal investigation.[16] While we are not suggesting that most visits occur prior to the formal investigation process, this finding does shed light on a shortcoming of methods commonly used in the literature and suggests substantial correspondence likely occurs before a formal SEC investigation officially begins.

2. Predicting SEC Device Visits to Firm Headquarters

In this section we systematically characterize the nature of SEC device visits to firm headquarters. To do so we use the databases described in Section 1 to construct characteristics that may

[15] We examine SEC enforcement actions through the end of 2023. Although we can not rule it out, it is difficult to confidently attribute a visit in 2019 or early 2020 to a large SEC penalty more than 3 years later.
[16] One firm was visited the day the formal investigation began.

be associated with the likelihood that a firm is visited by the SEC. Our intent with these tests is to explore relationships between observable characteristics and SEC device visits at a broad level. We therefore aggregate our data to the quarterly frequency in this section and take advantage of the data granularity in subsequent sections. We estimate the following specification:

$$\begin{aligned} SEC\ Visit_{i,q} = {} & \beta_1 * Ind\ Sweep_{i,q-1} + \beta_2 * Nearest\ SEC\ Office\ Visits_{i,q-1} \\ & + \gamma' * Firm\ Characteristics_{i,q-1} + \delta' * Enforcement\ Characteristics_{i,q-1} \\ & + i.Dist\ Bins + i.FE + \epsilon \end{aligned} \tag{1}$$

where $SEC\ Visit_{i,q}$ is an indicator variable equal to one if a firm is visited in the quarter. $Ind\ Sweep_{q-1}$ measures the log of the number of firms in the focal firm's industry that were visited by an SEC device and $Nearest\ SEC\ Office\ Visits_{i,q-1}$ is an analogous measure that captures the number of firms in the focal firm's MSA that are also visited by an SEC device. $Firm\ Characteristics_{i,q-1}$ includes firm measures that may be associated with SEC device visits, including $Leverage$ and the log of $Market\ Value\ of\ Equity$. $Enforcement\ Characteristics_{i,q-1}$ represents variables that capture the past misconduct of firms: *Prior SEC Enforcement* (equal to one if the firm had an SEC enforcement action prior to the visit) and *Accting Restatement 4qtrs* (equal to one if the firm issued a restatement in the prior 4 quarters). We also include $Q\ Score$, which is equal to one if the firm has never had "4" in the first post-decimal digit of quarterly EPS in the past five years, following Malenko et al. (2023). $Q\ Score$ has been reported to have been used by the SEC to detect earnings manipulation.[17] Our final predictor variable is *Reg. Intensity*, which is an index of the estimated total hours a firm spends on compliance, sourced from Kalmenovitz (2023). Lastly, we include 50 distance bins that separate firms by their distance to the nearest SEC office.

Table 3 presents the results of the prediction regressions. We report results when including the sweep and firm characteristics in column 1. We introduce the enforcement characteristics in column 2 and add Year×Quarter and MSA×Year×Quarter fixed effects in columns 3 and 4, respec-

[17] Investors, Take Heart When You See the Number 4 in Quarterly Earnings Figures. Wall Street Journal, March 3, 2023. Accessed March 21, 2024

tively. $Ind\ Sweep_{q-1}$ is positively correlated with the likelihood of a firm being visited across all specifications. This is consistent with statements from the SEC that they use various "sweeps" strategies to shape market behavior.[18] Across the first three specifications, the coefficient on *Nearest SEC Office* $Visits_{i,q-1}$ is positive, suggesting there are regional surges in SEC visits as well. Although not statistically significant, this relationship becomes negative in column 4 when MSA-Year-Qtr fixed effects are included, which supports the notion that an SEC office may be resource constrained in a given quarter which may limit the number of future investigations.[19] The results also suggest the SEC tends to visit larger firms more often, although leverage does not seem to impact the likelihood of a visit. Including the enforcement characteristics in the model reveals that firms with previous interaction with the SEC (as measured by SEC enforcement actions) are more likely to be visited. *Reg. Intensity* is also negatively related to the likelihood of being visited, suggesting that firms with higher costs of compliance are less likely to be visited.

3. The Materiality of SEC Device Visits

Our next tests examine whether SEC device visits are associated with future stock returns for the visited firm. Whether or not SEC visits have a material impact on returns is theoretically ambiguous. On the one hand, these visits may either be routine visits or may be undisclosed to market participants, resulting in no effect on stock returns due to frictions in information dissemination. On the other hand, our univariate analysis indicates these visits are typically associated with future SEC actions and may signal the possibility of increased regulatory costs in the future. If the market is able to uncover this information, we would see a negative stock price reaction around these visits.[20]

To test the relationship between SEC device visits and abnormal stock returns, we exploit the

[18] Remarks Before the Practising Law Institute's 54th Annual Institute on Securities Regulation. SEC Chair Gary Gensler, November 2, 2022. Accessed March 21, 2024

[19] This relationship is consistent with Bonsall et al. (2024) who find that a high regional office backlog limits future SEC investigations.

[20] Bargeron et al. (2023) find information leakage can occur during the process of firms filing disclosures with the SEC, suggesting market participants see firm-SEC interactions as material events.

granularity of our data and estimate the following regression model at the daily level:

$$Abn\ Ret_{i,[0,t]} = \beta_1 * SEC\ Device\ Visit_{i,t} + \sum_k \beta_k Firm\ controls_{i,t} + \gamma' FE + \epsilon \quad (2)$$

where $Abn\ Ret_{i,[0,t]}$ is the stock return of firm i in excess of the CRSP value-weighted return from the day of an SEC device visit until trading day t, which varies in length from 10 trading days (two weeks) after the visit to 63 trading days (3 months) after the visit. We include firm-level controls for size, leverage, book-to-market, turnover, and distance to the nearest SEC office. We also include *Date* and *Industry* or *Firm* fixed effects and cluster at the MSA-date level.

We document the effect of SEC device visits on a firm's abnormal return in Table 4. Results using *Industry* and *Date* fixed effects are shown in Panel A, and results using *Firm* and *Date* fixed effects are shown in Panel B. Across all return windows, we find a negative stock return for a visited firm that is statistically significant after two to three months. Referring to the *Firm* fixed effects model, a firm's return is 28 basis points lower on average in the two trading weeks ($Abn\ Ret_{0,10}$) after a visit. The magnitude of the reaction increases over longer windows, with an average abnormal return of -1.94% in the three months ($Abn\ Ret_{0,63}$) after the visit. This monotonic decrease in the stock price over longer windows is consistent with gradual information leakage to market participants and suggests that SEC visits do signal an increased likelihood of future regulatory costs for firms.

One concern regarding the empirical framework used in equation 2 is that the stock return for firm i prior to the visit may influence the probability that a visit occurs. To better visualize how the stock price changes around the visits we estimate a series of expanding regressions using the following framework:

$$Abn\ Ret_{i,-21\ to\ t} = \beta_1 SEC\ Device\ Visit_{i,0} + \sum_k \beta_k Firm\ controls_{i,t} + \gamma' FE + \epsilon \quad (3)$$

The key difference is that we begin our measure of abnormal returns 21 trading days (one month) prior to the visit. We estimate equation 3 for every window from day -21 to day 63, expanding the

measure by one day each estimation. The resulting coefficients for β_1 are shown in Figure 3, with the results using $Industry$ and $Date$ fixed effects in Panel A and using $Firm$ and $Date$ fixed effects in Panel B. We find no evidence of abnormal returns in the pre-window and, consistent with Table 4, a gradual drop in abnormal returns after the firm is visited by an SEC device. Together these results provide compelling evidence that visits from SEC devices signals a negative outlook for the average firm.

Though the use of geospatial data gives us an unprecedented look into the interactions between SEC regulators and public firms, we are unable to observe the precise nature of each visit. Visits may happen for relatively benign reasons like industry sweeps where we would not expect to see a drastic drop in stock price. Visits may also occur for more serious reasons, such as a firm being suspected of violating securities laws, where a drop in stock price would be more likely. To shed light on the heterogeneous nature of visits, we next examine how the stock price is effected for the subset of firms that simultaneously are involved in an SEC enforcement action. We identify the first date documents are realized to the general public indicating the SEC allegation related to the enforcement action. We suspect that these firms will be more closely monitored and any negative information leakage related to SEC visits will more quickly be uncovered by the market, leading to stronger negative stock returns following an SEC visit. To formally test this conjecture, we estimate the following equation:

$$\begin{aligned} Abn\ Ret_{i,-21\ to\ t} = {} & \beta_1 SEC\ Device\ Visit_{i,0} + \beta_2 SEC\ Enf_i \\ & + \beta_3 SEC\ Device\ Visit_{i,0} \times SEC\ Enf_i + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon \end{aligned} \tag{4}$$

where $SEC\ Enf_i$ is equal to one if firm i has an SEC enforcement action filed against them during our sample period. All other variables are as described in previous figures and tables. The regressions use $Firm$ and $Date$ fixed effects (subsuming β_2). We cluster standard errors at the MSA-date level.

Figure 4 displays the results. In Panel A, the dotted line represents the coefficients on β_1 and

the solid line presents the cumulative $\beta_1 + \beta_3$ coefficients. The results show that firms with an SEC enforcement action suffer much stronger stock price reductions after a visit than firms who are visited but have no enforcement against them. Notably we still observe a negative effect on β_1 suggesting there are other negative costs to an SEC device visit (e.g., potential for increased regulatory burden) beyond the threat of an SEC enforcement action. We once again observe no pre-trend effect on the stock price prior to an SEC device visit. In Panel B of 4 we display the coefficients for two week, one month, two month, and three month windows where abnormal returns are measured beginning on the date of the SEC device visits ($t = 0$). The results are consistent with Panel A, showing the stock price reaction is stronger and occurs sooner for firms with SEC enforcement actions.[21]

4. SEC Device Visits and Insider Trading

In this section, we examine whether firm insiders modify their trading behavior when the firm is visited by an SEC device. The SEC claims investigating unlawful trades by corporate insiders is a high priority, as minimizing these trades will "strengthen investor protection and the integrity of our securities markets."[22] Ex ante, it is unclear how insiders may respond to a visit from a regulator. One might expect insiders to increase sales of their holdings in the firm as a visit from the SEC may be indicative of future enforcement actions and a decline in the stock price. Consistent with this prediction, Li (2024) shows that insiders have successfully traded around the revelation of financial misconduct, suggesting they may also attempt a similar trade around SEC visits. Alternatively, the SEC presence may act as a deterrent, discouraging insiders from making trades which could garner scrutiny. To test these competing hypotheses, we employ the

[21] For completeness, in our remaining tests we report the coefficients for these windows along with the stock return figures that include pre-trends. For brevity, we primarily only discuss the results that include pre-trends in the text.

[22] Strengthening Insider Trading Rules for Corporate Insiders. Commissioner Jaime Lizárraga, Dec. 14, 2022. Accessed March 21, 2024.

following regression specification:

$$Ins\ Trade_{i,-5,+5} = \beta_1 * SEC\ Device\ Visit_{i,t} + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon \quad (5)$$

where $Ins\ Trade_{i,-5,+5}$ is either $Ins\ Sell_{-5,+5}$ or $Num\ Ins\ Sell_{-5,+5}$, or an analogous insider buy measure. When we turn to the count-like measure of $Num\ Ins\ Sell_{-5,+5}$, we are faced with the question of how to handle the distribution of the count-based outcome variable. Although the natural log of 1 plus the outcome variable as a dependent variable is common in corporate finance, Cohn et al. (2022) document that this practice produces estimates without a natural interpretation which can even have the wrong sign. Thus, we follow the recommendation to estimate a fixed-effects Poisson model which alleviates these concerns.[23] Due to the infrequency of insider trades, we aggregate insider transactions on a rolling two week window basis around the visits as mentioned in Section 1.4. We include firm characteristics (firm size, leverage, book-to-market, turnover, and distance to the nearest SEC office), Fama-French 12 industry and date fixed effects, and cluster standard errors at the MSA-date level.

Table 5 suggests that SEC visits has a chilling effect on insider trades, but only for insiders sales and not for purchases. In the two weeks surrounding an SEC device visit, insiders are about 2.89% less likely to sell shares of their own firm. In terms of economic magnitude, this represents a decrease of 16.5% relative to the unconditional average of 17.5%. We find no effect on insider purchases. The results in columns 2 and 4 show that the result is not sensitive to the measure used to capture insider trades.[24] This outcome suggests that the physical presence of SEC regulators serves as additional monitoring and deters profitable selling opportunities.

We next consider if the observed chilling effect is driven by a particular subset of insiders. We first consider if the type of insider plays a role in the observed relationship. Using Form 4 field #5

[23] We use the Stata package PPMLHDFE which allows for efficient Poisson estimation with high-dimensional fixed effects. See Correia et al. (2020) and Correia et al. (2019) for more details.

[24] As shown in Table A1 Panel C, results are qualitatively similar if we instead follow the prior literature and use the natural log of 1 plus the outcome variable for our count-like measure (# $Ins\ Sell_{-5,+5}$) and estimate with ordinary least squares instead of the fixed-effects Poisson model.

we recreate our trading measures while differentiating officers from all other investors (Director, 10% Owner, or "Other"). Executives are more likely to be located at corporate headquarters and knowledgeable of SEC inquiries than other insiders. In addition, it is plausible that executives face higher scrutiny for timely trades around SEC investigations than do other investors. Therefore, we expect that the observed relationship is stronger for officers than other insiders.

Given the results shown in Section 3, insiders with access to this inside information have a likely profitable trading opportunity but may fear detection and punishment. Prior literature has identified nonroutine traders (Cohen et al., 2012) tend to make particularly opportunistic trades, although these trades are less likely to be made during periods of intense scrutiny by the SEC.[25] Similarly, Del Guercio et al. (2017) find that an increase in litigation risk as proxied by aggressive SEC enforcement activity also deters insider trading. Therefore, we follow Cohen et al. (2012) and distinguish between opportunistic and routine traders, where routine traders are defined as an insider who placed a trade in the same calendar month for at least three consecutive years. Opportunistic traders may be more likely to act on inside information and place a profitable trade, but also may be less likely to trade and face heightened scrutiny. Therefore, we have competing hypotheses regarding whether an SEC device visit will create a stronger chilling effect between the two groups.

Table 6 reports the results. In Panel A, we see that the chilling effect is more pronounced for officers than non-officers in terms of both the economic magnitude and statistical significance. Comparing columns (1) and (3), officers have a 2.94% lower propensity to trade around an SEC device visit whereas non-officers are 0.95% less likely to trade. We continue to see a stronger reaction from officers relative to non-officers when using the number of insiders selling as the dependent variable. In Panel B, we do not observe meaningful differences between opportunistic and routine traders, suggesting that physical monitoring by the SEC has a similar chilling effect on both groups of traders.

[25] Akbas et al. (2020) also finds short-horizon investors are also more informed than long-horizon investors.

5. Do Corporate Insiders who Sell around Visits Avoid Abnormal Losses?

Our results to this point suggest that a visit from the SEC signals negative information about a firm's subsequent stock performance. Though these visits typically have a chilling effect on the likelihood of an insider selling shares in their firm, we nonetheless observe many instances of insiders selling around an SEC device visit. Instances when insiders do sell likely indicate a negative SEC visit where the incentive to sell to avoid abnormal losses is particularly strong. Our next goal is to assess these trades and test whether these insiders are able to avoid abnormal losses.

To empirically test this idea, estimate the following regression model:

$$\begin{aligned} Abn\ Ret_{i,-21\ to\ t} = \beta_1 Insider\ Sell\ Around\ SEC\ Device\ Visit_{i,0} \\ + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon, \end{aligned} \tag{6}$$

where $Sell\ around\ SEC\ Device\ Visit_{i,0}$ is equal to one if an insider sells during the two week window around an SEC device visit. The dependent variable, $Abn\ Ret_{i,-21\ to\ t}$ is measured relative to the date of the insider sell, which occurs at $t = 0$. The regressions include the same host of firm controls as well as $Firm$ and $Date$ fixed effects. We cluster standard errors at the MSA-date level. In these tests, we restrict the sample to instances when an insider sells so that the results can be interpreted as the abnormal returns avoided by an insider who sells around an SEC device visit relative to an insider who sells when there is no associated visit.

Panel A of Figure 5 reports the test of how abnormal returns respond when an insider sales around and SEC device visit. The results are striking: sales around visits are highly informative and are followed by significant stock declines. Relative to other sales, the abnormal returns decline by 4.9% three months following the sale. Importantly, we do not observe any pre-trends prior to the sale. Panel B reports consistent results when using $Abn\ Ret_{0\ to\ t}$ as the dependent variable.

We next examine how returns vary when a sale is made by an officer of the firm versus an

insider who is a non-officer (e.g., board member or blockholder). Because officers are more likely to be at the headquarters when the SEC visits, we expect their sales around visits to be more informative than those of non-officers. To test this conjecture, we modify equation 6 so that the main variable of interest is an officer (non-officer) sale around an SEC device visit.

We present the results for the performance of officer and non-officer sales around visits in Figure 6. Panel A compares the results using the expanding regressions with pre-trends. Consistent with our hypothesis, we find a strong negative stock response when officers of the firm sell around a visit. The solid line depicts returns around an officer sale and shows the response occurs within a month of the sale and is -5.8% after three months. The dotted line represents returns around non-officer sales and shows a downward but much noisier trend that is statistically indistinguishable from zero. These results lend further support to the idea that a subset of SEC visits convey negative information about a firm's future performance and suggest this information is transmitted through face-to-face communication.

One concern regarding our results thus far is that the drop in returns we document around visits is not novel, but rather capturing effects shown in prior research, such as the opening of an SEC investigation (Blackburne et al., 2021). To further differentiate our results from those documented in the prior literature, we next explicitly drop firms that are involved with a formal SEC investigation. To this end we identify all firms that were included in the FOIA logs that had a closed case by the end of 2021. After dropping these firms, we see that the baseline effect following a visit still holds. The results in Figure 7 revisit equation 2 with the formally investigated firms excluded and continue to show a material decline in a visited firm's stock price. We also find consistent results regarding abnormal returns when an insider sells around a visit in Figure 8, confirming that our results are not simply driven by the firms that are involved with a formal investigation. Our study documents that visits outside of the formal investigation process happen regularly and are material events.

Finally, while we do not observe a statistical difference in the propensity to trade among opportunistic vs routine traders, we consider the informativeness of these traders around device

visits. Sales made by routine traders around SEC device visits may be be coincidental whereas a sale by an opportunistic trader is more likely to signal a negative visit. The results are shown in Figure 9. In Panel A, the solid (dotted) line depicts returns when an opportunistic (routine) trader makes a sale around an SEC device visit. We find that abnormal losses only occur when opportunistic insiders make a sale and find no evidence of a stock price drop when routine traders make a sale. Specifically, the three month abnormal returns for opportunistic sales around visits is -9.8% and for routine sales it is a statistically insignificant -1%. Together, our analyses in Section 5 document that insiders are able to avoid significant losses when they trade around SEC device visits, particularly when those insiders are most likely to know the nature of the SEC visit.

6. Robustness

In this section we describe the results of a series of robustness tests. The results are summarized in Table A1. First, we verify that our findings are not merely a subset of results established in the prior literature. Specifically, we exclude all firms that had an ongoing formal SEC investigation at any time during our sample period or subsequently. The results presented in Panel A confirm that the chilling effect associated with the SEC's physical presence is not dependent on the issuance of a formal SEC investigation. Next, we restrict our sample to firms located in buildings not shared with other entities. The findings in Panel B indicate that the results are robust and even stronger in magnitude. Finally, we instead adopt the approach used in prior literature by applying log transformations and using ordinary least squares for our count-like measures (number of sales/purchases), despite the known issues with this method. Panel C shows that the results are not sensitive to the choice of the fixed-effects Poisson model. Our final analysis looks at the differential effect of SEC monitoring on the likelihood of insider trading for recipients of enforcement actions. The results in Table A2 suggest that the chilling effect of SEC monitoring on insiders selling is prevalent for both firms with and without an SEC enforcement action. While the effect is greater for firms with a soon-to-be announced enforcement action, we do not find robust evidence that the effect is magnified for firms with an enforcement action that will

be announced several years later (post sample). In summary, these tests provide supportive evidence that the physical presence of SEC regulators deters insider selling, but not purchasing, opportunities.

7. Conclusion

This study illuminates previously unexplored interactions between regulators and public firms, offering new insights into the SEC's monitoring practices. Leveraging de-identified geospatial data, our analysis reveals that SEC-associated devices venture to firms both in close proximity to and far from SEC offices, participate in broader industry sweeps, and are more likely to visit larger firms or those with a history of enforcement actions. Notably, our findings indicate that a majority of visits occur outside formal investigations. The impact of these visits is substantial; firms visited by SEC devices experience abnormally lower future market returns. This effect is particularly pronounced for those subsequently subject to enforcement actions. Additionally, we show that insiders are less likely to sell shares in the days surrounding an SEC device visit; however, when sales do occur, insiders avoid significant losses. Collectively, our results enhance the understanding of SEC interactions with public firms, underscore the significant consequences of these engagements, and highlight the importance of watching the watchdogs.

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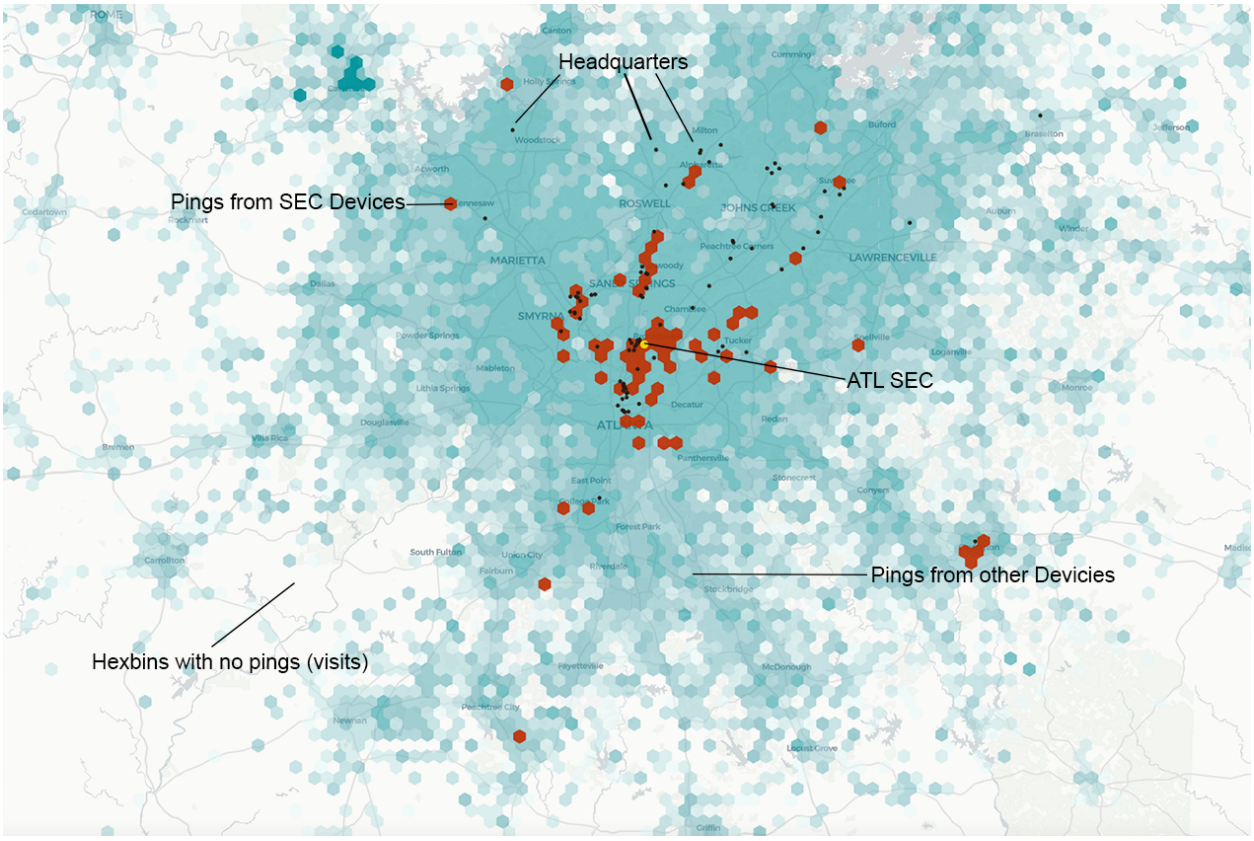
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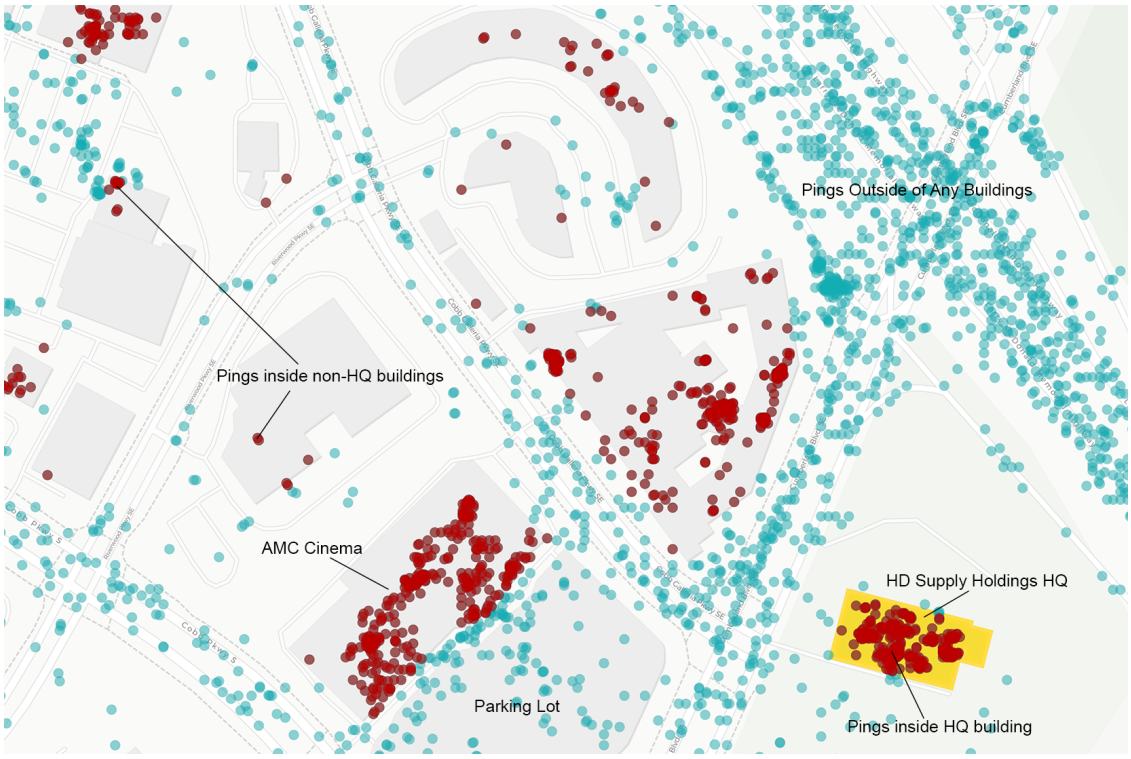
Figure 1: Illustrative Examples of Device Visits

Panel A illustrates the spatial distribution of visits to buildings during a typical workday from 7 am to 7 pm in the Atlanta MSA. The red hexagonal bins represent pings from SEC devices, while the blue hexagonal bins represent pings from other devices, with darker blue shades indicating a higher concentration of pings inside buildings within each 1-kilometer radius bin. Black markers indicate the locations of Corporate Headquarters, and the yellow marker in the center of the figure denotes the location of the Atlanta SEC office. This panel highlights the amount of noise we filter out. Panel B illustrates how pings are captured for an example firm's headquarters. All gray shapes are building that do not house firm headquarters. Cellphone pings must be within 5-meter of the HQ shapefile to be captured. In this particular example, we capture pings appear inside the HD Supply Holdings Headquarter building polygon. Panel C displays the spatial distribution of median total unique working hours at the building level for two groups of devices over a typical calendar month. For the purpose of this illustration, we focus on buildings within a 200-meter perimeter of the SEC building. Panel C (a) includes all devices mapped to the Atlanta SEC building, and Panel C (b) includes all devices mapped to the Resurgens Plaza building. The height of each building polygon corresponds to the median total unique hours, with taller polygons indicating more hours. The building with the highest total unique hour count is selected, and the devices' work location is mapped to this building.

Panel A: Spatial Distribution of Visits by Device Type



Panel B: Example of Building Shapefile Capturing Pings



Panel C: Determination of Device-Building Mapping

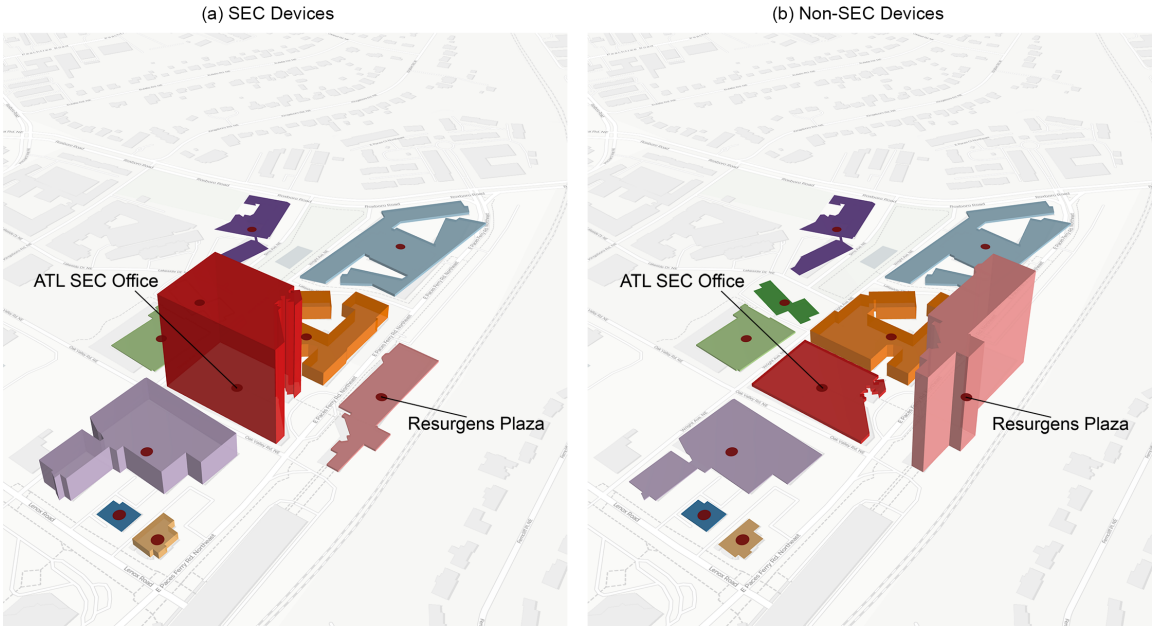
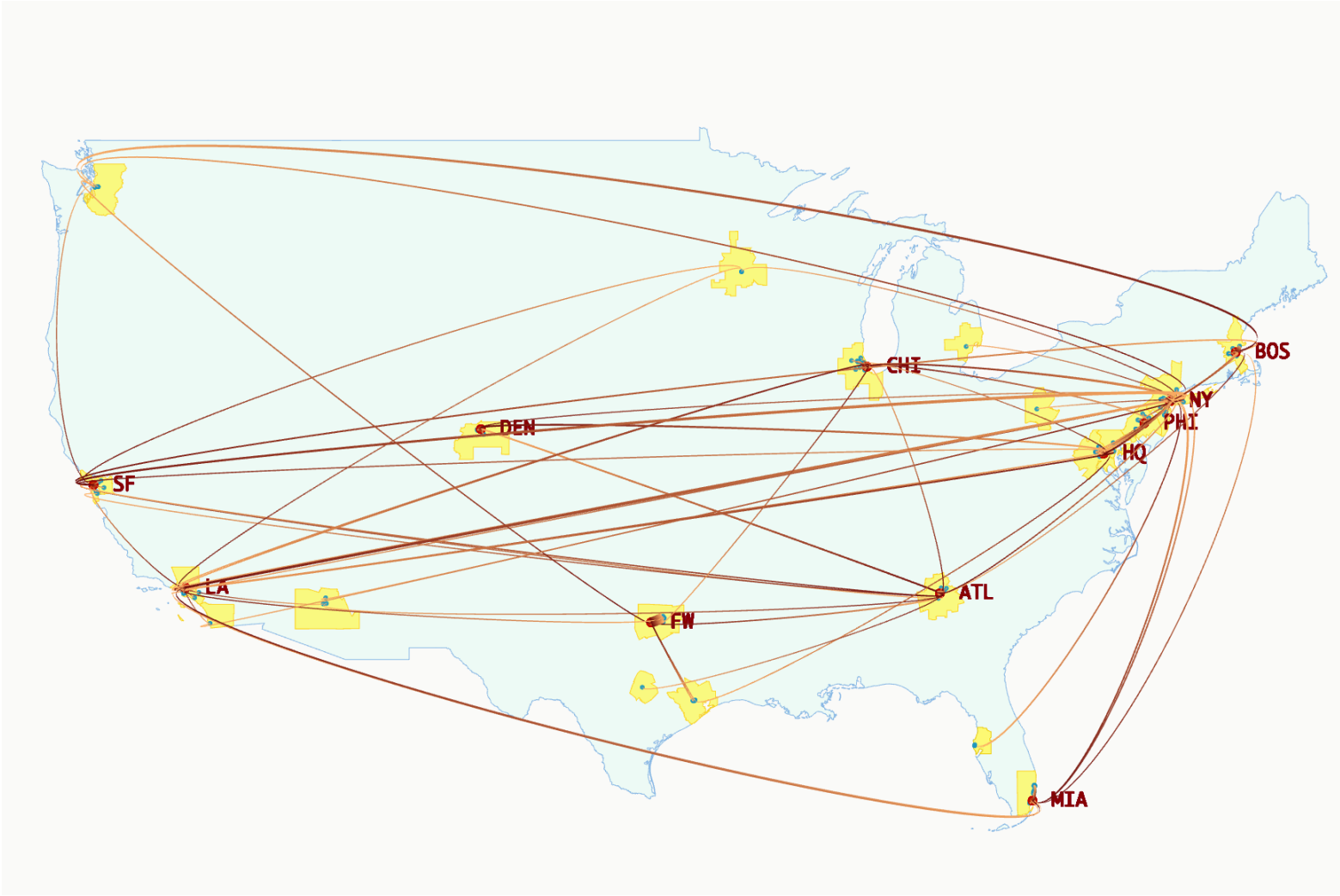


Figure 2: SEC Device Visits

The figures illustrate SEC device visits to firm headquarters in our sample. Panel A displays the national-level SEC-to-HQ flow map for visits happened during our sample period. Red markers represent SEC offices, blue markers indicate firm headquarters, while red-orange lines indicate SEC device visits to firm headquarters. Yellow regions denote MSAs with cellphone data coverage. If a red-orange line stretches from one region to another, this indicates an SEC device has done a cross-region visit. Panel B provides a closer view of the Atlanta MSA, showcasing the SEC visit network during a typical month.

Panel A: Nationwide SEC Device Visits



Panel B: SEC Device Visits to Firm Headquarters - Atlanta Example

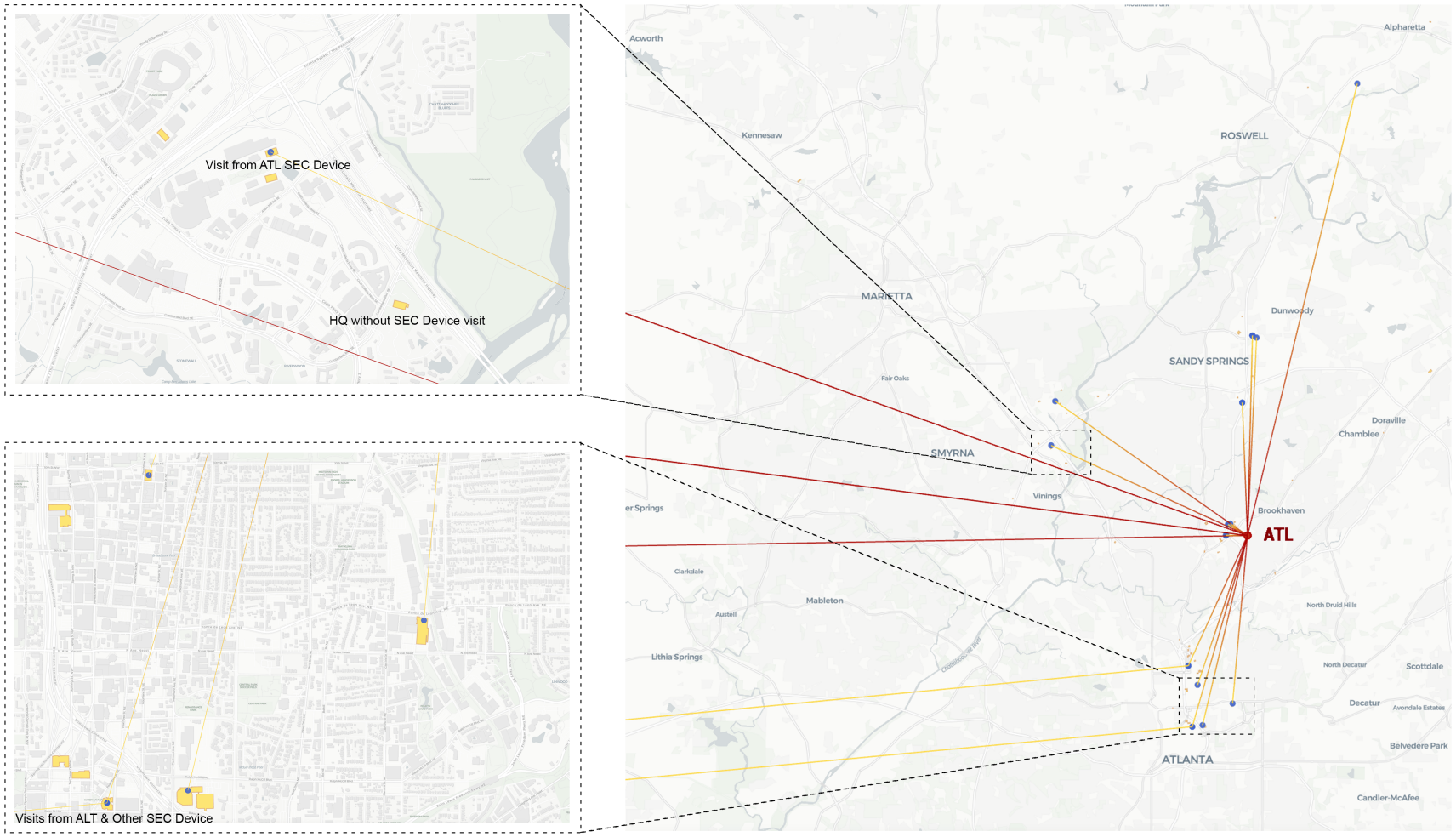


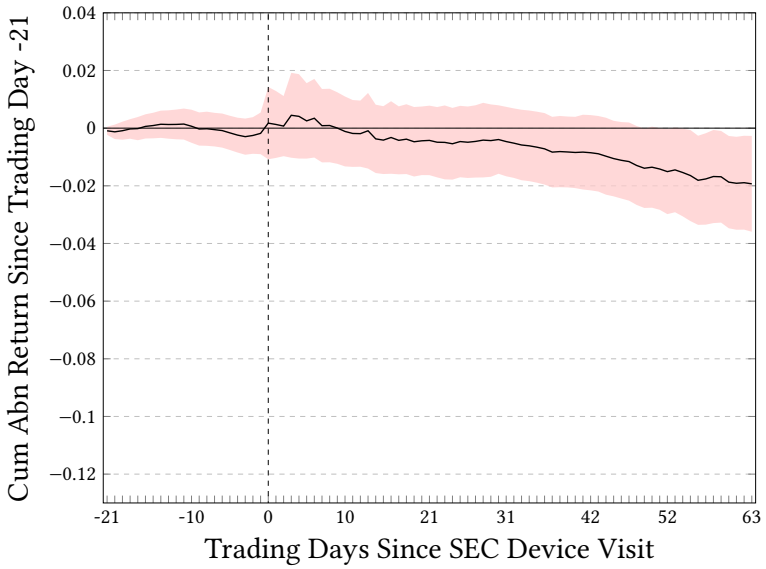
Figure 3: Abnormal Returns around SEC Device Visits

This figure presents coefficients and 95% confidence intervals for β_1 from the following regression framework:

$$Abn\ Ret_{i,-21\ to\ t} = \beta_1 SEC\ Device\ Visit_{i,0} + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon,$$

where $Abn\ Ret_{i,-21\ to\ t}$ is the cumulative abnormal return of the stock for firm i from 21 trading days prior to an $SEC\ Device\ Visit$ until trading day t, which ranges from -21 (one month before the visit) to +63 (three months after). Panel A reports results using $Industry$ and $Date$ fixed effects while Panel B uses $Firm$ and $Date$ fixed effects. We cluster standard errors at the MSA-date level.

Panel A: Industry and Date Fixed Effects



Panel B: Firm and Date Fixed Effects

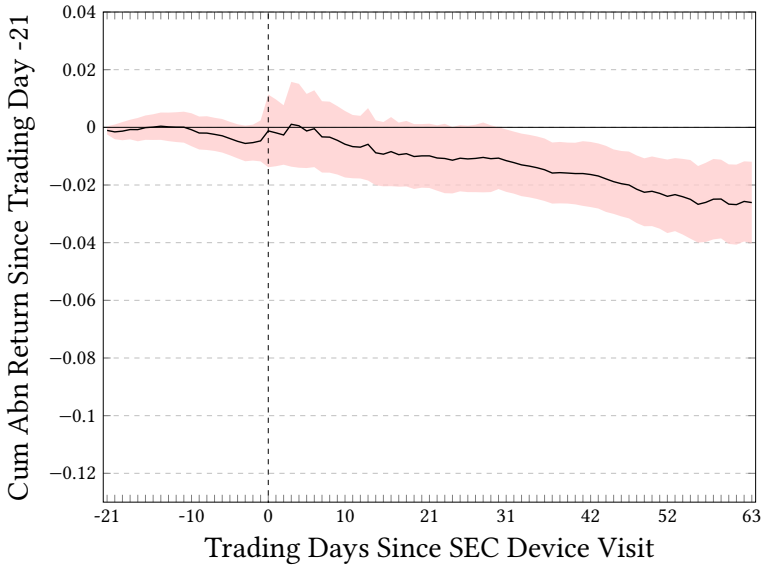
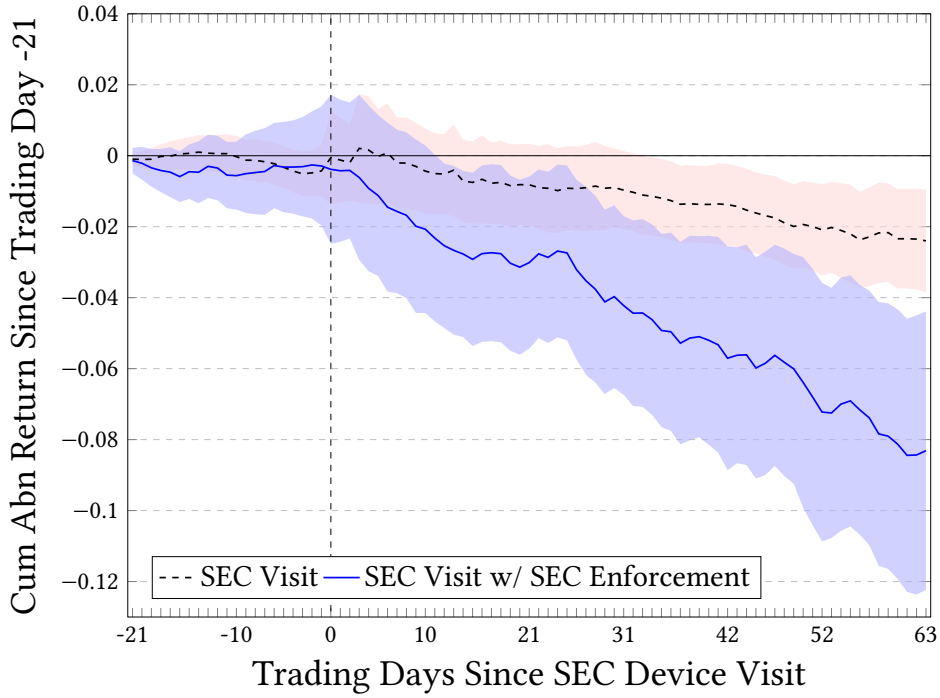


Figure 4: Abnormal Returns around SEC Device Visits for Firms with SEC Enforcement Cases
Panel A presents coefficients and 95% confidence intervals for β_1 and β_3 from the following expanding regression series:

$$Abn\ Ret_{i,-21\ to\ t} = \beta_1 SEC\ Device\ Visit_{i,0} + \beta_2 SEC\ Enf_i + \beta_3 SEC\ Device\ Visit_{i,0} \times SEC\ Enf_i + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon$$

where $SEC\ Enf_i$ is equal to one if firm i has an SEC enforcement action filed against them during our sample period. All other variables are as described in previous figures and tables. Panel B reports results for various return windows starting on the day of an SEC device visit ($t = 0$). The regressions use *Firm* and *Date* fixed effects (subsuming β_2). We cluster standard errors at the MSA-date level.

Panel A: Expanding Regressions with Pre-Trends



Panel B: Regression Coefficients, $Abn\ Ret_{0,t}$

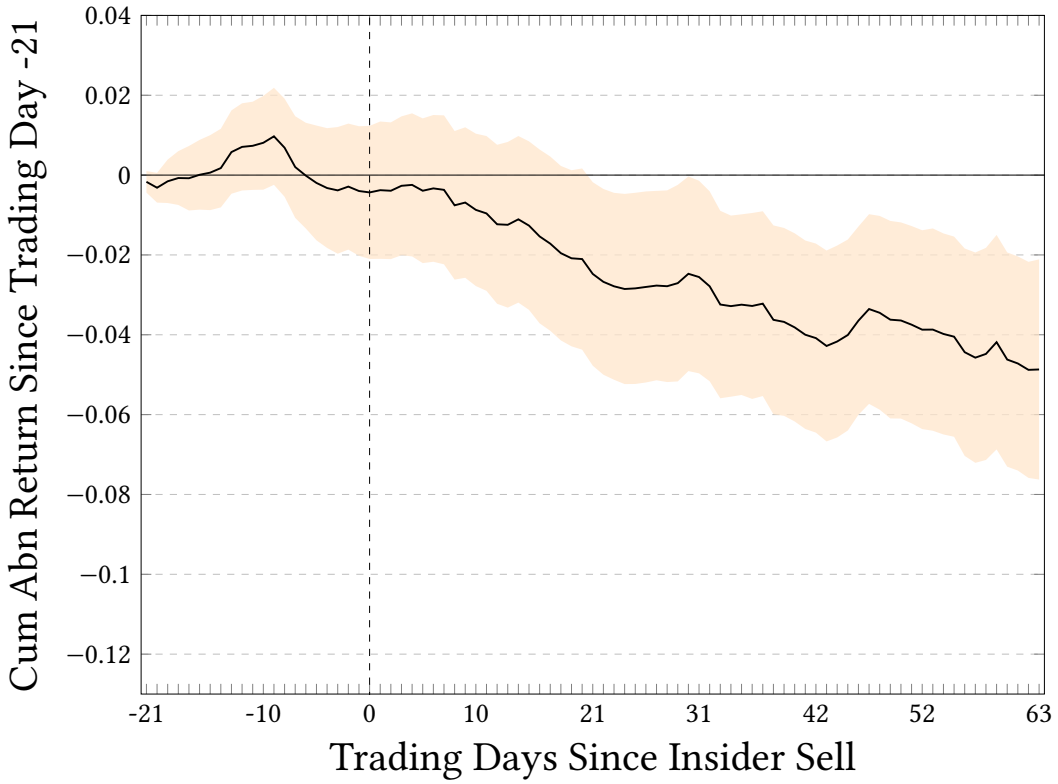
	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0019	-0.0045	-0.0110**	-0.0172***
	(0.0036)	(0.0041)	(0.0047)	(0.0061)
SEC Device Visit × SEC Enf.	-0.0142*	-0.0202**	-0.0423***	-0.0621***
	(0.0077)	(0.0099)	(0.0116)	(0.0159)
R^2	0.058	0.103	0.176	0.235
Observations	640,438	639,588	637,633	635,512

Figure 5: Abnormal Returns around SEC Device Visits that Coincide with Insider Sales
Panel A presents coefficients and 95% confidence intervals for β_1 from the following expanding regression series:

$$Abn\ Ret_{i,-21\ to\ t} = \beta_1 Insider\ Sell\ Around\ SEC\ Device\ Visit_{i,0} + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon,$$

where $Insider\ Sell\ Around\ SEC\ Device\ Visit_{i,0}$ is equal to one if a firm insider sells shares within five trading days before or after the firm is visited by an SEC device. All other variables are as described in previous figures and tables. We restrict the sample to instances when an insider sale takes place. Panel B reports results for various return windows starting on the day of an insider sell ($t = 0$). The regressions use $Firm$ and $Date$ fixed effects. We cluster standard errors at the MSA-date level.

Panel A: Expanding Regressions with Pre-Trends



Panel B: Regression Coefficients, $Abn\ Ret_{0,t}$

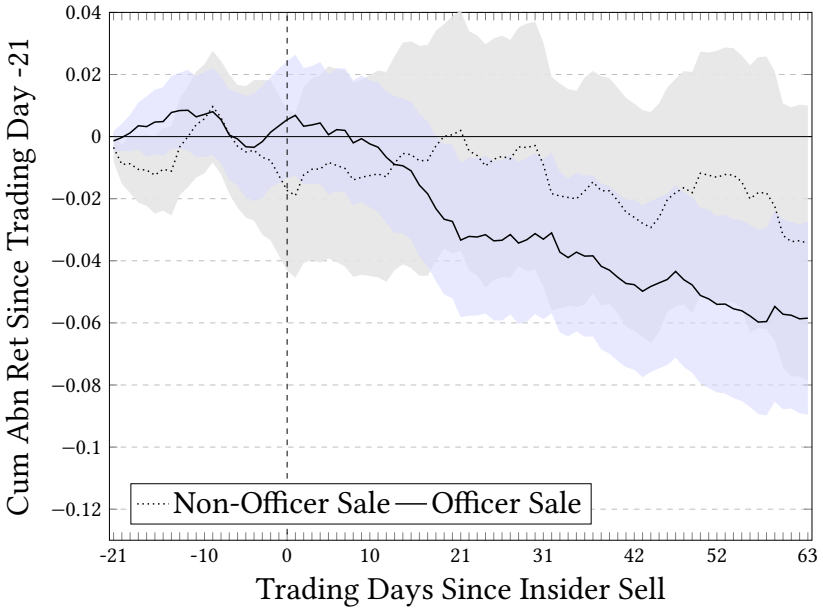
	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
Insider Sale around Visit	-0.0028	-0.0177**	-0.0296***	-0.0338***
	(0.0047)	(0.0078)	(0.0097)	(0.0122)
R^2	0.247	0.280	0.370	0.449
Observations	21,389	21,373	21,300	21,245

Figure 6: Abn Returns around SEC Device Visits that Coincide with Officer & Non-officer Sales
Panel A presents coefficients and 95% confidence intervals for β_1 from the following expanding regression series:

$$Abn\ Ret_{i,-21\ to\ t} = \beta_1 Insider\ Sell\ Around\ SEC\ Device\ Visit_{i,0} + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon.$$

We present two sets of regressions in Panel A: the solid line represents returns when officers of the firm sell and the dotted line represents insiders who are not officers of the firm. We restrict the sample to instances when an insider sale takes place. Panel B reports results for various return windows starting on the day of an officer or non-officer sell ($t = 0$). The regressions use $Firm$ and $Date$ fixed effects. We cluster standard errors at the MSA-date level.

Panel A: Expanding Regressions with Pre-Trends

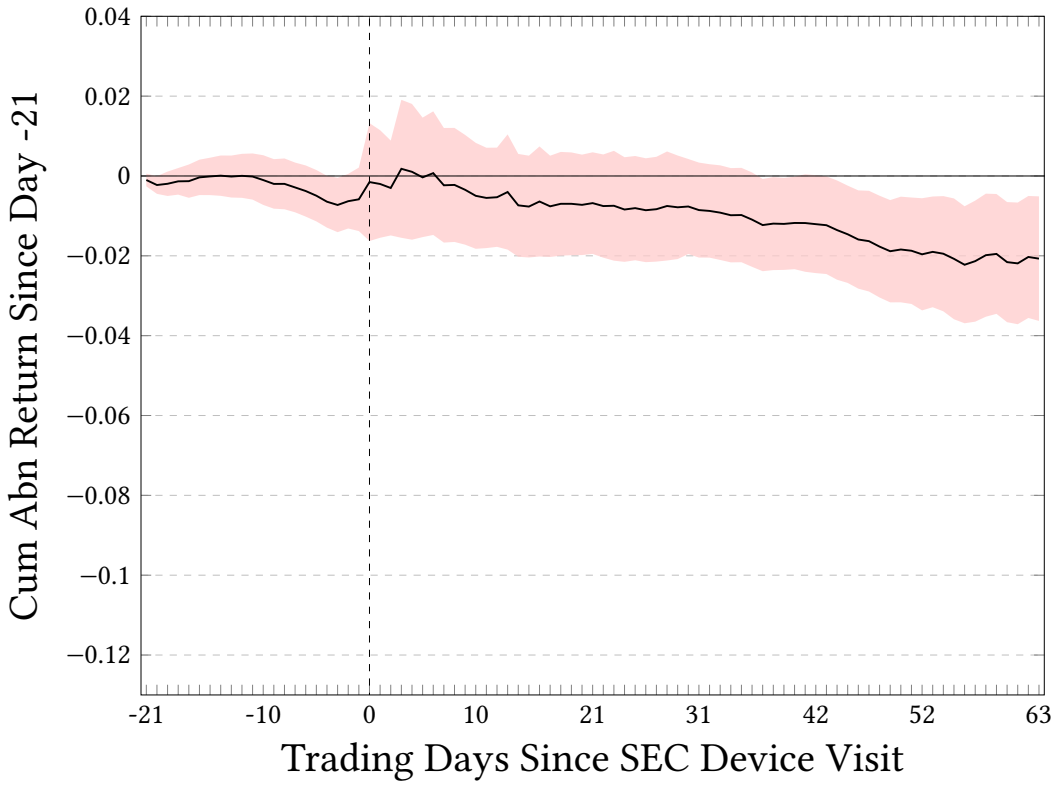


Panel B: Regression Coefficients, $Abn\ Ret_{0,t}$

	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
Officer Sale around Visit	-0.0061	-0.0347***	-0.0466***	-0.0530***
	(0.0051)	(0.0092)	(0.0116)	(0.0145)
R^2	0.247	0.280	0.370	0.449
Observations	21,389	21,373	21,300	21,245
Non-Officer Sale around Visit	0.0060	0.0181*	-0.0015	-0.0081
	(0.0075)	(0.0102)	(0.0137)	(0.0173)
R^2	0.247	0.280	0.370	0.449
Observations	21,389	21,373	21,300	21,245

Figure 7: Abnormal Returns around SEC Device Visits, Excluding Formal Investigations
This figure presents further analysis of the cumulative abnormal returns around SEC device visits. In these tests, we exclude firms that have a formal SEC investigation underway during our sample period. Panel A revisits the test in the second panel of Figure 3, and panel B revisits the test in the second panel of Table 4.

Panel A: Expanding Regressions with Pre-Trends



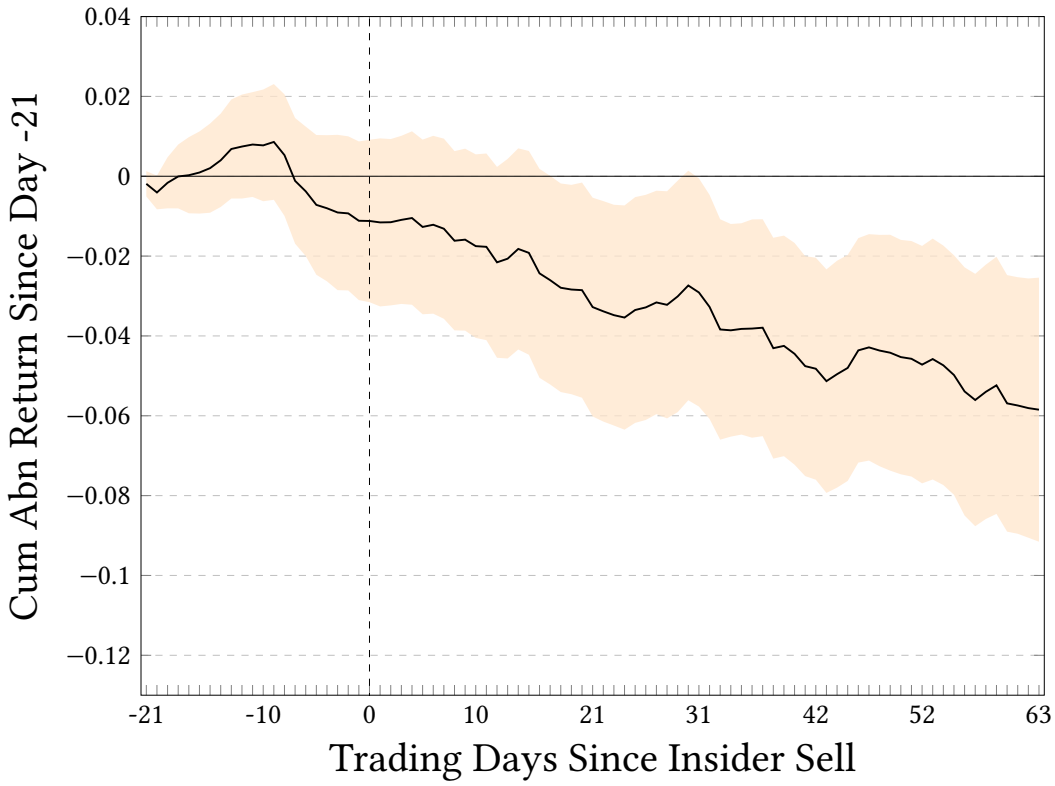
Panel B: Regression Coefficients, $Abn\ Ret_{0,t}$

	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0013	-0.0023	-0.0090*	-0.0138**
	(0.0039)	(0.0044)	(0.0049)	(0.0065)
R^2	0.056	0.103	0.177	0.236
Observations	570,126	569,164	566,966	564,690

Figure 8: Abn Returns around SEC Device Visits that Coincide with Insider Sales, Excluding Formal Investigations

This figure presents further analysis of the cumulative abnormal returns around SEC device visits that coincide with insider sells. In these tests, we exclude firms that have a formal SEC investigation underway during our sample period. Panel A revisits the test in the first panel of Figure 5, and panel B revisits the test in the second panel of Figure 5.

Panel A: Expanding Regressions with Pre-Trends



Panel B: Regression Coefficients, $Abn\ Ret_{0,t}$

	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
Insider Sale around Visit	-0.0043	-0.0187**	-0.0288**	-0.0350**
	(0.0054)	(0.0090)	(0.0113)	(0.0147)
R^2	0.251	0.284	0.383	0.455
Observations	18,711	18,696	18,627	18,587

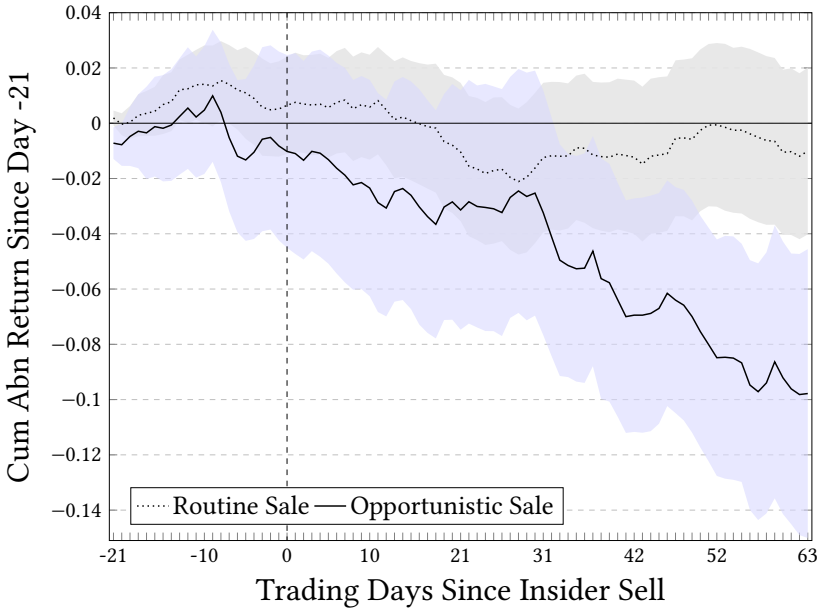
Figure 9: Abnormal Returns around SEC Device Visits that Coincide with Opportunistic and Routine Insider Trades

Panel A presents coefficients and 95% confidence intervals for β_1 from the following expanding regression series:

$$Abn\ Ret_{i,-21\ to\ t} = \beta_1 Insider\ Sell\ Around\ SEC\ Device\ Visit_{i,0} + \sum_k \beta_k Firm\ controls_{i,q} + \gamma' FE + \epsilon,$$

where $Insider\ Sell\ Around\ SEC\ Device\ Visit_{i,0}$ is equal to one if a firm insider sells shares within five trading days before or after the firm is visited by an SEC device. The solid line displays the results when looking at insider sales by opportunistic traders. The dotted line represents insider sales by routine traders. Panel B reports results for various return windows starting on the day of an opportunistic or routine sell ($t = 0$). Both series of regressions use $Firm$ and $Date$ fixed effects and cluster standard errors at the MSA-date level.

Panel A: Expanding Regressions with Pre-Trends



Panel B: Regression Coefficients, $Abn\ Ret_{0,t}$

	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
Opp. Sale around Visit	-0.0102	-0.0167	-0.0459**	-0.0690***
	(0.0090)	(0.0148)	(0.0179)	(0.0244)
R^2	0.281	0.312	0.420	0.496
Observations	11,124	11,113	11,070	11,044
Rout. Sale around Visit	0.0010	-0.0146*	-0.0143	-0.0099
	(0.0053)	(0.0084)	(0.0111)	(0.0124)
R^2	0.245	0.282	0.334	0.416
Observations	11,193	11,187	11,157	11,128

Table 1: **Regional Distribution of Firm Headquarters**

This table presents summary statistics by MSA for the firms included in our sample. For each MSA, we report the proportion of firms that are visited at least once in our sample, the total number of firms headquartered in the area, the nearest SEC location, and the median distance in kilometers between the firms headquarters and the nearest SEC office.

MSA	% Visited	Firms	Nearest SEC Office	SEC Dist (km)
Atlanta-Sandy Springs-Roswell, GA	41.3	75	Atlanta	9.8
Austin-Round Rock, TX	2.6	39	Fort Worth	277.1
Baltimore-Columbia-Towson, MD	7.7	26	SEC Headquarters	55.0
Boston-Cambridge-Newton, MA-NH	7.7	220	Boston	16.9
Charlotte-Concord-Gastonia, NC-SC	0.0	32	Atlanta	354.2
Chattanooga, TN-GA	0.0	6	Atlanta	152.7
Chicago-Naperville-Elgin, IL-IN-WI	21.6	102	Chicago	31.4
Dallas-Fort Worth-Arlington, TX	24.1	137	Fort Worth	50.5
Denver-Aurora-Lakewood, CO	10.0	60	Denver	18.2
Detroit-Warren-Dearborn, MI	2.6	39	Chicago	371.2
Houston-The Woodlands-Sugar Land, TX	7.0	171	Fort Worth	377.0
Los Angeles-Long Beach-Anaheim, CA	8.9	169	Los Angeles	26.1
Miami-Fort Lauderdale-West Palm Beach, FL	16.7	66	Miami	39.8
Minneapolis-St. Paul-Bloomington, MN-WI	1.7	60	Chicago	573.1
New York-Newark-Jersey City, NY-NJ-PA	41.0	449	New York	6.5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	9.6	104	Philadelphia	27.8
Phoenix-Mesa-Scottsdale, AZ	4.2	48	Los Angeles	587.6
Pittsburgh, PA	2.6	39	SEC Headquarters	309.4
Portland-Vancouver-Hillsboro, OR-WA	0.0	21	San Francisco	859.4
Riverside-San Bernardino-Ontario, CA	0.0	4	Los Angeles	68.0
San Diego-Carlsbad, CA	1.1	90	Los Angeles	159.6
San Francisco-Oakland-Hayward, CA	4.5	177	San Francisco	27.7
Seattle-Tacoma-Bellevue, WA	9.8	51	San Francisco	1091.8
St. Louis, MO-IL	0.0	24	Chicago	426.0
Tampa-St. Petersburg-Clearwater, FL	0.0	25	Miami	337.8
Washington-Arlington-Alexandria, DC-VA-MD-WV	32.4	108	SEC Headquarters	19.5
Total	17.0	2342		

Table 2: **Descriptive Statistics**

This table presents descriptive statistics for variables used in the analysis. Panel A presents the distribution of key variables used in our panel regression setting. Panel B reports descriptives about the frequency of visits for firms that were visited at least once. Panel C reports univariate comparisons between visited and non-visited firms. Each firm is first classified as being visited or not, and then the average value of each variable is computed for each group. See Appendix A for definitions of variables.

Panel A: Descriptive Statistics

	Median	Mean	SD
SEC Device Visit	0.000	0.002	0.050
$Ins\ Sell_{-5,+5}$	0.000	0.175	0.380
$\#\ Ins\ Sell_{-5,+5}$	0.000	0.487	1.616
$Ins\ Buy_{-5,+5}$	0.000	0.059	0.235
$\#\ Ins\ Buy_{-5,+5}$	0.000	0.155	1.003
$Abn\ Ret_{0,10}$	-0.006	-0.004	0.129
$Abn\ Ret_{0,1mo}$	-0.014	-0.011	0.185
$Abn\ Ret_{0,2mo}$	-0.030	-0.025	0.267
$Abn\ Ret_{0,3mo}$	-0.046	-0.037	0.321
Size	6.938	6.852	2.259
Leverage	0.259	0.304	0.323
Book-to-market	1.446	2.272	2.365
Turnover	12.902	12.820	0.997
Distance to nearest SEC office	3.624	3.712	1.691

Panel B: Frequency of Visits

	p1	p25	p50	mean	p75	p99
Firms						
Days visited by SEC Device	1	1	2	3.98	4	25
# unique SEC Devices	1	1	1	2.38	3	10
SEC Device						
# Firms visited	1	1	1	3.05	3	25

Panel C: Univariate Differences

	Visited		Not Visited		Difference	
	N	Mean	N	Mean		p-value
Firm Characteristics						
Size	398	7.48	1944	6.67	0.81	0.00
Leverage	398	0.35	1944	0.29	0.06	0.00
Book-to-market	398	2.16	1944	2.35	-0.19	0.12
Turnover	398	12.73	1944	12.82	-0.09	0.07
Distance to nearest SEC office	398	2.38	1944	3.96	-1.58	0.00
Prior to Sample						
SEC Enforcement	398	0.09	1944	0.03	0.05	0.00
Number of SEC Enforcements	398	0.25	1944	0.08	0.16	0.01
During Sample						
SEC Investigation	398	0.13	1944	0.09	0.04	0.02
SEC Enforcement	398	0.02	1944	0.01	0.01	0.06
Post Sample						
SEC Investigation	398	0.09	1944	0.07	0.02	0.17
SEC Enforcement	398	0.06	1944	0.03	0.03	0.01

Table 3: **Predicting SEC Visits**

This table reports tests for whether firm characteristics are associated with SEC device visits.The dependent variable is equal to one if an SEC Device pings within a firm headquarter during the quarter, following the methodology outlined in Section 1. *Industry Sweep* is the log of the number of visits an SEC device makes to other firms in the focal firm's industry. *Nearest SEC Office Visits* is the log of the number of visits to other firms the Nearest SEC office makes. *Leverage* is the ratio of total debts to total assets. *Market Value of Equity* is the log of the firm's market value of equity. *Accting Restatement* is equal to one if the firm issued a restatement in the prior 4 quarters. *Prior SEC Enforcement* is equal to one if the firm had an Accounting and Auditing Enforcement Release prior to the visit. *Dist. Bins* identifies 50 bins that separate firms by their distance to the nearest SEC office. *Q Score* is equal to one if the firm have never had "4" in the first post-decimal digit of quarterly EPS in the past five years, following Malenko et al. (2023). *Reg. Intensity* is an index of the estimated total hours a firm spends on compliance, following Kalmenovitz (2023). Observations are at the firm-quarter level. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

	(1) I(SEC Visit)	(2) I(SEC Visit)	(3) I(SEC Visit)	(4) I(SEC Visit)
Industry Sweep	0.0046**	0.0049**	0.0066***	0.0057**
	(0.002)	(0.002)	(0.002)	(0.002)
Nearest SEC Office Visits	0.0088***	0.0086***	0.0096***	-0.0070
	(0.002)	(0.002)	(0.002)	(0.006)
Leverage	-0.0001	0.0013	0.0013	-0.0030
	(0.005)	(0.005)	(0.005)	(0.006)
Market Value of Equity	0.0066***	0.0060***	0.0060***	0.0059***
	(0.001)	(0.001)	(0.001)	(0.001)
Prior SEC Enforcement		0.0298*	0.0284*	0.0312**
		(0.016)	(0.016)	(0.016)
Accting Restatement 4qtrs		0.0032	0.0034	0.0038
		(0.008)	(0.008)	(0.008)
Q Score		0.0157	0.0160	0.0109
		(0.015)	(0.015)	(0.015)
Reg. Intensity		-0.0002**	-0.0003**	-0.0002**
		(0.000)	(0.000)	(0.000)
Dist. Bins	Yes	Yes	Yes	Yes
Year-Qtr FE			Yes	
MSA-Year-Qtr FE				Yes
R^2	0.118	0.120	0.128	0.149
Observations	6602	6602	6602	6602

Table 4: **Materiality of Regulator Device Visits**

This table reports tests of whether SEC device visits to firm headquarters have a material effect on the firm's stock price. $Abn\ Ret_{0,t}$ is the stock's return relative to the CRSP value-weighted index from the day an SEC device visits the firm until day t. The regressions include controls for firm size, leverage, book-to-market, turnover, and distance to the nearest SEC office. Standard errors, clustered at the MSA-date level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Industry FE

	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0013	-0.0033	-0.0077	-0.0140**
	(0.0035)	(0.0041)	(0.0051)	(0.0066)
Controls	Yes	Yes	Yes	Yes
Date FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.019	0.023	0.027	0.027
Observations	640,986	640,081	637,948	635,665

Panel B: Firm FE

	$Abn\ Ret_{0,10}$	$Abn\ Ret_{0,1mo}$	$Abn\ Ret_{0,2mo}$	$Abn\ Ret_{0,3mo}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0028	-0.0057	-0.0131***	-0.0194***
	(0.0034)	(0.0039)	(0.0046)	(0.0059)
Controls	Yes	Yes	Yes	Yes
Date FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
R^2	0.057	0.102	0.175	0.234
Observations	640,986	640,081	637,948	635,665

Table 5: **Insider Trades around SEC Device Visit**

This table reports tests of SEC headquarter visits on the propensity of firm insiders to sell shares in their firm. *SEC Device Visit* is equal to one if a phone identified as an SEC Device pings inside of a firm's headquarters. $Ins\ Sell_{-5,+5}$ ($Ins\ Buy_{-5,+5}$) is an indicator variable equal to one if a firm insider sells (purchases) shares in the two week period, and $\#\ Ins\ Sell_{-5,+5}$ ($\#\ Ins\ Buy_{-5,+5}$) is the number of days insiders sell (purchase) shares. Firm-level control variables from Table 4 are included. Standard errors, clustered at the MSA-date level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Sales		*Purchases*	
	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$	$Ins\ Buy_{-5,+5}$	$\#\ Ins\ Buy_{-5,+5}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0289***	-0.4292***	0.0079	0.1090
	(0.0083)	(0.0680)	(0.0061)	(0.1361)
Controls	Yes	Yes	Yes	Yes
Date FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.113	0.128	0.024	0.067
Observations	641,694	641,694	641,694	641,694

Table 6: **Insider Trading – Heterogeneous Effects**

This table reports the results from regressing our insider trading variables on *SEC Device Visit* for officers and non-officers separately and for opportunistic vs routine traders following Cohen et al. (2012). Firm-level control variables from Table 4 are included. Standard errors, clustered at the MSA-date level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Insider Sales – Officers vs Non-Officers

	$Officers$		$Non-Officers$	
	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0294***	-0.4732***	-0.0095*	-0.3237***
	(0.0079)	(0.0786)	(0.0055)	(0.1216)
Controls	Yes	Yes	Yes	Yes
Date FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.109	0.149	0.040	0.064
Observations	641,694	641,694	641,694	641,694

Panel B: Insider Sales – Opportunistic vs Routine Traders

	$Opportunistic$		$Routine$	
	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0219***	-0.4837***	-0.0219***	-0.3912***
	(0.0066)	(0.1011)	(0.0073)	(0.0893)
Controls	Yes	Yes	Yes	Yes
Date FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.066	0.104	0.090	0.150
Observations	641,694	641,694	641,694	641,694

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Appendix A Variable Definitions

Variable	Description
SEC Device Visit	1 if a firm is visited by a SEC Device
$Ins\ Sell_{-5,+5}$	1 if a firm insider sells shares in the previous five or subsequent five trading days
$\#\ Ins\ Sell_{-5,+5}$	Number of insider sales
$Ins\ Buy_{-5,+5}$	1 if a firm insider purchases shares in the previous five or subsequent five trading days
$\#\ Ins\ Buy_{-5,+5}$	Number of insider purchases
$Abn\ Ret_{0,t}$	Stock's return relative to the CRSP value-weighted index from the day an SEC device visits the firm until day t
Size	Log of total assets
Leverage	Ratio of total debts to total assets
Book-to-market	Book value of equity divided by market value of equity
Turnover	Log of the total shares traded in a quarter divided by common shares outstanding
Distance to nearest SEC office	Log of the distance in kilometers from the firm headquarters to the nearest SEC office
SEC Enforcement	1 if the firm is/was the recipient of one or more SEC enforcement actions via the Securities Enforcement Empirical Database
Number of SEC Enforcements	Number of SEC enforcement actions that have been filed against the firm.
Accting Restatement 4qtrs	1 if the firm issued a restatement in the prior 4 quarters.
Q Score	1 if the firm has not ever had "4" in the first post-decimal digit of quarterly EPS in the past five years
Reg. Intensity	Index of the estimated total hours a firm spends on compliance
SEC Investigation	1 if the firm is under a formal SEC investigation via the FOIA logs

Appendix B Additional Tables and Figures

Table A1: **Robustness**
This table reports the results for a series of robustness tests as explained in Section 6. All models are the same as specified in Table 5 other than as specified.

Panel A: Excluding firms with a formal SEC Investigation

	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$
	(1)	(2)
SEC Device Visit	-0.0338***	-0.4595***
	(0.0087)	(0.0793)
Controls	Yes	Yes
Date FE	Yes	Yes
Industry FE	Yes	Yes
pseudo-R^2	0.113	0.129
Observations	569,803	569,803

Panel B: Focusing on firms with unshared buildings

	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$
	(1)	(2)
SEC Device Visit	-0.0491***	-0.4098***
	(0.0160)	(0.1070)
Controls	Yes	Yes
Date FE	Yes	Yes
Industry FE	Yes	Yes
pseudo-R^2	0.121	0.136
Observations	478,479	478,479

Panel C: Log transformations

	$Ln\,(1 + \#\,Ins\,Sell_{-5,+5})$ (1)	$Ln\,(1 + \#\,Ins\,Buy_{-5,+5})$ (2)
SEC Device Visit	-0.0517***	0.0081
	(0.0094)	(0.0074)
Controls	Yes	Yes
Date FE	Yes	Yes
Industry FE	Yes	Yes
R^2	0.112	0.022
Observations	641,694	641,694

Table A2: **SEC Enforcement Actions**

This table presents results from regressions of insider trading activity on SEC actions. We include *SEC Enforcement* and *SEC Enforcement (Post)* variables, which identify firms that had one or more SEC enforcement action during the sample period or after the sample period ended (March 2020 through 2023), respectively, and an interaction of our primary measure *SEC Device Visit* with *SEC Enforcement*. Firm-level control variables from Table 4 are included. Standard errors, clustered at the MSA-date level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$	$Ins\ Sell_{-5,+5}$	$\#\ Ins\ Sell_{-5,+5}$
	(1)	(2)	(3)	(4)
SEC Device Visit	-0.0242***	-0.3789***	-0.0237***	-0.4341***
	(0.0084)	(0.0690)	(0.0086)	(0.0695)
SEC Enforcement	-0.0235***	-0.2235***		
	(0.0046)	(0.0272)		
SEC Device Visit X SEC Enforcement	-0.1096**	-1.1815***		
	(0.0454)	(0.2953)		
SEC Enforcement (Post)			-0.0441***	-0.5626***
			(0.0024)	(0.0194)
SEC Device Visit X SEC Enforcement (Post)			-0.0511*	0.1987
			(0.0299)	(0.2909)
Controls	Yes	Yes	Yes	Yes
Date FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
R^2	0.113	0.128	0.113	0.130
Observations	641,694	641,694	641,694	641,694