Do Investors Care Who Did the Audit? Evidence from Form AP

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ABSTRACT

In early 2017, the PCAOB mandated the disclosure of audit participants, including the lead audit partner and other audit firms participating in the audit ("component auditors"). In this study, we examine whether investors use these disclosures in a way that influences their investment decisions, a primary goal of the PCAOB. Using trading volume, absolute abnormal returns, and bid-ask spreads, we find little evidence of a significant investor response following the disclosure of partner identity or component auditor participation in the first three years of the requirement. We also examine instances where these disclosures are most likely to be informative (e.g., partners associated with restatements or component auditors with PCAOB deficiencies) and find no significant investor response. Taken together, we find little evidence that capital markets respond to partner and component auditor identity in the United States.

Keywords: Audit Partner; Audit Participants; Capital Markets; Form AP.

JEL Classifications: M40, M42, M48.

1. INTRODUCTION

After considerable discussion with registrants, investors, and audit firms, the Public Company Accounting Oversight Board (PCAOB) responded to calls for increased auditor transparency by issuing Rule 3211, *Auditor Reporting of Certain Audit Participants*. The rule mandates that auditors file Form AP for issuer audit reports dated on or after January 31, 2017. For audit reports dated prior to June 30, 2017, Form AP only includes the engagement partner's identity, while disclosures after this date also reveal the identity and participation level of other audit participants ("component auditors") contributing at least five percent of the total audit work. While Form AP does not disclose new information about the issuer, the component auditor information could not be obtained from any public sources prior to Form AP, and the engagement partner identity, while available in some cases, was not widely or easily available from public sources. Collectively, these disclosures represent a substantial expansion to the transparency of the auditor's identity and component firm participation.

Form AP's primary purpose is to provide investors with meaningful information about the individuals and entities responsible for the audit so that investors can better evaluate audit quality (PCAOB 2015a; PCAOB 2015b). Consistent with that view, former PCAOB Chairman James Doty stated that "one important way investors can assess the quality of an audit is to know who conducted the audit. Form AP will provide that information to investors" (PCAOB 2016a). In this study, we examine whether investors use information about who did the audit—namely, the audit partner and component auditors—in a way that influences their investment decisions.

Our study contributes to the new and growing literature that examines the effects of audit participants on audit quality, financial reporting quality, and market behavior (Lennox and Wu 2018). In addition, our study contributes to the existing literature that examines the effects of

auditor disclosures on market outcomes. In particular, there is a long line of literature examining the information content of auditor disclosures (e.g., Myers, Shipman, Swanquist, and Whited 2018; Czerney, Schmidt, and Thompson 2019; Gutierrez, Minutti-Meza, Tatum, and Vulcheva 2018). However, virtually all of this research examines disclosures that are released concurrently with other material disclosures making it difficult to isolate a particular disclosure's effect on market outcomes. In contrast, Form AP is filed directly by the auditor apart from the auditor's report and management's financial statements. This feature allows us to isolate the information content of an auditor disclosure unencumbered by confounding news. Hence, Form AP represents an uncommon opportunity to examine whether investors respond directly to signals of audit quality variation.

We examine both the partner and component auditor disclosures in Form AP. The partner disclosures provide investors with the first public, and easily accessible, repository of lead audit partners who serve public issuers. While we do not have a strong *a priori* expectation that, on average, investors will respond to the auditor's identity in the initial disclosure year, it is possible that partner identity becomes informative as partner data accumulates over subsequent years. Consistent with the PCAOB's reasons for increasing auditor transparency (PCAOB 2013, 2015a, 2015b), we conjecture that there are circumstances where audit partner disclosures might be more informative. For example, by the second year of disclosure, investors know the composition of a partner's portfolio of public clients, as well as the number and size of those clients. This information provides investors with benchmarks and other important insights on the partner's industry expertise or busyness. Further, investors can find out whether the audit partners are associated with financial reporting failures.

With respect to component auditor disclosures, the PCAOB lays out a persuasive case for how the new disclosures will provide useful information to investors (PCAOB 2015b). Notably, there are reasons to believe the component auditor disclosure will inform investors almost immediately as they reveal multiple aspects of the audit that are potentially important to investor perceptions.[1] For example, Form AP discloses multinational group audits, the number and location of firms comprising the group, and the extent of participation. These audit details were unknown before Form AP and are potentially valuable for assessing audit quality given that the PCAOB has noted pervasive problems inherent in multinational group audits (PCAOB 2016b).

To explore the informativeness of partner and component auditor disclosures, we collect Form AP filings from the PCAOB's AuditorSearch database through October 2019 and market data from the NYSE's Trade and Quote database (TAQ) from January 2017 through December 2019. The sample period allows us to observe three years of Form AP disclosures for most issuers and a considerable number of partner switches. We measure investor response using abnormal trading volume, absolute abnormal returns, and bid-ask spreads. Each of these measures allows us to study the market reaction to Form AP disclosures without requiring directional price effects (Bamber, Barron, and Stevens 2011). In our initial tests, we fail to find evidence that Form AP elicits a material overall investor response. Moreover, when we isolate future instances of Form AP disclosures (i.e., the second or third filing), we continue to observe little reliable evidence of an investor response.

Next, we investigate instances where Form AP's partner disclosures may be especially informative. Specifically, we examine investor reactions to: (1) partner switches, (2) switches to

[1] Consistent with that notion, David A. Kane, Ernst & Young LLP, stated in May 2016: "I think Form AP is going to help… because starting next June for reports we issue…investors will have that transparency and will be able to understand… level of participation and have the power and the benefit of that information…" (https://pcaobus.org/News/Events/Pages/SAG-meeting-May-2016.aspx - session 5).

partners with industry experience, (3) partners associated with material financial restatements, and (4) the number of engagements audited by the partner (i.e., partner busyness). In each case, we find little evidence that Form AP influences investment decisions. Finally, we investigate instances where component auditor participation disclosures may be particularly informative. Specifically, we explore investor reactions to: (1) any component auditor participation, (2) extent of component auditor participation, (3) component auditors with PCAOB inspection deficiencies, and (4) component auditors from non-PCAOB inspected jurisdictions. Again, in each case, we find no significant evidence that these disclosures influence investment decisions. Taken together, our evidence is consistent with Donovan, Frankel, Lee, Martin and Seo (2014) who question the economic significance of the cross-sectional variation in audit quality and report little evidence of investor concern for cross-sectional variation in audit quality.

We note that our study and findings are subject to important limitations. First, while we find little evidence of a market response to Form AP disclosures, our study does not examine the possibility that Form AP affects other outcomes, and we encourage ongoing research in this regard. Second, although the majority of our empirical findings are statistically insignificant, we are cautious in interpreting these results as evidence of *no* capital market response to Form AP. That said, we note that our empirical findings are generally consistent across several subsamples and measures of market response. Moreover, the precision of many of our estimates allows us to reasonably conclude that even if investors respond to Form AP, their response is unlikely to be economically consequential. Nonetheless, we cannot rule out the possibility that some of our findings are due to low power. Finally, our study provides evidence on the informativeness of Form AP disclosures during the first three years of implementation. Our evidence over this time period allows us to reasonably conclude that Form AP has yet to manifest a meaningful effect on

capital market participants' investment decisions. That said, it is possible that these disclosures will become more useful to investors in certain circumstances or over a longer time horizon.

Notwithstanding these issues, our study and findings are important and timely as regulators, investors, and academics continue to evaluate the effectiveness of the new auditor disclosures (PCAOB 2017). Thus, it is important to understand whether market participants find these disclosures informative for investment decisions as the PCAOB considered this a primary objective of Form AP. In addition, our study is important because it extends prior capital market audit disclosure literature. Prior research in this area is subject to a critical design limitation because it almost exclusively examines audit disclosures that are released concurrently with other material financial disclosures (Myers et al. 2018). On the other hand, as previously noted, Form AP is filed directly by the auditor, in a separate form, and apart from the auditor's report and management's financial statements. Despite this disclosure setting, we find no consistent evidence of an investor reaction to Form AP disclosures.

2. BACKGROUND, PRIOR LITERATURE, AND HYPOTHESES DEVELOPMENT

2.1 Background

In 2015, the PCAOB approved standards requiring audit firms to publicly disclose certain audit participant information (PCAOB 2015b). Specifically, PCAOB Rule 3211, *Auditor Reporting of Certain Audit Participants*, requires auditors to file Form AP with the PCAOB for audit reports issued on or after January 31, 2017. Form AP discloses the engagement partner's identity and, for audit reports issued on or after June 30, 2017, the names of other audit firms participating in the audit, their location, and the extent of their audit work.

The PCAOB's intent for Form AP changed significantly during the protracted and contentious standard setting process leading up to adoption in 2015. Form AP began as a partner

signature requirement (PCAOB 2009) intended to increase partners' sense of ownership of the audit, accountability to stakeholders, and ultimately, audit quality. In particular, the PCAOB (2009) noted, "it might increase the engagement partner's sense of accountability to financial statement users, which could lead him or her to exercise greater care in performing the audit (p. 5)." Critics of the standard argued that a partner signature requirement would not enhance quality given the rigorous external and internal quality controls already in place (e.g., California Society of CPAs 2009, Deloitte 2009, Ernst & Young 2009, McGladrey 2009, and PricewaterhouseCoopers 2009). They further argued that audits are the work of a team, not an individual. Consequently, accounting firms claimed that audit quality would be similar regardless of the engagement partner assigned to the client (Ernst & Young 2009; McGladrey 2009).

The PCAOB's second, and most recent, argument for expanded disclosure is that identifying both the engagement partner and other audit participants will provide investors with information that could influence their investment decisions. With respect to partner identity, the PCAOB (2009) initially indicated that disclosure will "increase transparency about who is responsible for performing the audit, which could provide useful information to investors… (p. 5)." Prior to the new rule, investors had little insight into the extent of the audit performed by the lead auditor relative to other participating auditors: "the auditor's report may give the impression that the work was performed solely by one firm—the firm issuing the auditor's report—and investors have no way of knowing whether the firm expressing the opinion did all of the work or only a portion of it (PCAOB 2015b, p. 4)." Thus, the PCAOB intends the new audit partner and component auditor participation disclosures to provide investors with new, decision-useful information about audit quality.

In addition to the regulation's expected benefits, several potential costs were considered during the standard setting process (PCAOB 2015a). While the administrative costs were generally considered to be low, some commenters noted that the new rule might increase legal liability for auditors (e.g., U.S. Chamber of Commerce 2015). The PCAOB also noted several other "Indirect Costs and Possible Unintended Consequences" associated with potential reputational effects of the rule including differential demand for audit partners, over-auditing, mismatch of auditor skills and task, and avoidance of risky audits (PCAOB 2015a p. A2-18-22). Given the perceived costs of compliance and the contentious nature of the standard setting process, it is important to understand whether investors subsequently behave as if they do in fact have new, decision-useful information about audit quality.

2.2 Prior Literature

2.2.1 Audit Disclosure Research

As a monitor of the financial reporting process (Jensen and Meckling 1976), auditors are charged with providing independent assurance over financial statement accuracy. It stands to reason that investors will find audit-related disclosures useful if they perceive the information as a meaningful signal of audit quality or underlying client performance. However, academic research provides mixed evidence on whether auditor disclosures influence investment decisions. For example, Aobdia et al. (2015) report that disclosing a high-quality partner elicits a significant market response. Similarly, Menon and Williams (2010) report evidence of a market response around going concern opinions. On the other hand, research also reports that neither explanatory language in audit reports nor critical audit matters elicit significant market responses (Gutierrez et al. 2018 and Czerney et al. 2019).

While many prior studies investigate the market reaction to audit-related disclosures, this literature's mixed results are potentially an artifact of empirical data constraints. Specifically,

this literature faces a critical limitation in that audit disclosures are generally released concurrently with other financial information (Myers et al. 2018). Additionally, this literature is constrained by researchers' limited access to information about the individuals (i.e., partners) and entities (i.e., component auditors) responsible for completing the audit. The new Form AP disclosures address both of these issues by dramatically increasing the amount of publicly available information about the parties responsible for the audit. In addition to providing new auditor information, Form AP's disclosure timing creates a unique environment that addresses the empirical limitations noted in prior capital markets audit-disclosure research (Myers et al. 2018). That is, the standard requires that the auditor (not management) file the information in a separate form apart from the auditor's report and the client's financial statements.[2] In practice, this has meant that most Form APs are not filed concurrently with the audit report or 10-K. Thus, Form AP disclosures avoid the confounding effect of simultaneous disclosures that limit prior research, creating a strong setting to test the direct market response to the auditor's disclosure.

2.2.2 Audit Partner Research

Prior research suggests that audit partner identity is relevant to investors, creditors, and audit outcomes (see Lennox and Wu (2018) for a recent review of this literature). Prior to Form AP, most of the earlier research on audit partners relies on non-US settings: China (e.g., Gul et al. 2013; Li, Qi, Zhang, and Tian 2017; and Wang, Yu, and Zhao 2015), Sweden (e.g., Knechel, Vanstraelen, and Zerni 2015; Zerni 2012), Australia (e.g., Goodwin and Wu 2014, 2016), Taiwan (e.g., Aobdia et al. 2015; Chi, Myers, Omer, and Xie 2017; Chi, Lisic, Myers, Pevzner,

[2] Per Rule 3211, "Form AP is deemed to be timely filed if—1) The form is filed by the 35th day after the date the audit report is first included in a document filed with the Commission; provided, however, that (2) If such document is a registration statement under the Securities Act, the form is filed by the 10th day after the date the audit report is first included in a document filed with the Commission."

and Siedel 2019) and the U.K. (e.g., Carcello and Li 2013). Collectively, these studies suggest the engagement partner's identity explains variation in audit outcomes and informs investors.

Several studies document a partner specific contagion or spillover effect. For example, Li, Qi, and Zhang (2017) and Wang et al. (2015) document a partner contagion effect for audit failures. Moreover, Li et al. (2017) find that partner sanctions related to fraud prompt significantly negative investor reactions for the partner's unsanctioned clients. Knechel et al. (2015) find that Swedish audit partners' aggressive reporting practices persist across clients and are associated with lower credit ratings and Tobin's Q suggesting partner identity informs creditors and investors. Other studies rely on fixed effects to investigate whether partner identity explains variation in audit outcomes. For example, Gul et al. (2013) document significant variation in audit quality between individual audit partners, driven, in small part, by differences in observable auditor characteristics, such as experience and education. Similarly, Cameran, Campa, and Francis (2018) find that partner fixed effects have higher explanatory power for audit outcomes than office or audit firm fixed effects.

Goodwin and Wu (2014) find that partner-level industry expertise, rather than office-level expertise, explains audit fees. Aobdia et al. (2015) show that high-quality partners are associated with positive investor reactions to their appointment, higher ERCs, and lower IPO underwriting costs. Similarly, Chi et al. (2017) find that partner experience is related to audit quality and creditor perceptions of audit quality. Chi et al. (2019) find that misstatements impair partners' ability to maintain market share.

In a U.S. setting, Laurion et al. (2017) provide evidence of increased restatement discoveries following a partner rotation, indicating benefits from a "fresh look" using partner changes identified in SEC correspondence. In an experimental setting, Lambert et al. (2018) find

that investors avoid companies audited by partners associated with restatements because of a perceived increase in restatement likelihood for their other clients. Collectively, these findings provide evidence that partner identity could inform U.S. investors about audit and financial reporting quality, particularly in cases where partners have audit failures.

A critical limitation of the existing literature is that partner assignments are endogenous. That is, partners are "matched" to clients rather than randomly assigned. Hence, it is difficult to distinguish partner effects from company effects. Moreover, as noted in Fee, Hadlock, and Pierce (2013), the studies that rely on F-tests to measure incremental or collective explanatory power of partner fixed effects may confirm a partner effect even if no such effect exists. However, the Form AP disclosure setting essentially eliminates this issue with respect to investor response, because, even though partner assignment is endogenous, the timing of the filing means that partner disclosures are revealed to investors in a narrow filing outside of confounding disclosures (e.g., financial statements or audit reports). Thus, these conditions allow our study to extend the prior literature by documenting an investor response to auditor disclosures that can be credibly isolated from other effects.

2.2.3 Form AP Research

Following the implementation of Form AP, the emerging literature explores the relation between Form AP disclosures and audit outcomes. Early evidence of Form AP's effect on audit outcomes is mixed. Burke, Hoitash, and Hoitash (2019) report an increase in audit quality and fees, and a decrease in audit delay, following the new Form AP disclosures. This finding is similar to Carcello and Li (2013) who report that reporting quality and audit fees increase following the signature requirement in the United Kingdom (U.K.). In contrast, Cunningham, Li, Stein, and Wright (2019) find little change in audit quality and audit fees around the disclosure of Form AP using a difference in difference design. Burke, Hoitash, and Hoitash (2020) show a

positive association between the proportion of component auditor work and restatements, audit delay, and audit fees. Pittman, Stein, and Valentine (2021) examine partners' identities and find that partners with prior legal infractions, primarily traffic violations (a proxy for risk-taking), are associated with lower quality audits.

Our study is unique in this literature as it is the only one using a market approach to determine the information content of Form AP's audit disclosures.[3] Rather than examining Form AP's consequences using output measures like audit quality or audit fees, we focus on investor reactions to Form AP's information content and the variations in audit quality it may signal. For example, Form AP allows investors to know whether an audit partner is associated with restatements on other clients, and therefore we can test the effect this knowledge has on investment decisions. Thus, our study does not directly assess Form AP's audit quality effects as in Burke et al. (2019), Cunningham et al. (2019), and Burke et al. (2020). Rather, our study examines how investors respond to the information in Form AP regardless of its implications for audit quality.

2.3 Hypotheses Development

2.3.1 Form AP's Information Content

Form AP includes two primary disclosures: the lead engagement partner's identity and information about component auditors who participate in the audit. To influence investment decisions, Form AP must provide new information that investors interpret as signals of audit quality, financial reporting quality, and, by extension, future client performance. Whether investors considered partner identity or component auditor participation in investment decisions

[3] While we explore the investor response to the disclosure of Form AP, we recognize that Form AP may have had other benefits for investors. For example, Form AP may have disciplined audit firms to be more selective in the assignment of audit participants leading up to these disclosures. While the findings in Cunningham et al. (2019) suggest that this is unlikely to be the case, we note that our analyses do not inform this possibility.

before Form AP is unclear. On one hand, feedback received from investor groups suggests that partner identity will be informative (e.g., CalPERS 2014, Council of Institutional Investors 2014, Fund Democracy/Consumer Federation of America 2014, and Sinclair Capital LLC 2014). Likewise, the PCAOB has argued that Form AP disclosures add to the "mix of information" available to investors (PCAOB 2013, p. 2). That said, partner identity prior to Form AP was not private information per se. The audit firm, the audit committee, and client management were all aware of the engagement partner's identity, and nothing prevented them from providing this information to others. Although audit partners are often present or mentioned at annual shareholder meetings, this information was not readily available or curated prior to Form AP (Cunningham et al. 2019, Council of Institutional Investors 2013). Due to the absence of easily available data on audit partner identity prior to Form AP, it is unlikely that partners have developed market reputations. Thus, lacking historical information, it seems unlikely that investors would respond to initial partner identity disclosures.

However, the PCAOB has suggested that Form AP will increase in usefulness as subsequent Form APs are filed and investors gather more information about individual partner performance such as previous experience, audit failures, and disciplinary actions (PCAOB 2015a). Prior international research (e.g., Gul et al. 2013; Li et al. 2017) provides support for this conjecture. Further, there are compelling reasons to believe the component auditor disclosures will influence investment decisions as they reveal multiple aspects of component auditor participation that may have crucial and direct implications for actual audit quality and investor perceptions. For example, Form AP disclosures will inform investors of whether the audit is a multinational group audit, the number of firms comprising the group, and the extent of component auditor participation in the audit. This information is potentially meaningful given

the PCAOB has found pervasive problems with international group audits in its inspections (e.g., PCAOB 2016b), and academic research similarly finds these audits problematic on numerous dimensions (e.g., Dee, Lulseged, and Zhang 2015; Downey and Bedard 2019; Lamoreaux 2016; Stewart and Kinney 2013; Sunderland and Trompeter 2017). Importantly, information about component auditor participation was not publicly accessible before Form AP. Taken together, there are persuasive arguments supporting the hypothesis that Form AP will become informative as more information is disclosed allowing investors to evaluate the quality of the engagement partner as well as component auditor participants.

Although there are reasons to suspect that Form AP disclosures will inform investors' decisions as subsequent year Form AP's are filed (i.e., second and third filings), it may be that, even allowing for more time, publicly available information is inadequate for distinguishing among most auditors. For example, the subset of audit partners publicly sanctioned by regulators represents a miniscule fraction of the auditors currently providing audit services in the U.S.[4] Further, there are additional counterarguments suggesting most partner disclosures may never be materially informative.[5] Despite the international evidence discussed previously, it is an empirical question whether these findings generalize to the U.S. market given significant differences in company size, regulatory practices, disclosure requirements, and capital markets (Kinney 2015 and Francis 2019). In addition, audit firms argue that audit quality is consistent across the firm because of firm and office-level quality controls and the collaborative nature of audits (Ernst & Young 2009; McGladrey 2009). Similarly, Donovan et al. (2014) suggest that

[4] For context, in July 2020, we examined all disciplinary orders issued by the PCAOB since inception (available at https://pcaobus.org/oversight/enforcement/). We note that the public identification of partners named in PCAOB disciplinary orders is rare. See expanded discussion in Section 5 and the online appendix for more detail.
[5] Notably, Form AP disclosures may act as a governance mechanism for audit firms by dissuading them from assigning tarnished partners or component auditors to issuer audits, especially if the audit firm believes doing so will harm the public's opinion of a client's reporting quality or expose the firm to litigation risk.

regulated levels of audit quality may exceed investor demands such that the cross-sectional variation in audit quality is of little concern to investors. Corroborating these arguments, Burke et al. (2019) find no evidence that audit quality varies with partner characteristics (e.g., gender, busyness). The above discussion leads to the following hypotheses (stated in null form):

H1a Form AP disclosures will not elicit a market response.

H1b Subsequent Form AP disclosures will not elicit a market response.

2.3.2 Information Content of Audit Partner Identity in Certain Cross-Sections

While partner disclosures may or may not be informative on average, certain cross-sections of partner disclosures may be informative in situations where the partner's identity signals variation in audit quality. For example, after having time to process the audit partner assigned to each audit engagement in the initial Form AP disclosures, investors may respond to audit partner changes revealed in subsequent Form AP filings. Importantly, our sample includes a considerable number of partner changes in the second and third rounds of Form AP disclosures because of the five-year partner rotation required by the Sarbanes-Oxley Act. Such changes are potentially informative because they signal a "fresh look" at the client's financials (Laurion et al. 2017). Alternatively, a partner change might indicate a learning curve due to short tenure (Bell, Causholli, and Knechel 2015). Further, a partner change may be unrelated to a normal rotation and potentially signal low partner quality. We leverage audit partner changes to test the following hypothesis (stated in null form):

H2a Disclosing a new engagement partner will not elicit a market response.

The information content of a disclosed partner change may depend on the quality or experience of the new partner (Chi et al. 2017; Aobdia et al. 2015; Goodwin and Wu 2014). In fact, the PCAOB (2009) suggests that partner experience may be relevant to investment decisions. By the second year of Form AP, investors will have some insight into the incoming

partner's industry experience. If investors revise their expectations of financial reporting quality as a result, Form AP may prompt a significant market response. This leads to the following hypothesis (stated in null form):

H2b Disclosing a new engagement partner with relevant industry experience will not elicit a market response.

The PCAOB (2013) proposal states that "knowing the names, locations, and extent of participation of the accounting firms involved in the audit would allow users of the auditor's report to research publicly available information about these participants (p. 19)." That is, when the partner's name is disclosed, investors can review publicly available information, such as restatements and regulatory actions, to assess partner quality (PCAOB 2015a, p. A2-8). In fact, several studies investigating partner identity suggest that restatements signal partner quality (Chi et al. 2019; Lambert et al. 2018; Li et al. 2017; Wang et al. 2015). However, Lennox and Li (2020) find that the likelihood of litigation against the auditor is not significantly associated with client restatements suggesting that auditors may not be blamed for association with restatements. In any case, we note that linking partners associated with prior financial restatements to their other non-sanctioned clients was not feasible in the U.S. prior to Form AP, and it is possible that investors may find historical association with restatements informative. Accordingly, we link restatement announcements to partners in the Form AP listing and consider the following (null) hypothesis:

H2c Disclosing an engagement partner associated with a recent restatement will not elicit a market response.

Following the logic above, the information content of the partner's identity may depend on other factors related to the partner's portfolio. It is possible that partners responsible for several clients are viewed as busy or distracted (e.g., Goodwin and Wu 2016, Gul, Ma, and Lai 2017, and Sundgren and Svanström 2014). Alternatively, more clients could signal greater

experience and expertise in a particular industry (Hardies, Breesch, and Branson 2015; Pittman et al. 2021). Further, as a partner's portfolio increases, so does the amount of information about that partner's work. Hence, Form APs for partners with large portfolios may be more informative for investment decisions. This leads to the following hypothesis (stated in null form):

> **H2d** Disclosing an engagement partner with a large client portfolio will not elicit a market response.

2.3.3 Information Content of Component Auditor Participation in Certain Cross-Sections

The presence (absence) of component auditors indicates the primary audit firm responsible for the audit opinion has (has not) outsourced some of the audit work to other firms. The most common reason to rely on component auditors is geographic. Specifically, auditors of clients with international operations often rely on foreign audit firms to complete a portion of the audit (international group audits). In fact, large audit firms often rely on affiliated firms around the globe to perform audit work on their international clients. For example, the Form AP for Amazon Inc. filed on February 16, 2018 shows that Ernst & Young (Seattle) relied on an affiliate in the U.K. for between five and ten percent of the total audit hours.

Component auditor participation significantly changes an audit's dynamic. This is particularly true when component auditors are from different countries than lead auditors. Differences in language, culture, and experience can significantly impact critical aspects of the audit, including audit scope and materiality (PCAOB 2016b; Stewart and Kinney 2013; Sunderland and Trompeter 2017). For example, the PCAOB (2016b) states:

> *These factors can pose challenges in the coordination and communication between the lead auditor and other auditors, including misunderstandings regarding the audit effort needed to meet the objectives of other auditors' work* (p. 4).

The PCAOB (2015b) argues that the quality of the overall audit depends, in part, "on the competence and integrity of the participating accounting firms (p. 18)" and further notes that AS

1205 requires the signing auditor to review only a portion of the work performed by other accounting firms.

Before Form AP, component auditor participation was a black box for investors. Form AP provides this information to users for the first time. As the PCAOB (2015b) notes:

> *… the auditor's report may give the impression that the work was performed solely by one firm—the firm issuing the auditor's report—and investors have no way of knowing whether the firm expressing the opinion did all of the work or only a portion of it (p. 4).*

The nature and extent of component audit participation is potentially important for investor perceptions. Some investors may view component auditor involvement as detrimental to audit quality, with audit quality being inversely related to the extent of component auditor participation. There are good arguments and empirical support for this view. For example, if the component auditor is of lower quality than the primary auditor (Dee, Lulseged, and Zhang 2015) or is in a country with more lenient audit oversight (Lamoreaux 2016), it is possible that investors will view these component auditors' participation in a negative light. Consistent with that view, Dee et al. (2015) report that perceived audit quality declines when firms announce the material participation of a component auditor on PCAOB Form 2.[6]

Beyond the notion that component auditors are inferior to the primary auditor, there are other reasons to believe disclosing component auditor participation will be informative. International group audits (a common driver of component auditor participation) can negatively impact audit quality because of problems in the coordination and management of multiple, geographically dispersed, component audits (Downey and Bedard 2019; Stewart and Kinney

[6] Dee et al. (2015) identify a set of audits with component auditor participation by searching PCAOB Form 2 filings. However, the filing requirements of PCAOB Form 2 create a bias toward identifying auditors that are not lead auditors on any clients. Thus, their sample is weighted towards participating auditors that are less experienced, limiting the generalizability of their findings to the wider population of participating auditors who may also act as lead auditors on other engagements (Dee et al. 2015).

2013; Sunderland and Trompeter 2017). The PCAOB has addressed the problems inherent in group audits extensively, pointing to problems managing differences in business practices, languages, cultural norms, quality controls, training, and experience (PCAOB 2016b).

The PCAOB further notes that group audits have resulted in significant deficiencies in audit effort, scope, and compliance with PCAOB standards in key areas. Prior academic research confirms the PCAOB's assertions, concluding there are audit quality and control problems inherent to group audits (Stewart and Kinney 2013; Downey and Bedard 2019; Sunderland and Trompeter 2017). Downey and Bedard (2019) describe several problems auditors face when managing group engagements, such as information loss from the inability to supervise component auditors directly. Specifically, they find that physical separation, the complexity caused by multiple segments, and varying regulatory regimes contribute to auditors' challenges in managing group audits.

Stewart and Kinney (2013) suggest that group audits create unique problems because auditors "must aggregate information about components that often operate in different industries, cultures, and jurisdictions with different statutory audit requirements, accounting frameworks, and stock exchange regulations, and that require separate audits by different audit teams or different audit firms (p. 708)." They go on to note that there is neither helpful regulatory guidance, nor consistency in practice, for setting materiality for component audits. Likewise, Sunderland and Trompeter (2017) point out many additional problems inherent to group audits such as economic conflicts of interest between the lead and component auditors, unequal training and expertise, and variance in the lead auditors' understanding of the components audited by others. Any of these issues could harm audit quality.

On the other hand, component auditor participation could be a positive signal to investors in some circumstances. Using international participants on audits of multinational organizations can improve quality as these auditors are familiar with the local customs, languages, and laws (Sunderland and Trompeter 2017). Further, if component auditors are high quality or if their participation signals a thorough audit, then investors may view their participation positively. Finally, disclosing component auditor participation may alter pre-disclosure beliefs about who is performing the audit work. For instance, on large multinational audits, investors might have an *ex ante* expectation that other auditors perform some of the work, so disclosing little or no component auditor participation may be surprising. In that circumstance, regardless of whether investors generally view component auditor participation as detrimental or beneficial to overall audit quality, the disclosure is potentially informative. This leads to the following (null) hypotheses:

H3a Disclosing component auditor participation will not elicit a market response.

H3b Disclosing component auditor participation greater than the median level will not elicit a market response.

Form AP will also allow investors to ascertain the component auditors' inspection status and findings. The PCAOB (2015b) notes (emphasis added):

> *…investors will have visibility into the extent of the audit work being performed by other accounting firms that participated in the audit, including* ***accounting firms in jurisdictions where the PCAOB has been unable to conduct inspections*** (p. 42).

> *…additional data points should contribute to the mix of information that investors would be able to use, such as: …Whether the other accounting firms are registered with the PCAOB, have been inspected, …the inspection results, if any…* [and the existence of] ***disciplinary proceedings and litigation involving the other accounting firms*** (p. 43-44).

Several studies suggest that PCAOB inspection findings and status indicate audit quality. Aobdia (2019) shows that PCAOB inspection findings correlate with certain measures of audit quality

including restatements and the propensity to meet or beat earnings thresholds. Further, Lamoreaux (2016) and Krishnan, Krishnan, and Song (2017) find that the international PCAOB inspection regime leads to improved audit quality, and Fung, Raman, and Zhu (2017) find that international PCAOB inspections even improve quality for non-listed clients. To the extent that investors believe PCAOB inspections lead to higher audit quality, and by extension, financial reporting quality, they may view higher participation from deficient auditors or those outside the PCAOB's inspection jurisdiction negatively. This leads to the following (null) hypotheses:

H3c Disclosing component auditor participation by audit firms with PCAOB inspection deficiencies will not elicit a market response.

H3d Disclosing component auditor participation in jurisdictions where the PCAOB cannot inspect will not elicit a market response.

3. RESEARCH DESIGN

3.1 Investor Response Measures

We measure investor response using trading volume, absolute abnormal returns, and bid-ask spreads. Each measure captures a different element of investor response without requiring directional price effects (Bamber et al. 2011, Beaver 1968).

Researchers typically measure trading volume, V_{it}, as total shares traded for client *i* on day *t* divided by shares outstanding for client *i* on day *t* (e.g., DeFond, Hung, and Trezevant 2007, and Landsman, Maydew, and Thornock 2012). To capture abnormal trading, these studies scale V_{it} by an estimate of "normal" trading using trading levels around the event date (e.g., 60 days before and after the event). A significant abnormal trading reaction to a disclosure indicates that the disclosure changed investors' beliefs about the future value of the client.[7] However, prior

[7] Trades also likely indicate some level of disagreement about the future value of the client (Bamber, Barron, and Stober 1997). Therefore, if trading increases in response to the Form AP disclosure, it is likely that at least a subset of investors have changed their beliefs about the future value of the client in response to Form AP's content.

research suggests that share turnover exhibits linear and nonlinear time trends and is strongly autocorrelated, unlike stock returns (e.g., Lo and Wang 2000). Thus, studies often use some form of detrended volume to control for these data trends (e.g., Gallant, Rossi, and Tauchen 1992; Andersen 1996; Lo and Wang 2000; Statman, Thorley, and Vorkink 2006). To illustrate these trend issues in our setting, we graph the average percent of shares traded (share turnover) for all firms in our sample in the period leading up to and following the Form AP date in Figure 1 Panels A (day −252 to +60) and B (day −60 to +60).

There are clear seasonal trends in trading leading up to and following the Form AP date. This is particularly important for our research design since, per Rule 3211, auditors must release Form AP within 35 days of the audit report, and consequently, auditors disclose Form AP shortly after, but outside of, other informative disclosures such as annual reports and earnings announcements. Thus, Form AP disclosure is inherently seasonal and follows other important disclosures. There is no theory about the length of time trading persists in response to a disclosure; however, prior research suggests that trading volume lingers for up to five days in response to a news disclosure (Morse 1981; Bamber 1987). The protracted nature of volume reactions to other news is potentially problematic for our study given the temporal proximity of earnings announcements (and other disclosures) leading up to the Form AP disclosure date.

Consequently, while our models control for disclosures (e.g., 8-Ks, 10-Ks), the time and seasonal trends we observe, along with the potential lingering trading volume effect of other disclosures, substantially affect estimates of Form AP-induced trading volume. Accordingly, our first measure of market response to Form AP is detrended abnormal trading volume (*DTVol*). We further describe how we measure detrended volume and benchmark against abnormal volume in

the online appendix. In addition, we validate that our detrending removes the majority of the trends in volume that confound Form AP disclosures but preserves news-related volume.

Our second market response measure is absolute abnormal returns (*AbsReturn*). If Form AP changes market expectations about underlying financial reporting quality such that the predictability of the amount and timing of future cash flows changes, then we would expect a change in stock price. Hence, we use the absolute value of the market adjusted return to capture changes in price (both positive and negative). Finally, our last market response measure is bid-ask spread (*BASpread*). By disclosing audit participants, Form AP could decrease information asymmetry or otherwise reduce uncertainty. Therefore, we examine changes in bid-ask spreads around the Form AP disclosure, with the expectation that improvements in public information about audits would also reduce bid-ask spreads. We closely follow the Holden and Jacobsen (2014) method to estimate effective bid-ask spreads for each trading day.[8] Importantly, each of these informativeness measures captures a different element of market response to new information allowing for a comprehensive investigation of Form AP's potential market impacts.

For all analyses, we present the empirical findings for each market response measure in the three-day window around the Form AP disclosure and graphically present the results for the −5 and +5 window surrounding the Form AP disclosure. Each window is benchmarked against the −60 and +60 window surrounding the Form AP disclosure. If Form AP informs market participants, we would expect to see a significant investor reaction in the three-day test window and a clear "spike" or shift in market activity around its disclosure.

[8] Specifically, we use the share-weighted, percent, effective bid-ask spread. While it is possible to obtain a measure of bid-ask spread using CRSP, we chose to use TAQ because it is considered the standard against which other data sets are compared when it comes to determining actual bid-ask spreads (e.g., Chung and Zhang 2014; Holden and Jacobsen 2014; Abdi and Ranaldo 2017) and results in a larger retained sample (11,531 Form AP observations compared to 10,302 using CRSP). Using bid-ask spreads from CRSP does not change our inferences.

3.2 Form AP Informativeness Test Models

To test Form AP's informativeness, we rely on estimating the following equations:

$$Response_{i,t} = \alpha_0 + \beta_1 APDATE_{i,t} + \beta_2 EADATE_{i,t} + \beta_3 10kDATE_{i,t} + \beta_4 8kDATE_{i,t} + \beta_5 10qDATE_{i,t} + \beta_6 SECOTHER_{i,t} + FIRMEFFECTS + \varepsilon_{i,t} \quad (1)$$

$$Response_{i,t} = \alpha_0 + \sum_{k=-5}^{5} \delta_k APDATE(k)_{i,t} + \beta_1 EADATE_{i,t} + \beta_2 10kDATE_{i,t} + \beta_3 8kDATE_{i,t} + \beta_4 10qDATE_{i,t} + \beta_5 SECOTHER_{i,t} + FIRMEFFECTS + \varepsilon_{i,t} \quad (2)$$

where $Response_{i,t}$ is the market response measure: detrended abnormal trading volume (*DTVol*), absolute abnormal returns (*AbsReturn*), and bid-ask spread (*BASpread*). Here, *i* and *t* refer to firm and trading day, respectively. To more granularly display the trading response around the Form AP date and account for the seasonal trends noted previously, *APDATE* in (2) is a series of indicator variables for each day in the 11-day window ($k=-5$ to $+5$) surrounding the Form AP release ($k=0$).[9] For Form APs disclosed after trading hours or on non-trading days (i.e., holidays and weekends), the Form AP date is the first trading day following disclosure. For all estimations of (1) and (2) our sample represents firm-trading days from $t-60$ to $t+60$ around the Form AP filing date (i.e., 121 observations per Form AP). The coefficient on *APDATE* indicates trading in the days surrounding the Form AP filing ($t-1$, t, and $t+1$) relative to the market activity in the surrounding 121-day window. We truncate the sample on *Response* at the 1st and 99th percentile to alleviate the effect of outliers.

As noted earlier, a strength of our setting is that, despite being seasonal, auditors disclose Form AP in relative isolation from other news. That is, the PCAOB requires auditors to disclose Form AP within 35 days after issuing the audit report (typically the 10-K date), but auditors do not mechanically issue Form AP with other disclosures. As an example, Figure 2 illustrates the

[9] We rely on the parameter estimates from equation (2) for preparation of graphs presented in Panel D of Tables 3 through 5. As an example, we tabulate and graph the regression results in the online appendix. These illustrate the importance of investigating the 11-day window results in our tests.

disclosure timing for Amazon Inc.'s fiscal year end 12/31/2016. Here, the auditor disclosed Form AP ten days after releasing the audit report and apart from other major disclosures. Nonetheless, other disclosures around Form AP could confound our analyses. Therefore, within the 121-day test window, our models also control for investor reactions to other client disclosures found to be informative in previous research (e.g., Li and Ramesh 2009; Drake, Roulstone, and Thornock 2015, 2016). Specifically, *EADATE* indicates the three days surrounding the earnings announcement date from Compustat. *10kDATE*, *8kDATE*, *10qDATE*, and *SECOTHER* indicate the three days surrounding the 10-K filing, non-earnings 8-Ks, 10-Q, and any other company filing from the SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database.[10] To control for differences in market activity among companies, we also use client fixed effects (*FIRMEFFECTS*). We describe variables and data sources in the appendix.

4. SAMPLE AND DESCRIPTIVE STATISTICS

4.1 Sample Description

The PCAOB's online AuditorSearch database is the source of Form AP disclosures.[11] Figure 3 details the Form AP disclosure timeline. Form AP is required to be disclosed for audit reports filed on or after January 31, 2017. The content of Form AP includes only the partner's identity before June 30, 2017 and includes both the partner and component auditor participation after June 30, 2017. We begin the sample of Form AP disclosures on February 1, 2017 (the first filing) and end in October 2019 which requires trading data from October 2016 through December 2019. We limit trading data to only include the period through December 2019 to

[10] Control variables are measured using calendar day windows, but inferences are unchanged if we use trading days. Since Form AP is issued outside other disclosures, we note that control variables are unlikely to represent substantial confounders (Whited, Swanquist, Shipman, and Moon 2021). Consistent with this notion, our inferences are unchanged if we exclude control variables. Finally, our inferences are unchanged if we also include a control for client size measured as the natural log of total assets for the client-year. Since most of our tests rely on subsamples, clients often have only one Form AP in each sample. Therefore, client fixed effects capture size effects.

[11] Form AP data is available at https://pcaobus.org/Pages/AuditorSearch.aspx.

avoid including data from the unprecedented market volatility related to the COVID-19 pandemic beginning in early 2020.[12]

Table 1 details our sample attrition. We begin with 24,674 Form AP observations for issuers (through January 4th, 2020).[13] In some cases, auditors re-file or revise Form AP. These duplicate and amended Form APs can arise due to reissued audit reports or clerical errors. Thus, the majority of duplicate and amended Form APs do not contain new information about the entities responsible for completing the audit. To ensure we isolate each audit's first, and most informative, Form AP disclosure, we remove 571 revised and 1,393 duplicate Form AP filings. Matching Form AP to Compustat eliminates another 5,240 observations. Finally, 5,777 observations are missing trading data for the full (121-day) window used to evaluate market response. These eliminations leave 11,693 observations with complete data for our analyses.[14]

4.2 Descriptive Statistics

Table 2 displays descriptive statistics for our sample. In Panel A, we present the means, medians, and standard deviations for important sample characteristics. We obtain daily trading data from TAQ and sum all uncorrected trades (*tr_corr* = 0) during normal market hours (9:30AM to 4:00PM) with positive share prices (*price* > $0) following Holden and Jacobsen (2014).[15] The sample companies have, on average, 856 thousand shares traded per day, which

[12] We note that over half of the Form APs for issuer audit clients are filed in March and April following audit reports for companies with December year ends. As such, a substantial number of Form APs filed for December 2019 year-end clients are confounded by the unprecedented market activity during 2020. Along these lines, we note heightened trading activity during that period that cannot be attributed to Form AP. We discuss this in more detail in Section 5 and in the online appendix.

[13] We collect TAQ trading volume data through December 31, 2019. Because we require 60 trading days (approximately 20 trading days per month) following the Form AP filing date for calculation of abnormal volume, our final Form AP is dated October 4, 2019.

[14] In untabulated results, we find that our sample represents all industries, with the highest concentration in the financial industry. As a robustness check, we eliminated clients in regulated industries (financial and utilities) and re-estimated each of our hypothesis tests. The restricted sample results are qualitatively similar to our tabulated results and do not alter any of our conclusions.

[15] Our method is based on Craig Holden's daily TAQ programs which can be accessed at https://kelley.iu.edu/cholden/. We thank him for making this resource available.

equates to an average share turnover of 0.67 percent before detrending. The mean detrended share turnover (*DTVol*) in the 121-day window is −0.08. The average values for daily absolute abnormal returns and bid-ask spread are 1.46 and 0.40 percent, respectively.

Next, we present descriptive statistics for other disclosures that occur in the Form AP windows (−60, +60) obtained from EDGAR's master index files.[16] As noted previously, auditors must file Form AP within 35 days of issuing the audit report. Therefore, most clients release a 10-K in the estimation window. Given that the estimation window spans 121 trading days around Form AP, firms have a median of two earnings announcements and one 10-Q disclosure in the sample window. The median number of 8-K (other SEC) filings in the sample window is five (15). Auditors file Form AP approximately 19 days after the audit report date on average. The sample includes 8,099 Form APs for audit reports issued after June 30, 2017, and 42 percent of these disclose some component auditor participation.[17] For firms that disclose any component auditor participation, 65 (20) percent had at least one component auditor (non-PCAOB inspected) participant accounting for at least five percent of the total audit hours.[18] The Big 4 audit 60 percent of the sample and the mean company size in natural log of total assets is 7.2.[19]

[16] https://www.sec.gov/Archives/edgar/full-index/ accessed in May 2020.
[17] In rare cases prior to Form AP, audit firms disclosed divided auditor responsibility in the audit report. While Form AP contains information on divided audits, this is not new information to market participants (as it was disclosed prior to the issuance of the Form AP). Accordingly, we focus our analysis on the disclosure of component auditors where the audit responsibility is not divided as these Form APs provide new information to the market.
[18] Audit participants that make up more than five percent of the total audit work performed are individually disclosed. Participants below this threshold are not individually identified. For example, Amazon Inc.'s Form AP dated 2/16/2018 notes that Ernst & Young LLP (U.K.) performed between five and ten percent of the total audit work. Also, eight other auditors contributed less than five percent of the total audit work individually and in aggregate (https://pcaobus.org/resources/auditorsearch/form-ap-filing?filingid=16580&originalfirmformid=16580). In cases where the percentage of component auditor participation is given in ranges (i.e., between five and ten percent) we use the midpoint (e.g., 7.5 percent).
[19] We define Big 4 as the U.S. domestic branches of Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers based on audit firm specific identification codes assigned by the PCAOB.

5. EMPIRICAL RESULTS

5.1 Hypothesis Tests

5.1.1 H1a and H1b: Overall and Subsequent Form AP Disclosure Informativeness

We begin by separately estimating the investor response to all Form AP filings, all second or later filings, and all third filings. For each group, we estimate (1) and (2) and present the findings in Table 3. Panels A-C report the estimation of (1) for each measure of market response. Column 1 of each panel shows the market response in the three-days surrounding the Form AP disclosure for the full sample of Form AP filings. Column 2 shows the market response for multiple disclosure observations (second or later filings), and column 3 reports results for third or later filings. If Form AP's informativeness increases as additional disclosures are filed, we should observe stronger *APDATE* coefficients and significance as we limit the sample from all filings to later filings.[20]

In Panels D and E, we graph the coefficients and standard errors from estimating (2) for each measure.[21] In Panel D, we scale the y-axis to fit the market response to Form AP in the 11-day window across columns. This inherently magnifies the depiction of daily market variations around Form AP and is therefore aggressive when used to look for a market reaction. To provide context for the economic significance of the variation in Panel D, we rescale the graphs in Panel

[20] As noted earlier, we do not expect the first round of Form AP filings to be informative (e.g., see PCAOB [2015a]). However, we estimate (1) and (2) for each measure for Form AP filings prior to June 30, 2017 (i.e., first-time partner only disclosure) and after June 30, 2017 (first-time component auditor participation from June 30, 2017 through June 30, 2018) (untabulated). The findings are similar to those in Table 3 and we find little convincing or consistent evidence of an investor response.

[21] In our view, the most powerful and straightforward way to investigate abnormal trading, or any other market response, around the Form AP date is to look at the market response around the immediate disclosure date. If the disclosure of Form AP affects investor trading, we should see a consistent spike (volume and absolute abnormal return) or dip (bid-ask spreads) around the disclosure date. We include such tests in Panel D of Tables 3-5. In these visual analyses, the immediate surrounding window can be thought of as the counterfactual. We also tested (not tabulated) the market reaction in the three-day window around Form AP against the market reaction for all other days in the 11-day window around Form AP (i.e., −5 to −2 and +2 to +5) for *DTVol*, *ABSReturn*, and *BASpread* in each of the 11 tabulated tests in Tables 3-5. Of the 33 total tests only two were statistically significant and only one in the predicted direction (both p-values ≥ 0.0445).

E using the market response to known information events (i.e., the earnings announcement (*EADATE*) and 10-K (*10kDATE*) from Table 3 Column 1) and indicate these levels on the graph. We only report Panel E for Table 3 because the visual reference in those graphs is equally relevant for assessing Panel D in Tables 4 and 5.

In Table 3 Panel A columns 1 through 3 we find that the *APDATE* coefficient is insignificant. The graphs in Panel D for all Form AP filings and multiple Form AP filings reveal little evidence of a spike in *DTVol* generally. However, in the graph for third filings, the visual evidence is consistent with a minor spike in *DTVol* at day $t-1$. As we noted earlier, the scaling in Panel D potentially creates the appearance of a large response where none actually exists. This is clearly evident in Panel E that includes the earnings announcement and 10-K responses for scaling. In particular, in Panel E we see no evidence of a significant spike in *DTVol* for third filings. Importantly we note the relative *DTVol* response to Form AP for third-time filings is trivial compared to the market response to the earnings announcement and 10-K noted in the graph. Thus, the visual presentation of the results for the 11-day window around the Form AP dates also suggests no material trading volume in response to Form AP.

In Panel B, we report results from estimating (1) using *AbsReturn* to measure market response. The results in columns 1 through 3 reveal no evidence of increased abnormal returns for Form AP filings. Again in Panels D and E the graphs confirm these results, as we observe no substantial spike in *AbsReturn* around the Form AP filing dates.[22] In Panel C we report results from estimating (1) using *BASpread* to measure market performance. In columns 1 and 2 we find

[22] The coefficient on *APDATE* in the column 3 of Panel B is significantly *negative*. However, the theory suggests that absolute returns will be significantly *positive* around an information event. In the graph for third filings in Panel D (column 3), the visual evidence is consistent with a minor spike in *AbsReturn* at day *t*. We further evaluated the significance of the *APDATE* abnormal returns by testing (not tabulated) the market reaction in the three-day window around Form AP against the market reaction for all other days in the 11-day window around Form AP (i.e., −5 to −2 and +2 to +5) for each column in Table 3. All three tests are statistically insignificant. Importantly, the graphs in Panel E do not indicate any significant shift in abnormal returns in the 11-day window around Form AP.

that the coefficient on *APDATE* is insignificant. However, in column 3, we find that the coefficient on *APDATE* is negative and significant consistent with the third Form AP filing being associated with lower information asymmetry. In Panels D and E, we present the graphs of the coefficients from estimating (2) for all three samples.[23] The graphs reveal no shift in *BASpread* around the Form AP filing date. Thus, the visual presentation of the results for the 11-day window around the Form AP dates suggests no evidence of unusual bid-ask spread response in any of these samples.

5.1.2 H2a through H2d: Audit Partner Characteristics

Next, we expand our analyses by creating partitions where Form AP is more likely to inform investors. We report the empirical tests of H2a-d in Table 4 Panels A, B, and C and the visual presentation of investor responses in Panel D. In Table 4 columns 1 and 2, we partition the sample based on whether companies changed audit partners (H2a) or changed to a partner with recent industry experience disclosed on a prior Form AP for another client (H2b). Next, in column 3, we examine the reaction to the Form AP date for partners associated with a previously announced restatement in an 8-K 4.02 filing (H2c).[24] Finally in column 4, we test whether Form AP is informative given a switch to a busy partner (H2d). We define partner busyness based on

[23] When comparing Panels D and E for bid-ask spread, the scaling issue is much less relevant given the magnitude of the response to EAs and 10-Ks for bid-ask spread. Nonetheless, it is clear that there is little change in bid-ask spread around the disclosure of Form AP. We note that we used the negative value of the EA date and 10-K date response to benchmark a significant dip assuming that Form AP, if informative, reduces uncertainty and information asymmetry. However, we note that all disclosures do not necessarily reduce uncertainty and information asymmetry. For example, Kim and Verrecchia (1994) note that earnings announcements increase information asymmetry (and our tabulated results are consistent with that notion). Thus, it could be that case that we would expect to see a normal spike in bid-ask spreads. This issue, however, does not affect our conclusions.

[24] Partners associated with a previously announced restatement in an 8-K 4.02 filing as of the Form AP date (H1c). We limit our primary analyses to restatements disclosed in 8-K 4.02 filings since these elicit larger market responses (Choudhary, Merkley, and Schipper 2021). Inferences are unchanged if we use all restatements. We include only restatements of financial statements with period-ends from 2016-present and announcement dates from January 2017-present. These filters are intended to ensure that we can reasonably link the restatement to the audit partner. We also exclude benefit plan partners from these tests. In our tabulated analyses, we include all instances where the partner is associated with a past restatement, but inferences are unchanged if we limit the analyses to instances where the partner was associated with a restatement on a separate client.

the number of clients in the auditor's portfolio. If the number of audit clients in a partner's portfolio exceeds the annual sample median, the partner is deemed a busy partner.

In each subsample, we find that the coefficients on *APDATE* are insignificant for all market response measures. The insignificant coefficients on *APDATE* are confirmed in Panel D using the visual presentation of the 11-day trend in *DTVol*, *AbsReturn*, and *BASpread* around the Form AP date. Specifically, in examining the graphs in Panel D, we find no evidence of a significant spike in the market response around the Form AP date across partitions. Taken together, the evidence in Table 4 is inconsistent with partner-level characteristics, such as partner changes, industry experience, restatements, or portfolio size materially informing investors.

5.1.3 H3a through H3d: Component Auditor Participation

In this section, we explore whether investors' reactions to Form AP depend on certain characteristics of component auditor participation. Specifically, we examine the market response to any component auditor participation (H3a), high component auditor participation (H3b), component auditors with PCAOB noted deficiencies (H3c), and component auditors not subject to PCAOB inspection (H3d). We report the results of our empirical tests in Table 5 Panels A-D.

We begin by investigating the market response to the sample of Form APs disclosing any component auditor participation and those disclosing component auditor participation levels above the sample median in columns 1 and 2 (our tests of H3a and H3b), respectively. We find no significant evidence of an investor response to the Form AP disclosure in either subsample.[25]

[25] The coefficient on *APDATE* for *DTVol* is negative and significant for the any component auditor participation, deficient component auditor participation, and non-inspected component auditor participation subsamples which is inconsistent with an unambiguous information event. An informative event would result in significantly positive abnormal volume, not negative abnormal volume. In untabulated analyses, we further limit this sample by focusing solely on 1) PCAOB inspection deficiencies for non-US based group auditors, 2) Form AP filings where the majority of component auditors had a PCAOB inspection deficiency, and 3) PCAOB inspections that found audit issues related to Generally Accepted Accounting Principles. We find no evidence of a market reaction in any of these subsamples related to Form AP filings where component auditors have PCAOB inspection deficiencies.

While we find no significant reaction to the presence or level of component auditor participation, investors may react to the quality of component auditor participation (H2c). To test this, we examine Form AP releases that include component auditors with deficiencies in a PCAOB inspection.[26] Once again, in Panels A-C column 3, we find no significant increase in trading or absolute abnormal returns, nor do we find a significant decrease in bid-ask spread in response to Form AP. Finally, we note that the PCAOB does not have inspection authority in all countries. Therefore, we consider whether investors react to Form APs disclosing audit participants not subject to PCAOB oversight (our test of H3d) in column 4 of Panels A-C.[27] Similar to the results above, we find no significant evidence that investors respond to these disclosures. Taken together, our empirical evidence is inconsistent with the notion that component auditor participation disclosures meaningfully influence investment decisions.

The figures reported in Panel D display the coefficients on *APDATE* for days −5 to +5 from the estimation of (2) for each market response measure. The graphs in Panel D confirm each of our conclusions from the empirical tests in Panels A–C. In particular, we find little evidence of a spike in *DTVol* or *AbsReturn* or a dip in *BASpread* around the Form AP filing date. Further, the overall variation of our empirical estimates over the Form AP window and the

[26] We obtain inspection deficiencies from Audit Analytics' PCAOB Inspection Reports dataset. To link to the Form AP dataset, we require a strict match on country and imperfect matches on firm name. Specifically, we require the firm names in each dataset to share the same first (4) character(s) and have a cosine similarity of less than 0.5 (0.7). When multiple inspection reports meet these criteria, we select the most recent inspection report as of the Form AP date. To validate this method, we hand-checked a random sample of 35 (out of 1,363) observations and verified that each Form AP disclosed a component auditor with at least one deficiency in the most recent PCAOB inspection report. As a robustness check, we only use inspections that match exactly to firm name (i.e., cosine similarity of 0) and our inferences our unchanged.

[27] A list of countries where inspections have occurred is publicly available to investors during our sample period. These can be found at: https://pcaobus.org/International/Inspections/Pages/06302015_jurisdictions.aspx. In this list, the PCAOB includes Hong Kong and Ireland but notes obstacles to current inspections. We consider these jurisdictions as "non-inspected" for our tabulated analyses, but our inferences are unchanged if we consider these firms as inspected.

standard errors in each test are relatively low. Therefore, we can reasonably conclude that any Form AP market effect is unlikely to be economically meaningful.

5.2 Supplemental Analyses

As part of our work we performed several supplemental analyses. The supplemental analyses are addressed in detail in the online appendix. These analyses include an examination of alternative cross-sections, the impact of including market data into the COVID-19 time period, engagement partners with known audit failures, and an alternative method to detrending trading volume. The inferences from the supplemental analyses are consistent with our tabulated results. Importantly, none of our conclusions are altered by these additional tests.

6. CONCLUSION

In this study, we examine market reactions to disclosures of audit participants (lead partners and other component auditors). Relying on trading volume, absolute abnormal returns, and bid-ask spreads as market response measures, our results provide no conclusive evidence of either a statistically significant or economically meaningful response to these disclosures. We confirm our overall findings and conclusions in subsamples where Form AP's information content is most likely to be impactful. Taken together, we find little evidence that investors in the U.S. significantly respond to the disclosure of partner identities or component audit participants, despite the links between aspects of auditor identity and audit quality (e.g., Gul et al. 2013; Li et al. 2017; Pittman et al. 2021).

As noted earlier, the conclusions in this study are subject to a number of limitations. First, the Form AP disclosures could affect other audit outcomes, even if they do not directly affect investment decisions. Second, although we find little evidence of a market response to Form AP disclosures, we note that, statistically speaking, failing to reject the null is not evidence in favor

of the null. Hence, we cannot rule out lack of power as an explanation for the insignificant findings. Finally, this study provides evidence on the informativeness of Form AP disclosures from inception through 2019 and it is possible that the disclosures could become more useful for investment decisions over a longer horizon.

Our study investigates an important and timely topic that is of interest to regulators and academics. The PCAOB's decision to make partner identities public was a protracted and contentious process that was intended to give investors decision useful information about audits. This study provides evidence on this goal and whether investors respond to the auditor's identity and, more broadly, audit quality signals related to the auditor's identity. This evidence should be useful to the standard setting process as regulators consider the effects of Form AP and other potential audit-related disclosures on capital markets. Finally, our study should also be useful to future researchers, as partner-level analysis will likely continue to grow as a result of the information provided by the Form AP disclosures.

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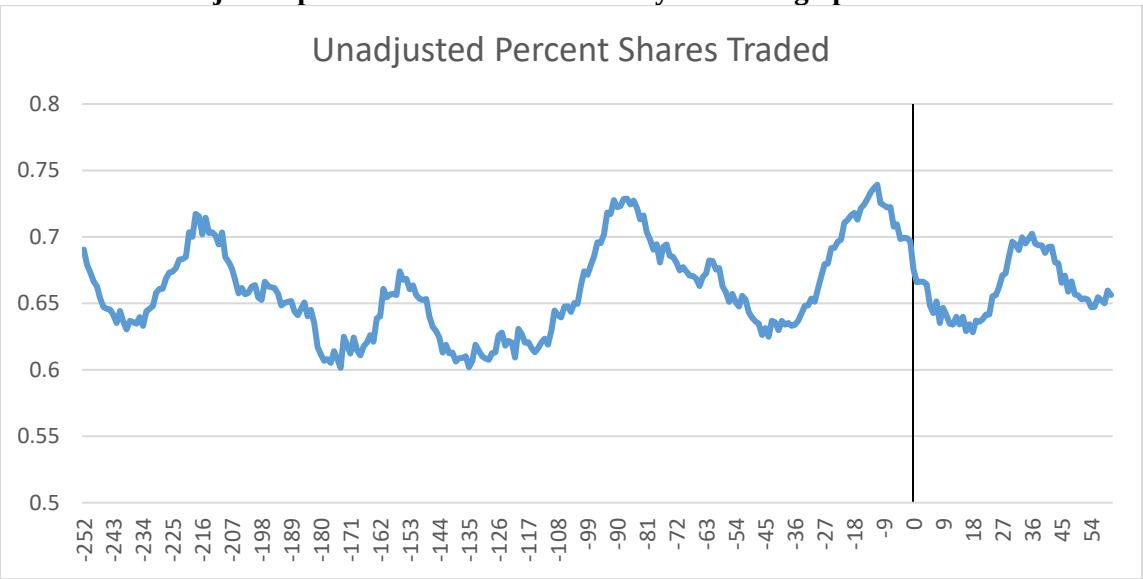
FIGURE 1: Shares Traded around Form AP

PANEL A: Unadjusted percent shares traded in the year leading up to the Form AP



PANEL B: Unadjusted percent shares traded in the 121 days surrounding Form AP

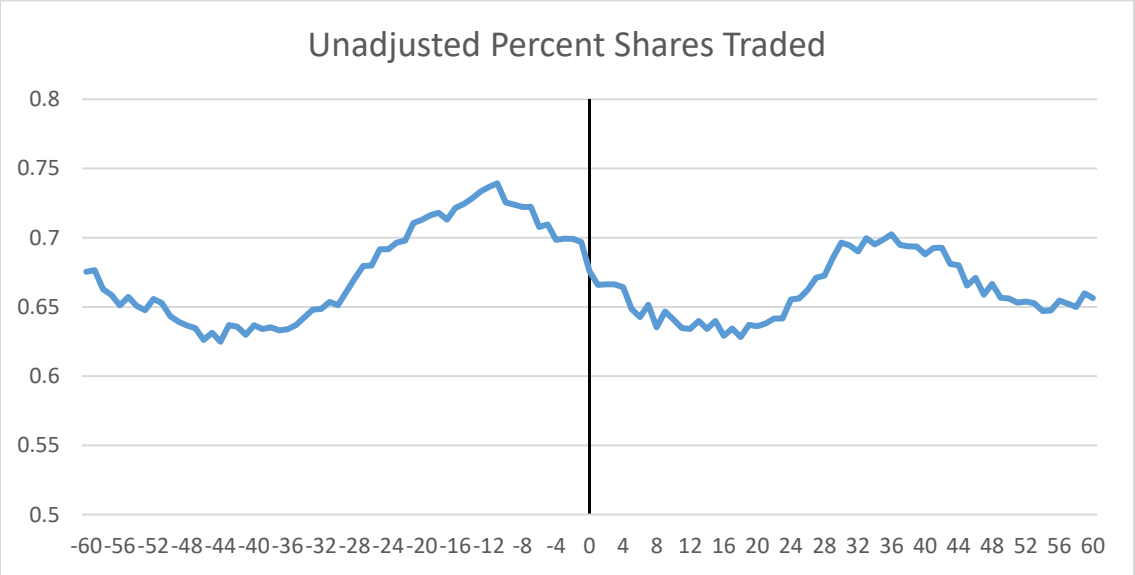
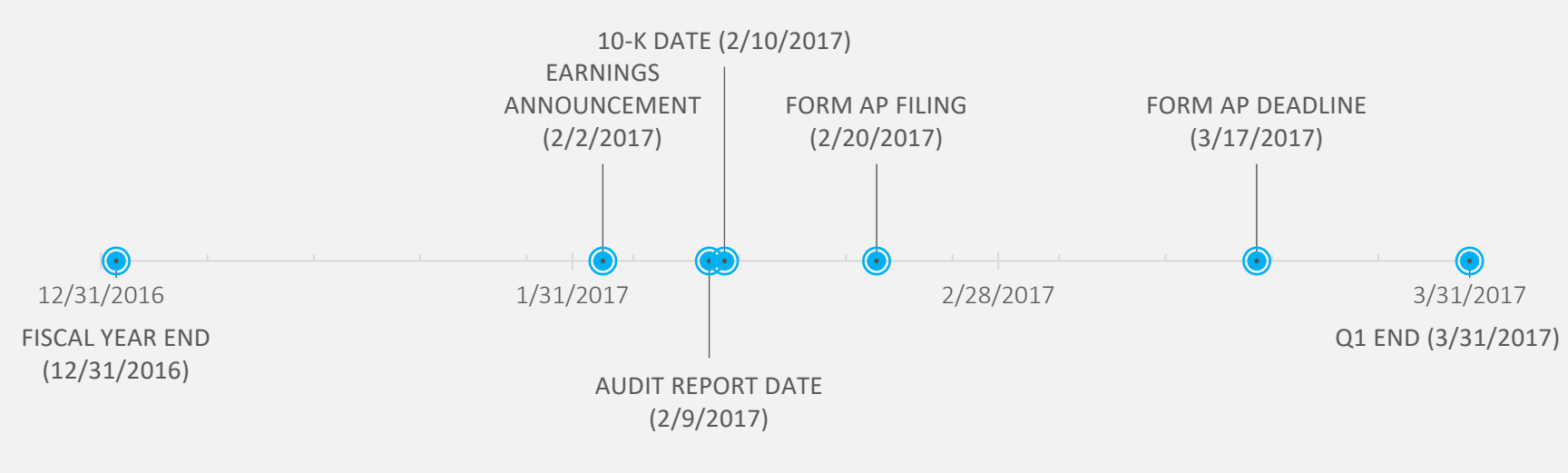


FIGURE 2: Example Form AP Disclosure Timeline: Amazon.com Inc. Fiscal Year End 12/31/2016



Note: The Form AP deadline is 35 days after the 10-K file date.

FIGURE 3: Timeline of Form AP Disclosure Content

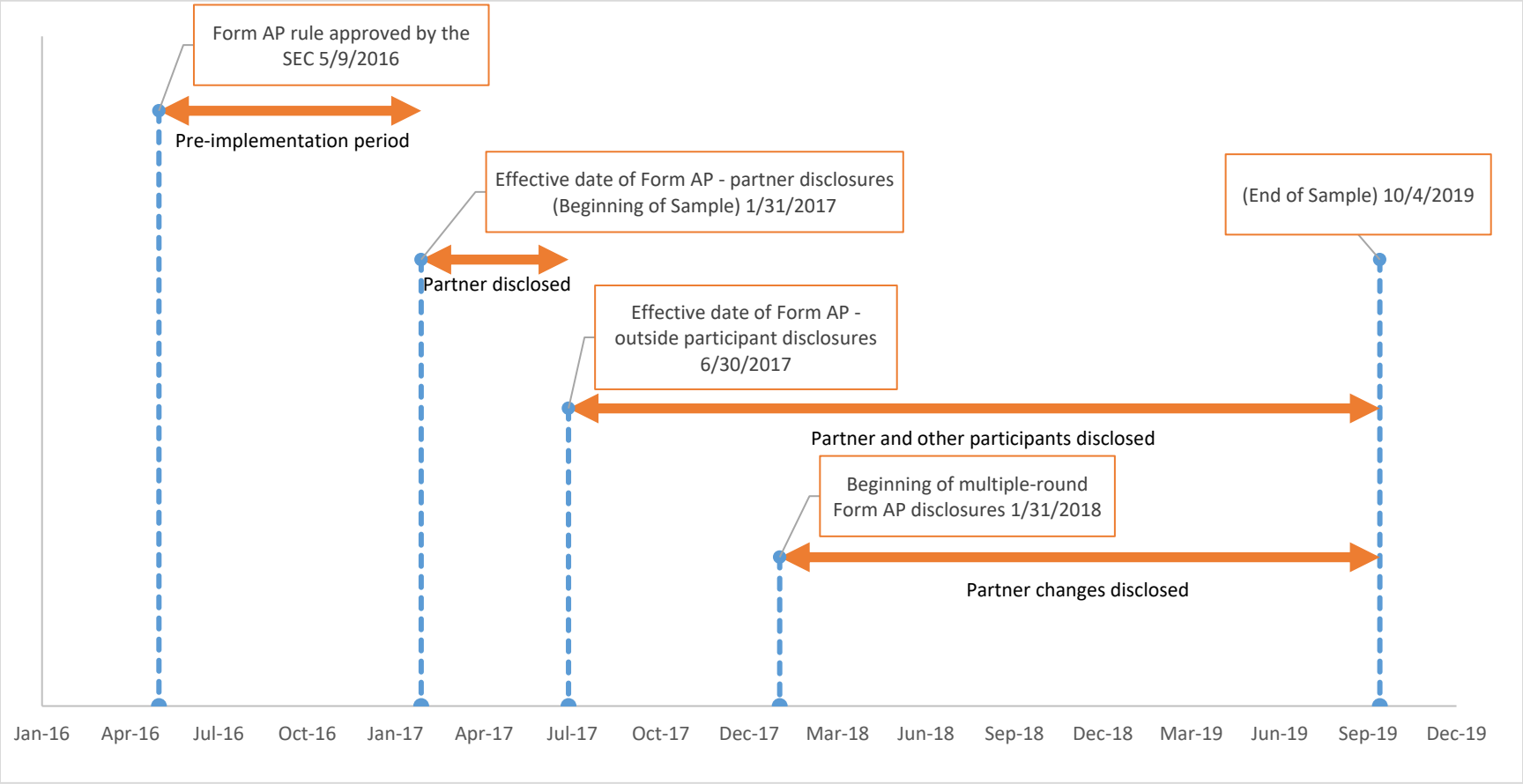


TABLE 1: Sample Selection

Data Selection Step	**n**
Form APs for issuers through January 4th 2020	24,674
Amended Form AP filings	(571)
Duplicate Form AP filings	(1,393)
Observations not in Compustat database	(5,240)
Observations without sufficient TAQ data through December 31st 2019	(5,777)
Final sample	11,693

TABLE 2: Sample Descriptive Statistics

	n	Mean	Median	StdDev
Trading Variables (Daily Average)				
Average Daily Shares Traded	11,693	856,182	277,733	1,594,392
Average Percent Shares Traded	11,693	0.6703	0.4507	0.7422
Average Detrended Percent Shares Traded (DTVol)	11,693	−0.0762	−0.0706	0.5574
Absolute Abnormal Returns (AbsReturn)	11,693	1.4597	1.0065	1.4367
Effective Percent Weighted Bid-Ask Spread (BASpread)[a]	11,693	0.0040	0.0015	0.0059
Disclosure Variables (Counts)				
Earnings Announcements (EADATE)	11,693	1.8581	2	0.5438
10-K Disclosures (10kDATE)	11,693	0.9340	1	0.4737
10-Q Disclosures (10qDATE)	11,693	0.8844	1	0.3930
8-K Announcements (8kDATE)	11,693	5.6112	5	3.7531
Other SEC Filings (SECOTHER)	11,693	15.9493	15	9.8972
Other Characteristics				
Form AP Delay (Days)	11,693	18.5049	18.0979	10.0848
Forms with Component auditor participation[b]	8,099	0.4241	0	0.4942
Forms with Component auditor participation > 5 percent[c]	3,435	0.6466	1	0.4781
Component Auditors in non-PCAOB Inspected Jurisdiction	3,435	0.2044	0	0.4033
Percentage of Audit Done by Component auditors	3,435	20.6281	15	19.7542
Big 4 Auditor	11,693	0.5961	1	0.4907
Company Size	11,693	7.206	7.2953	2.2879

Note: Values for average volume, returns, and bid-ask spread are calculated over the days −60 to +60. Values for disclosure variables are presented as the count of disclosures in the −60 to +60 trading windows for each Form AP. See appendix for variable definitions.

[a] Note that for presentation purposes, *BASpread* is multiplied by 1,000 in subsequent tables.

[b] Number observations filed after June 30, 2017.

[c] Number of observations filed after June 30, 2017 that disclosed any component auditor participation.

TABLE 3: Information Content of All and Subsequent Form AP Filings

PANEL A: Estimation of (1) for trading volume

	DV = DTVol		
	(1)	**(2)**	**(3)**
Variable	**All Form AP Filings**	**Multiple Filings[a]**	**Third Filings[b]**
APDATE	0.0039	−0.0015	0.0023
	(0.0027)	(0.0032)	(0.0043)
EADATE	0.3450***	0.3353***	0.3330***
	(0.0033)	(0.0040)	(0.0056)
10kDATE	0.0885***	0.0880***	0.1026***
	(0.0041)	(0.0049)	(0.0071)
8kDATE	0.0866***	0.0842***	0.0844***
	(0.0020)	(0.0024)	(0.0033)
10qDATE	0.0936***	0.0793***	0.0634***
	(0.0045)	(0.0055)	(0.0077)
SECOTHER	0.0429***	0.0434***	0.0351***
	(0.0010)	(0.0013)	(0.0018)
Client FE	Yes	Yes	Yes
ADJ-R^2	0.148	0.163	0.205
n	1,386,309	903,477	422,429
Unique Form APs	11,693	7,617	3,545

PANEL B: Estimation of (1) for absolute abnormal returns

	DV = AbsReturn		
	(1)	**(2)**	**(3)**
Variable	**All Form AP Filings**	**Multiple Filings[a]**	**Third Filings[b]**
APDATE	0.0049	0.0008	−0.0353***
	(0.0071)	(0.0088)	(0.0129)
EADATE	0.5861***	0.5899***	0.5556***
	(0.0081)	(0.0101)	(0.0145)
10kDATE	0.1306***	0.0746***	0.0544***
	(0.0099)	(0.0120)	(0.0176)
8kDATE	0.1204***	0.1157***	0.1057***
	(0.0045)	(0.0056)	(0.0084)
10qDATE	0.0940***	0.0628***	0.0410**
	(0.0107)	(0.0134)	(0.0196)
SECOTHER	0.0450***	0.0470***	0.0236***
	(0.0026)	(0.0032)	(0.0048)
Client FE	Yes	Yes	Yes
ADJ-R^2	0.167	0.170	0.181
n	1,385,917	901,114	417,721
Unique Form APs	11,693	7,617	3,545

TABLE 3 (continued)

PANEL C: Estimation of (1) for bid-ask spread

	DV = BASpread		
	(1)	**(2)**	**(3)**
Variable	**All Form AP Filings**	**Multiple Filings[a]**	**Third Filings[b]**
APDATE	−0.0180	0.0072	−0.1700***
	(0.0180)	(0.0219)	(0.0299)
EADATE	0.2691***	0.2838***	0.2289***
	(0.0142)	(0.0174)	(0.0244)
10kDATE	0.0455**	0.0768***	−0.0358
	(0.0206)	(0.0246)	(0.0350)
8kDATE	−0.0063	−0.0100	0.0049
	(0.0106)	(0.0129)	(0.0182)
10qDATE	−0.0177	−0.0281	0.0315
	(0.0214)	(0.0260)	(0.0354)
SECOTHER	−0.0599***	−0.0527***	−0.0804***
	(0.0059)	(0.0071)	(0.0100)
Client FE	Yes	Yes	Yes
ADJ-R^2	0.686	0.702	0.734
n	1,386,521	903,685	419,958
Unique Form APs	11,693	7,617	3,545

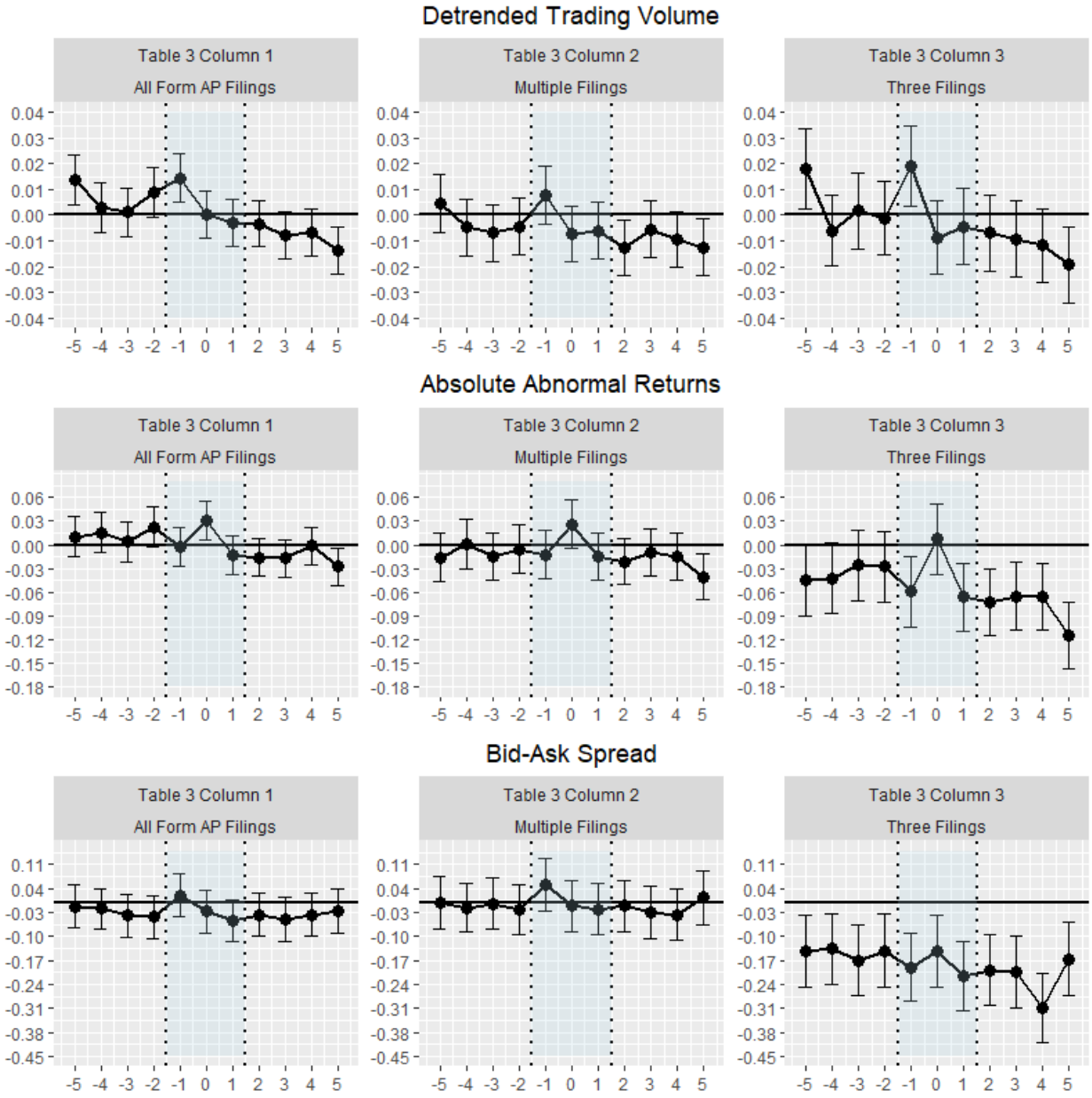
Robust-standard errors are presented in parentheses below the coefficient estimates (White 1980). * p-value is less than 0.10 (two-tailed). ** p-value is less than 0.05 (two-tailed). *** p-value is less than 0.01 (two-tailed). Note that for presentation purposes, *BASpread* is multiplied by 1,000. See appendix for variable definitions.

[a] Multiple Form AP filings is the subset of firms for which there is at least one Form AP filed for previous years.

[b] Third Form AP filings is the subset of firms for which there are at least two Form APs filed for previous years.

TABLE 3 (continued)

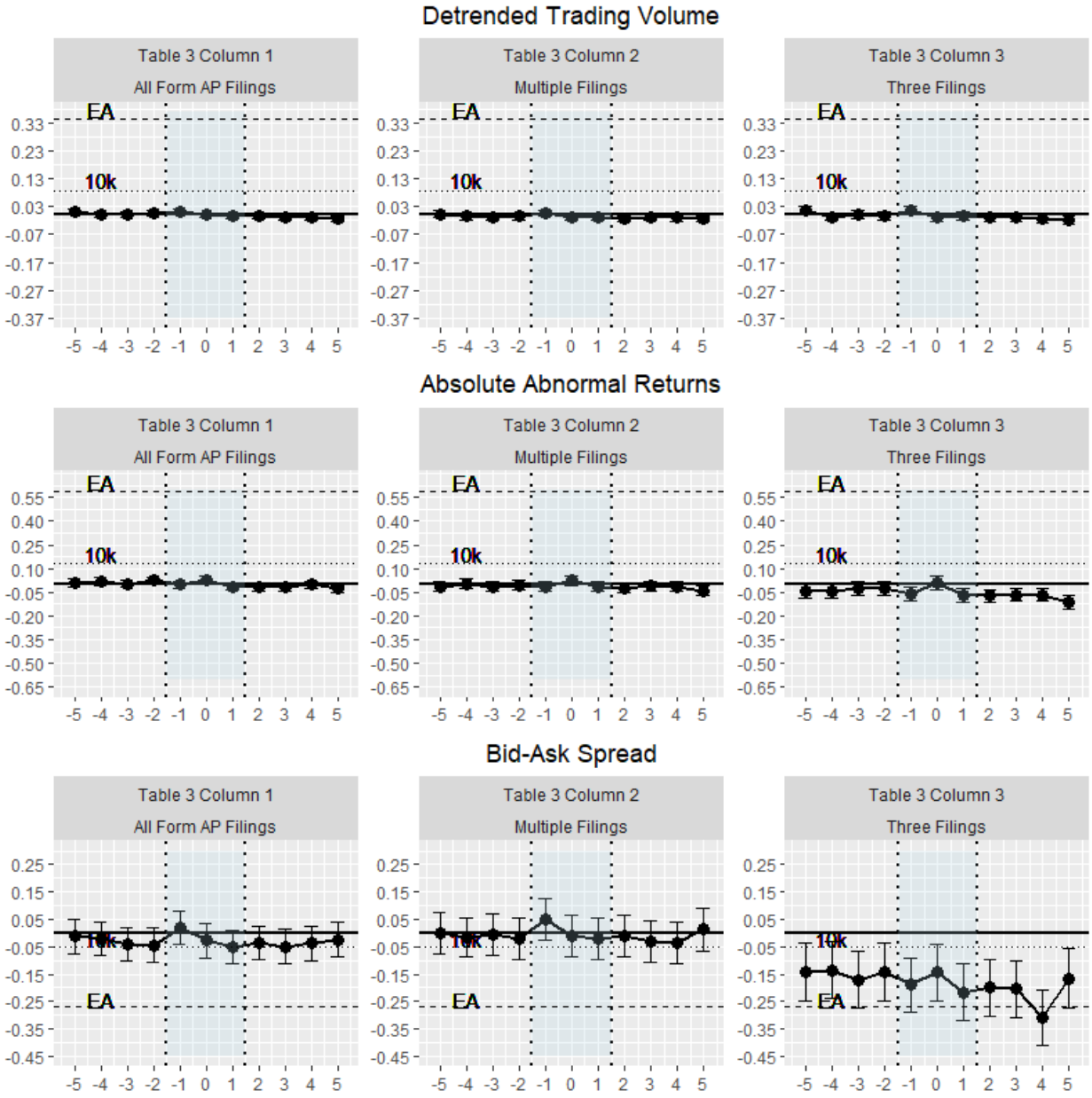
PANEL D: Graph of coefficients based on estimation of (2)



Note: The graphs present estimates of δ_k from (2). See online appendix for an illustration. The y-axis represents the coefficients on *APDATE(k)* and the x-axis represents *k* days around the disclosure of the Form AP. Note that for presentation purposes, *BASpread* is multiplied by 1,000. Error bars extend two standard errors above and below the coefficient estimates.

TABLE 3 (continued)

PANEL E: Graph of coefficients based on estimation of (2) with rescaled y-axis



Note: Panel E is a duplicate of Panel D with rescaled y-axes. The graphs present estimates of δ_k from (2). See the online appendix for an illustration. The y-axis represents the coefficients on *APDATE(k)* and the x-axis represents *k* days around the disclosure of the Form AP. Note that for presentation purposes, *BASpread* is multiplied by 1,000. Error bars extend two standard errors above and below the coefficient estimates.

TABLE 4: Information Content of Partner Characteristics in Form AP

PANEL A: Estimation of (1) for trading volume based on partner characteristics

	DV = DTVol			
	(1)	**(2)**	**(3)**	**(4)**
Variable	**Any Partner Change**	**Experienced Partner Change**	**Restatement Partners**	**High Partner Clients**
APDATE	−0.0037	0.0023	0.0214	0.0187
	(0.0060)	(0.0120)	(0.0239)	(0.0133)
EADATE	0.3020***	0.2322***	0.2539***	0.2703***
	(0.0075)	(0.0142)	(0.0283)	(0.0152)
10kDATE	0.0940***	0.0922***	0.1986***	0.0765***
	(0.0098)	(0.0185)	(0.0365)	(0.0187)
8kDATE	0.0805***	0.0973***	0.1151***	0.0806***
	(0.0046)	(0.0091)	(0.0150)	(0.0091)
10qDATE	0.0750***	0.0486**	0.1016***	0.0736***
	(0.0104)	(0.0197)	(0.0333)	(0.0204)
SECOTHER	0.0461***	0.0486***	0.0496***	0.0548***
	(0.0024)	(0.0050)	(0.0095)	(0.0052)
Client FE	Yes	Yes	Yes	Yes
ADJ-R^2	0.215	0.204	0.251	0.193
n	238,317	55,797	25,758	61,369
Unique Form APs	2,017	472	226	522

PANEL B: Estimation of (1) for absolute abnormal returns based on partner characteristics

	DV = AbsReturn			
	(1)	**(2)**	**(3)**	**(4)**
Variable	**Any Partner Change**	**Experienced Partner Change**	**Restatement Partners**	**High Partner Clients**
APDATE	0.0256	0.0298	0.0247	0.0159
	(0.0175)	(0.0355)	(0.0637)	(0.0372)
EADATE	0.5664***	0.5000***	0.3880***	0.4927***
	(0.0199)	(0.0381)	(0.0756)	(0.0403)
10kDATE	0.0739***	−0.0139	0.0992	−0.0078
	(0.0238)	(0.0444)	(0.0892)	(0.0457)
8kDATE	0.1013***	0.1281***	0.1695***	0.0863***
	(0.0112)	(0.0213)	(0.0377)	(0.0220)
10qDATE	0.0774***	−0.0497	0.2022**	0.0082
	(0.0269)	(0.0468)	(0.0887)	(0.0511)
SECOTHER	0.0469***	0.0392***	0.0163	0.0665***
	(0.0064)	(0.0129)	(0.0249)	(0.0136)
Client FE	Yes	Yes	Yes	Yes
ADJ-R^2	0.174	0.182	0.152	0.179
n	238,238	55,827	26,022	61,615
Unique Form APs	2,017	472	226	522

TABLE 4 (continued)

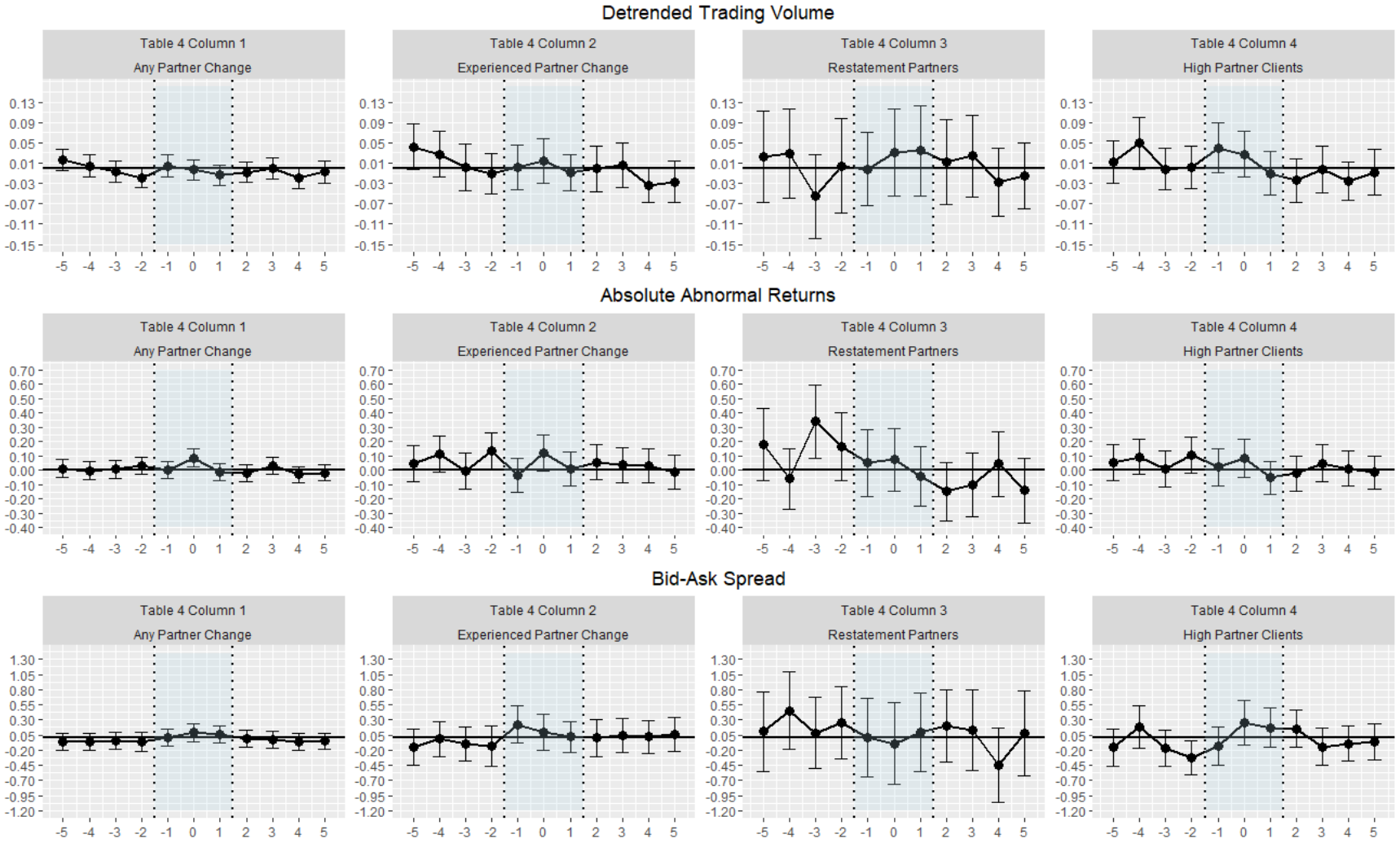
PANEL C: Estimation of (1) for bid-ask spreads based on partner characteristics

	DV = BASpread			
	(1)	**(2)**	**(3)**	**(4)**
Variable	**Any Partner Change**	**Experienced Partner Change**	**Restatement Partners**	**High Partner Clients**
APDATE	0.0539	0.1147	−0.0043	0.1027
	(0.0429)	(0.0847)	(0.1914)	(0.0986)
EADATE	0.3670***	0.3782***	0.3573*	0.5072***
	(0.0351)	(0.0751)	(0.1825)	(0.0847)
10kDATE	0.1365***	0.1252	−0.0496	0.1493
	(0.0521)	(0.1044)	(0.2298)	(0.1087)
8kDATE	−0.0707***	−0.0962**	0.0275	−0.0616
	(0.0258)	(0.0470)	(0.1034)	(0.0517)
10qDATE	−0.0488	−0.0329	0.3635	−0.0679
	(0.0518)	(0.1007)	(0.2278)	(0.1183)
SECOTHER	−0.0449***	−0.0615**	−0.2828***	−0.1053***
	(0.0140)	(0.0287)	(0.0637)	(0.0314)
Client FE	Yes	Yes	Yes	Yes
ADJ-R^2	0.728	0.694	0.667	0.706
n	239,361	56,417	26,207	62,376
Unique Form APs	2,017	472	226	522

Robust-standard errors are presented in parentheses below the coefficient estimates (White 1980). * p-value is less than 0.10 (two-tailed). ** p-value is less than 0.05 (two-tailed). *** p-value is less than 0.01 (two-tailed). Note that for presentation purposes, *BASpread* is multiplied by 1,000. See appendix for variable definitions.

TABLE 4 (continued)

PANEL D: Graph of coefficients based on estimation of (2) using cross sections of partner characteristics



Note: The graphs present estimates of δ_k from (2). See the online appendix for an illustration. The y-axis represents the coefficients on *APDATE(k)* and the x-axis represents *k* days around the disclosure of the Form AP. Note that for presentation purposes, *BASpread* is multiplied by 1,000. Error bars extend two standard errors above and below the coefficient estimates.

TABLE 5: Information Content of Form AP for Observations based on Component auditor participation

PANEL A: Estimation of (1) for trading volume based on auditor participation

	DV = DTVol			
	(1)	**(2)**	**(3)**	**(4)**
Variable	**Any Component Auditor Participation**	**Above Median Participation**	**Deficient Component Auditor Participation**	**Non-Inspected Participation**
APDATE	−0.0079*	−0.0085	−0.0183***	−0.0186**
	(0.0044)	(0.0053)	(0.0058)	(0.0092)
EADATE	0.3997***	0.3788***	0.3984***	0.4070***
	(0.0059)	(0.0074)	(0.0088)	(0.0128)
10kDATE	0.1027***	0.1102***	0.1238***	0.1149***
	(0.0072)	(0.0093)	(0.0110)	(0.0154)
8kDATE	0.0768***	0.0658***	0.0605***	0.0601***
	(0.0035)	(0.0045)	(0.0052)	(0.0080)
10qDATE	0.1313***	0.1196***	0.1294***	0.1073***
	(0.0085)	(0.0112)	(0.0132)	(0.0186)
SECOTHER	0.0373***	0.0318***	0.0312***	0.0293***
	(0.0017)	(0.0021)	(0.0023)	(0.0036)
Client FE	Yes	Yes	Yes	Yes
ADJ-R^2	0.174	0.171	0.161	0.226
n	410,604	227,114	165,677	83,646
Unique Form APs	3,435	1,894	1,378	702

PANEL B: Estimation of (1) for absolute abnormal returns based on auditor participation

	DV = AbsReturn			
	(1)	**(2)**	**(3)**	**(4)**
Variable	**Any Component Auditor Participation**	**Above Median Participation**	**Deficient Component Auditor Participation**	**Non-Inspected Participation**
APDATE	−0.0021	−0.0083	−0.0201	−0.0000
	(0.0119)	(0.0151)	(0.0167)	(0.0257)
EADATE	0.6798***	0.6971***	0.7103***	0.7012***
	(0.0149)	(0.0196)	(0.0228)	(0.0329)
10kDATE	0.1040***	0.0926***	0.1176***	0.1858***
	(0.0175)	(0.0235)	(0.0275)	(0.0404)
8kDATE	0.1134***	0.1056***	0.0966***	0.1126***
	(0.0083)	(0.0108)	(0.0123)	(0.0178)
10qDATE	0.1401***	0.1160***	0.1055***	0.1222***
	(0.0206)	(0.0281)	(0.0327)	(0.0449)
SECOTHER	0.0433***	0.0436***	0.0406***	0.0450***
	(0.0044)	(0.0056)	(0.0063)	(0.0094)
Client FE	Yes	Yes	Yes	Yes
ADJ-R^2	0.160	0.160	0.148	0.148
n	408,714	225,844	164,732	83,591
Unique Form APs	3,435	1,894	1,378	702

TABLE 5 (continued)

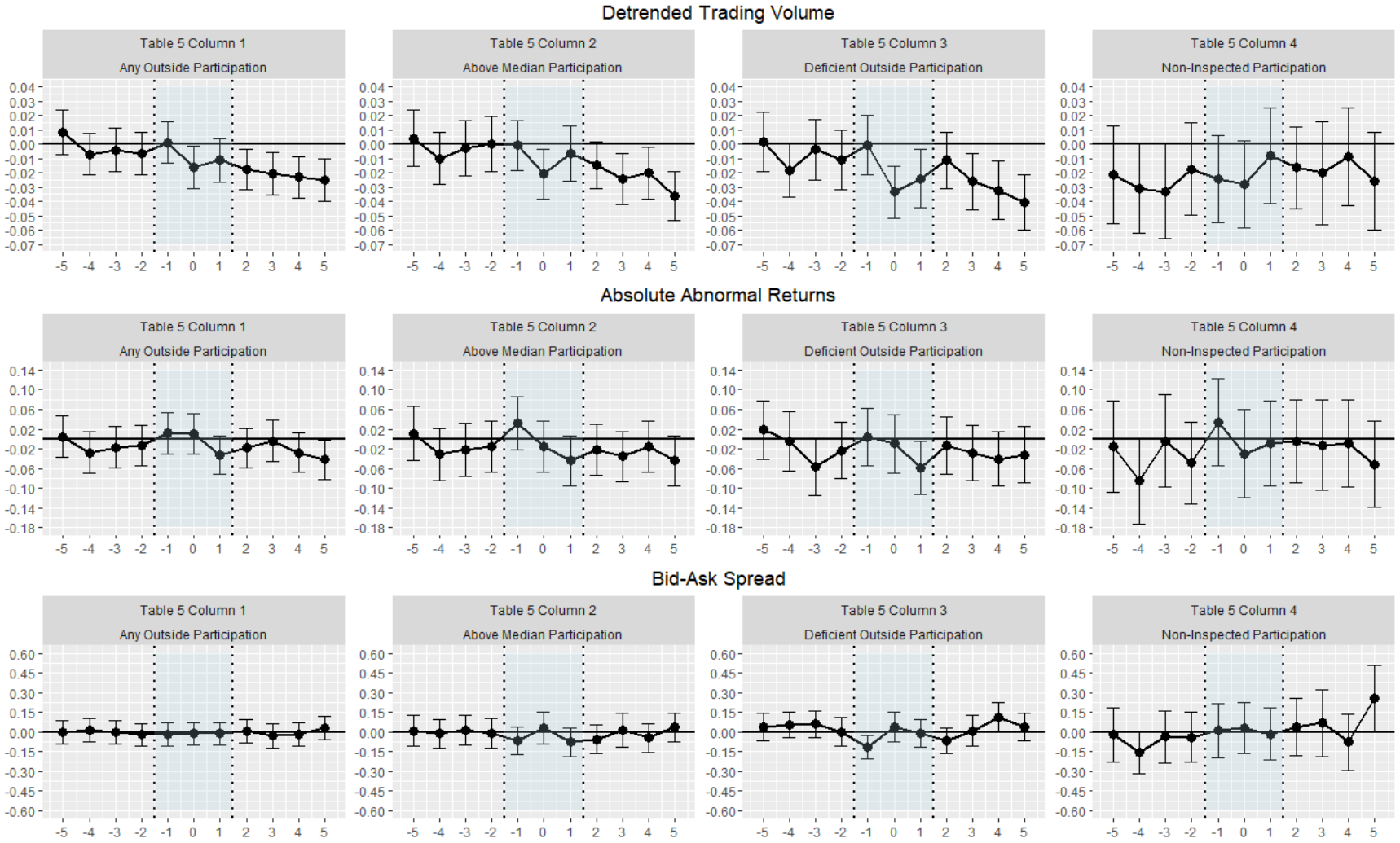
PANEL C: Estimation of (1) for bid-ask spreads based on auditor participation

	DV = BASpread			
	(1)	**(2)**	**(3)**	**(4)**
Variable	**Any Component Auditor Participation**	**Above Median Participation**	**Deficient Component Auditor Participation**	**Non-Inspected Participation**
APDATE	−0.0145	−0.0375	−0.0308	0.0078
	(0.0250)	(0.0321)	(0.0299)	(0.0588)
EADATE	0.2160***	0.2150***	0.2100***	0.2378***
	(0.0192)	(0.0238)	(0.0229)	(0.0412)
10kDATE	0.1098***	0.1037**	0.1281***	0.1675**
	(0.0298)	(0.0403)	(0.0383)	(0.0686)
8kDATE	0.0223	0.0294	−0.0033	0.0596*
	(0.0153)	(0.0198)	(0.0188)	(0.0347)
10qDATE	0.0068	−0.0234	−0.0222	0.0346
	(0.0308)	(0.0406)	(0.0382)	(0.0727)
SECOTHER	−0.0247***	−0.0292***	−0.0218**	−0.0199
	(0.0079)	(0.0100)	(0.0097)	(0.0170)
Client FE	Yes	Yes	Yes	Yes
ADJ-R^2	0.720	0.740	0.722	0.744
n	405,680	221,991	162,417	81,866
Unique Form APs	3,435	1,894	1,378	702

[a] Robust-standard errors are presented in parentheses below the coefficient estimates (White 1980). * p-value is less than 0.10 (two-tailed). ** p-value is less than 0.05 (two-tailed). *** p-value is less than 0.01 (two-tailed). Note that for presentation purposes, *BASpread* is multiplied by 1,000. See appendix for variable definitions.

TABLE 5 (continued)

PANEL D: Graph of coefficients based on estimation of (2) based on auditor participation



Note: The graphs present estimates of δ_k from (2). See online appendix for an illustration. The y-axis represents the coefficients on *APDATE(k)* and the x-axis represents *k* days around the disclosure of the Form AP. Note that for presentation purposes, *BASpread* is multiplied by 1,000. Error bars extend two standard errors above and below the coefficient estimates.

APPENDIX: Variable Definitions

Variable	Name	Data Source	Definition
Detrended Volume	*DTVol*	TAQ	Detrended percent of shares traded for client *i* on day *t.* See online appendix for details.
Absolute Abnormal Return	*AbsReturn*	TAQ	The absolute value of the market adjusted abnormal return on day *t* multiplied by 100. Returns are calculated using the closing price (as determined by the final trade before close) from trading day $t-1$ to day *t*. Market returns are equal weighted using the average return for all firms in TAQ.
Bid-Ask Spread	*BASpread*	TAQ	The daily bid-ask spread for client *i* on day *t*. Measured using the percent, share-weighted, effective, daily bid-ask spreads method following Holden and Jacobsen (2014) (variable EffectiveSpread_Percent_SW from the code provided at https://kelley.iu.edu/cholden/)
Form AP Announcement Date	*APDATE*	PCAOB	Equals one for the three days surrounding the disclosure of client *i*'s Form AP, otherwise zero.
Earnings Announcement Date	*EADATE*	COMPUSTAT	Equals one for the three days surrounding Compustat's earnings announcement date, otherwise zero.
10-K Filing Date	*10kDATE*	EDGAR	Equals one for the three days surrounding the filing of client *i*'s 10-K, otherwise zero.
8-K Filing Date	*8kDATE*	EDGAR	Equals one for the three days surrounding the filing of an 8-K (except 8-K filings for earnings announcements), otherwise zero.
10-Q Filing Date	*10qDATE*	EDGAR	Equals one for the three days surrounding the filing of client *i*'s 10-Q, otherwise zero.
Other SEC Filing Date	*SECOTHER*	EDGAR	Equals one for the three days surrounding the filing of non 10-K, 10-Q, 8-K SEC filings, or comment letters, otherwise zero.