

8-2018

Implications of Audit Office Resource Allocation Shocks: Evidence from Late 10-K Filings

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Implications of Audit Office Resource Allocation Shocks:
Evidence from Late 10-K Filings

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Business Administration with a concentration in Accounting

by

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ABSTRACT

Prior literature examines consequences (e.g., negative market reactions, higher subsequent audit fees, and debt covenant violations) audit clients face arising from missed regulatory due dates. These clients likely pressure the auditor to provide additional resources to perform the audit. This paper examines whether an audit office resource allocation shock stemming from late-filing clients is associated with the audit quality of the other timely-filing clients in that audit office. I find that timely-filing clients are more likely to subsequently restate their financial statements when there are late-filing clients in the same audit office. Using audit fees as a proxy for auditor effort (resource allocation), I also find evidence consistent with auditors allocating resources from timely-filing clients to late-filing clients. Subsequent tests indicate that office size mitigates the association between late-filing clients and audit quality of the timely-filing clients. Taken together, these findings support the argument that the observed relation between misstatements and late-filing clients can be linked, at least in part, to the implications of shocks to office-level resource allocation plans. Thus, my findings highlight an important factor for auditors to consider for their client acceptance and continuance decisions. These findings also have implications for standard setters considering the costs associated with regulatory due dates.

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I. INTRODUCTION

The Securities and Exchange Commission (SEC) requires all registrants to complete their 10-K filings within 60 to 90 days of their fiscal year-ends.¹ Missing these due dates can have severe consequences for the registrant, including negative market reactions (Alford, Jones, and Zmijewski, 1994; Dee, Hillison, and Pacini, 2010; Bartov and Konchitchki, 2017; Khalil, Mansi, Mazboudi, and Zhang, 2017), higher subsequent audit fees (Wang, Raghunandan, and McEwan, 2013), and debt covenant violations (Chapman, Hyatte, and Jindra, 2015; Bartov and Konchitchki, 2017). Because the consequences of missing regulatory due dates are significant for the registrant, I posit that both the registrant and the auditor plan to file the 10-K in a timely manner. Thus, it is likely that late-filing clients negatively affect the audit office via a shock to office-level resource allocation plans.²

In this paper, I examine whether a resource allocation shock stemming from late-filing clients is associated with audit quality for the other timely-filing clients in an audit office. Because late-filing clients face significant negative consequences, they are likely to explicitly or implicitly pressure the auditor to invest additional resources to perform the audit. The investment of additional resources, in turn, could result in lower audit quality for other clients in the office that serve as the source of additional resources.³ Although prior work has investigated client-specific implications of filing late, my study is the first to consider the potential implications late-filing clients have on other clients in the audit office.

¹ Non-accelerated, accelerated, and large accelerated filer due dates are 90, 75, and 60 days after registrants' fiscal year-ends, respectively.

² Throughout this paper, I use *late-filing client*, *late filer*, and *non-timely filer* interchangeably and use *timely-filing client* and *timely filer* interchangeably.

³ Audit firms might anticipate "fire drills" related to late-filing clients and build in enough resource slack to address unplanned circumstances. However, because resource slack is expensive, audit firms might not have enough.

Following prior research (Wang et al., 2013; Bartov and Konchitchki, 2017; Khalil et al., 2017), I use Form 12b-25 to identify late-filing clients.⁴ I restrict my main sample to companies with fiscal year-ends that fall during the typical busy season (i.e., mid-December through mid-January), and that file their 10-K in a timely manner. I construct two variables that reflect office-level resource allocation shocks associated with late filings: 1) the percentage of late-filing clients in the office; and 2) the size-weighted percentage of late-filing clients in the office.

To proxy for the audit quality of timely-filing clients, I use material misstatements, as revealed by subsequent restatements (see, e.g., Choudhary, Merkley, and Schipper, 2016; Aobdia, 2017, 2018), announced in a Form 8-K. I regress material misstatements on my proxies for office-level resource allocation shocks and controls for client, audit firm, and audit office characteristics that prior literature shows to be associated with audit quality.

Consistent with my prediction, I find a positive and significant association between the likelihood of a material misstatement for timely-filing clients and the percentage of late-filing clients in the office using both proxies. These results suggest that office-level resource allocation shocks from late-filing clients have implications for other clients in the office – namely, clients that file their financial statements in a timely manner.

My main findings suggest that auditors do not devote sufficient resources to timely-filing clients in order to maintain a consistent level of audit quality. To supplement these findings, I perform tests to examine whether a similar shift in resources is evident in the amount of audit fees paid by timely-filing clients. I examine audit fees because they are an important input into the audit process (DeFond and Zhang, 2014) and a reasonable proxy for auditor effort (Lobo and

⁴ If an SEC registrant cannot file its annual report on time, the registrant must file Form 12b-25 no later than one day past their due date in order to notify regulators and investors that they will file their 10-K at a later date. Form 12b-25 filings related to 10-Ks are labeled NT 10-K on Edgar. By filing its 10-K within 15 days of the due date, the registrant avoids SEC penalties.

Zhao, 2013). I regress audit fees on my variables of interest and find a negative and significant association between audit fees for timely-filing clients and both proxies for the percentage of late-filing clients in that office. Furthermore, I find that late-filing clients pay higher audit fees in the year they file late. These results, taken together, suggest that audit offices allocate resources from timely-filing clients to late-filing clients.

I perform several additional tests to support my argument that the observed relation between material misstatements and late-filing clients can be linked to shocks to office-level resource allocation plans. I begin by examining whether my primary results are mitigated by office size. Because larger audit offices have a larger pool of resources to draw from, I expect larger audit offices to better allocate resources to late-filing clients without adversely impacting audit quality for timely-filing clients. To test this, I re-estimate my primary analyses and interact my proxies for resource allocation shocks with two proxies for office size (client count and office-level audit fees). The results of my primary tests are mitigated as audit office size increases, suggesting that larger audit offices are better able to adjust to resource allocation shocks.

Next, I investigate whether my results are driven primarily by timely-filing clients that operate in the same industry as the late-filing clients. When faced with a late-filing client, I expect audit offices to first secure resources with relevant experience and knowledge (i.e., personnel from the same industry). This suggests that the effects of resource allocation shocks should be more pronounced among clients from the same industry as the late-filing clients. The results suggest that resource allocation shocks affect both same- and different-industry clients, regardless of industry.

In my next test, I explore whether my primary results are more pronounced when resources are more limited. The implications of resource allocation shocks should be more pronounced in the busiest quarter (i.e., the fourth quarter) and weaker in the other three. In an expanded sample, the fourth calendar quarter has the highest concentration of client fiscal year-ends, with 14,625 observations, followed by the first, second, and third quarters, with 952, 1,225, and 799 observations, respectively. Thus, I expect my results to be more pronounced with increased concentration of fiscal year-ends. To test this, I re-estimate my primary analyses using samples of companies from each calendar quarter. I reconstruct my variables of interest to account for late-filing clients by calendar quarter. I then estimate separate regressions for each quarter. I find that clients with fiscal year-ends in the second and fourth calendar quarters have a positive and significant relation between the likelihood of a material misstatement and both proxies for the percentage of late-filing clients. However, I do not find statistically significant differences between any coefficients for the percentage of late filings in any quarters. These results provide weak evidence that my results are more pronounced during the busiest times of the year.

I next examine whether missing expected filing dates similarly places pressure on the auditor to complete the audit. Prior research finds that missing expected filing dates results in negative abnormal returns (Chambers and Penman, 1984). If the client pressures the auditor to avoid such negative consequences, then a client that files later than expected, although still on time, might also pressure the auditor to invest additional resources in the audit. This would result in an auditor allocating resources from clients that would file when expected. I use a sample of observations consisting of clients without late filers in their office that file when expected and re-measure my variables of interest using only the percentage of clients that miss their expected

filing date. I find lower audit quality for clients that file on the expected date as both proxies for the percentage of clients that miss their expected filing dates increases. This is consistent with auditors allocating resources in response to client pressure stemming from negative consequences.

Finally, I perform several tests to assess the robustness of my primary findings. I find similar results using alternative proxies for audit quality – discretionary accruals and combined material and immaterial misstatements. To alleviate concerns about the distributions of my variables of interest, I limit my sample to observations with late-filing clients in the audit office. The results are similar to my main findings. Next, I use Pregibon's $dbetas$ and leverage (Pregibon 1981) to eliminate influential observations, finding that influential observations are not driving my results. To ensure that my results are not driven by my proxy for late-filing (i.e., companies that file Form 12b-25), I re-measure my variables of interest by including the small number of clients that file later than the SEC regulatory due dates yet do not file Form 12b-25, finding similar results as my main analyses.

This study provides four primary contributions. First, I contribute to the literature on regulatory due dates and late filings. Prior literature examines the regulatory and market implications that late-filing clients face (Alford et al., 1994; Dee et al., 2010; Bartov and Konchitchki, 2017), the signals that late-filing clients provide (Cao, Chen, and Higgs, 2016), the change in the late-filing rate over time (Impink, Lubberink, van Praag, and Veenman, 2012; Boland, Bronson, and Hogan, 2015; Burke and Pakaluk, 2016), and the financial reporting implications of accelerated due dates (Krishnan and Yang, 2009; Impink et al., 2012; Boland et al., 2015; Lambert, Jones, Brazel, and Showalter, 2017). My study advances prior research by

demonstrating that the impact of late-filing clients extends to timely-filing clients in the same audit office.

Second, I contribute to the literature on the implications of audit office resource constraints and time pressure. Prior literature examines constraints related to busy season concentration (Lopez and Peters, 2011, 2012), filing deadline concentration (Czerney, Jang, and Omer, 2017), and audit office growth (Bills, Swanquist, Whited, 2016). This paper shows that office-level resource constraints arise from late-filing clients.

Third, I provide evidence of an office-level signal about audit quality that is easily determinable and often revealed sooner than alternative signals (e.g., misstatements). Many misstatements are revealed several months to several years after the 10-K filing. Form 12b-25 filings are revealed during busy season. Although the implications of a revealed misstatement differ from those of Form 12b-25 (e.g., a misstatement might also imply low audit expertise, not only a resource allocation shock), Form 12b-25 is a potentially more timely indication of office-level audit quality for investors, auditors, and regulators.

Finally, my results highlight the importance of audit office resource allocation plans, resource slack, and late filings as relevant factors for auditors to consider when making client acceptance and continuance decisions. In particular, my results suggest that the average audit office has insufficient resource slack when faced with late filers, meaning that they are unable to respond to unexpected changes to resource allocation plans. This deficiency varies predictably with certain office characteristics that are influenced by client portfolio decisions. My results also underscore the importance of regulatory due dates and should inform standard setters and regulators when considering costs associated with regulatory due dates.

The rest of this paper proceeds as follows. In Section II, I discuss prior literature and develop my hypotheses. In Section III, I describe my sample selection and research methodology. In Section IV, I present my primary results. In Section V, I present additional analyses. In Section VI, I perform robustness tests, and in Section VII, I conclude.

II. BACKGROUND AND DEVELOPMENT OF HYPOTHESES

The SEC established 10-K filing due dates to ensure that companies provide financial information to the public in a timely manner. The SEC established Form 10-K due dates with the Securities and Exchange Act of 1934. In order to fulfill the demand for more useful and timely information, the SEC subsequently tightened accelerated and large accelerated filer due dates with release number 33-8128 in September 2002 and number 33-8644 in December 2005. The SEC considers annual financial statements to be late if the registrant does not file within 60, 75, or 90 days after the fiscal year-end (for large accelerated filers, accelerated filers, and non-accelerated filers, respectively).

A registrant that cannot file by their due date must file a Form 12b-25 no later than one day past the due date to notify the SEC and investors that the financial statements will be filed late.⁵ At that point, the registrant has 15 days to file the 10-K before the financial statements are considered delinquent. On Form 12b-25, registrants indicate which form will be filed late (e.g., Form 10-K, Form 10-Q, Form 11-K, etc.), the period the form pertains to, and whether the registrant intends to file within the 15-day grace period. The registrant must also explain why it is unable to file within the prescribed time period.

⁵ Form 12b-25 can also be filed for quarterly reports. Because quarterly reports require much less work from the auditor's perspective (i.e., they are reviewed, not audited), I focus on regulations pertaining to annual (10-K) filings.

Prior research examines trends in late filings, generally around the changes in the accelerated and large accelerated filer due dates. Impink et al. (2012) examine first-time late filers around both the new accelerated and large accelerated due date changes. They find that the number of accelerated filer late filings did not increase with the new accelerated filer due date. They do find some evidence, however, that the number of large accelerated filer late filings increased with the new large accelerated filing due date. This effect, however, is concentrated among companies that were involved in option backdating. Impink et al. (2012) also find that clients with material weaknesses are more likely to file late in the year after the implementation of the Sarbanes-Oxley Act of 2002 (SOX). Boland et al. (2015) examine the frequency of late filings and find that clients do not experience an increase in late filings around the tightened due dates. In their descriptive analyses, Burke and Pakaluk (2016) examine the trend in Form 12b-25 filings and also find that the tightened due dates are not associated with an increased occurrence in late filings. Instead, they find that the total number of late filings has generally decreased since 2005, but that late filings remain constant as a percentage of total public clients.

To understand the prevalence of late filings, I graph the trend in non-timely filings (Form 12b-25 for annual financial statements) by fiscal year in Figure 1. I provide trends for the number of public companies on Compustat, the number of annual Form 12b-25 late filings, and the percentage of public companies filing late. Consistent with prior research, I find that late filings have decreased in the years after SOX and have remained steady as a percentage of public companies since 2009.⁶

(Insert Figure 1 here)

⁶ The exact years on the trends differ slightly from those of Burk and Pakaluk (2016). This is because I use fiscal years to keep dates comparable to my analyses while Burke and Pakaluk (2016) use calendar years.

SEC registrants have several strong incentives to avoid filing late. First, late-filing clients suffer valuation discounts and other adverse market-related outcomes. Alford et al. (1994) investigate companies that miss their 10-K filing due date and find negative abnormal returns for the average late-filing company. Dee et al. (2010) find that most late filings are associated with negative abnormal returns between the due date and the date when the financial statements are filed. Bartov and Konchitchki (2017) find that late filings result in short- and long-run negative abnormal returns and that the adverse market reaction increases with the amount of time it takes a client to file. This is even true for “benign” late annual filings filed within the SEC’s 15-day grace period. Finally, Khalil et al. (2017) examine the bond market reaction to late filings and find that abnormal bond returns are negative for late filers and, importantly, that this effect is incremental to the reaction to information about the late filer’s financial health.

A second consequence for late-filing companies is higher audit fees. Wang et al. (2013) argue that Form 12b-25 filings signal a client’s inability to prepare financial information on a timely basis, resulting in more auditor effort and higher audit fees. Examining a sample of Form 12b-25 filings, they find that late filers pay higher audit fees in the late-filing year and in the year after.

A third potential consequence involves debt covenant violations. Chapman et al. (2015) discuss lenders’ demand for timely financial information and the use of due dates in debt covenants that are similar to those of the SEC. Consistent with this, Wang et al. (2013) and Bartov and Konchitchki (2017) surmise that late filings can trigger debt covenant violations and an increased cost of debt.

In addition to the consequences identified by prior research, late-filing clients face potential regulatory consequences. The SEC has authority to revoke registration, suspend

trading, or bring civil and other administrative actions against registrants who do not comply with SEC regulations (including filing due dates). Such enforcement is typically reserved for egregiously late clients (e.g., those that file six months to a year late).⁷ However, until the proper forms are filed, any late filing precludes a client from filing any form under the Securities Acts of 1933. Some forms, like Form S-3 (i.e., “shelf registration”), require a registrant to file all forms on a timely basis for the 12 previous months.⁸ Additionally, many stock exchanges require their registrants to file their periodic reports on a timely basis and enforce those due dates. For example, NYSE rule 802.01E requires late filers to communicate the status of late filings with the exchange and to issue a press release disclosing the occurrence of the late filing. Late filers are monitored over a “cure period” until the late filing is submitted (NASDAQ rules 5250 and 5810 impose similar requirements).

Given the severity of the consequences of late filing, it is important to understand the circumstances that lead to late filings. Audit Analytics categorizes the explanations for late filings given in Part III on Form 12b-25. Based on its categorizations, the most common explanations are 1) Insufficient time without undue hardship, 2) Insufficient time to prepare or review report, distantly followed by 3) Auditor unable to complete review or audit not complete, 4) Waiting on key information – inability to obtain, and 5) Internal control assessment issues. Less common explanations include insufficient personnel, tax issues, and asset impairment calculation difficulties. In addition, prior research finds that these explanations often reveal client-level problems (Alford et al., 1994; Bryant-Kutcher, Peng, and Zvinakis, 2007). These late-filing explanations suggest issues that could lead an audit office to allocate more resources

⁷ See, for example, the SEC’s justification for suspensions on the SEC’s Listing of Trading Suspensions at <https://www.sec.gov/litigation/suspensions.shtml>.

⁸ Form S-3 allows a registrant to more easily obtain additional capital. Consequently, by filing late, the late filer increases the cost of obtaining additional capital.

to late filers. Given the issues revealed in the explanations and the negative consequences late filers face, I expect the late-filing client to explicitly or implicitly pressure the auditor for more resources, likely adding to the time pressure for the audit office. I therefore develop my hypotheses on how audit offices respond to time pressure from missed regulatory due dates, drawing from prior literature on the implications of time pressure.

In their review of forms of pressure in accounting, DeZoort and Lord (1997) find that time pressure compromises audit quality. McDaniel (1990) finds that auditors' processing accuracy and sampling adequacy decrease as time pressure increases. Bennett, Hatfield, and Stefaniak (2015) find that auditors react to greater time pressure by conceding more on proposed audit adjustments. There are also several archival studies of the relation between factors related to time pressure and audit quality. Lopez and Peters (2011, 2012) find that clients with December year-ends (i.e., busy season) have lower audit quality and that heavier concentration of busy season companies within an audit office's portfolio is associated with auditor switching. Bills et al. (2016) find that the initial years of office-level asset and fee growth, their proxies for resource constraints, impairs audit quality. Czerney et al. (2017) find that more concentrated due dates, measured with the Herfindahl index based on the mix of clients' filing statuses in an audit office, result in lower audit quality.

Based on the preceding discussion, I posit that auditors invest additional resources in late-filing clients. Because resources are limited, this likely results in reduced resources for the audits of other clients. This, in turn, could result in greater time pressure and lower audit quality for the other clients in the office whose auditors serve as the source of additional resources. However, it is not obvious that a resource allocation shock stemming from late filings would lead to lower audit quality. Audit firms might anticipate resource allocation shocks and might build in enough

slack to respond to unplanned circumstances. Also, when resource allocation shocks occur, auditors are likely to pull resources from audits that are least likely to need those resources, which might result in no change to a timely-filing client's overall audit quality. This discussion leads to my first hypothesis, stated in the alternative form:

H₁: Among timely-filing clients, audit quality is lower for offices with a larger proportion of late-filing clients.

My first hypothesis builds on the idea that lower audit quality for timely-filing clients is the result of auditors allocating resources from them to the late-filing clients. To further support this idea, I examine how audit fees, an important input to the audit process (DeFond and Zhang, 2014) and a reasonable proxy for auditor effort (Lobo and Zhao, 2013), are affected by late-filing clients. If auditors allocate fewer resources to timely-filing clients when there is a late-filing client in the office, I expect audit fees to be lower for timely-filing clients. This leads to my second hypothesis, stated in the alternative form:

H₂: Among timely-filing clients, audit fees are lower for offices with a larger proportion of late-filing clients.

III. SAMPLE SELECTION, METHODOLOGY, AND VARIABLES OF INTEREST

Sample Selection

My sample period begins in fiscal year 2006 and ends in fiscal year 2013. I begin in 2006 because the SEC implemented the tightened large accelerated filing due dates for fiscal year ends ending on December 15, 2006 or later. I end my sample in 2013 to allow sufficient time for the

identification and revelation (through restatements) of misstatements.⁹ My sample consists of all observations with required data from the Compustat North American Fundamentals Annual and Audit Analytics databases. Specifically, I obtain financial statement data from Compustat, auditor data from the Audit Analytics Audit Opinions database, misstatement data from the Audit Analytics Non-Reliance Restatements database, and Form NT 10-K filings from the Audit Analytics Non-timely Filer Information and Analysis database. I exclude banks and other financial institutions (observations with SIC codes from 6000 through 6999), companies with fiscal-year ends that are not during the typical busy season,¹⁰ companies without the required variables, and companies with less than \$5 million in total assets (Bills et al., 2016; Shipman, Swanquist, and Whited 2016). Because I estimate logistic regressions, some industry-years have no variation in the material misstatement analyses, resulting in the exclusion of several observations. Finally, I exclude observations when the client files late because prior literature shows that such clients have lower financial reporting quality (Impink et al., 2012; Cao et al., 2016). I use late-filing observations to create my variables of interest, but exclude them from analyses. My final sample for my first hypothesis consists of 14,107 client-year observations. The final sample for my second hypothesis is limited to observations that have audit fees, decreasing the sample to 14,073. Table 1 depicts the sample selection process.

(Insert Table 1 here)

Methodology

I investigate my first hypothesis by estimating the following logistic model:

⁹ I use the Compustat method for measuring fiscal year by assigning the prior calendar year as the fiscal year for fiscal years ending on or before June 30th. I then assign the current calendar year as the fiscal year for fiscal years ending between July 1st and December 31st.

¹⁰ I define clients with busy season year-ends as clients with fiscal year-ends from December 15th through January 15th. I extend busy season through January 15th because a cluster of clients have fiscal years ending in early January.

$$\begin{aligned}
MAT_MISST_{it} = & \beta_0 + \beta_1 NT_VAR_{it} + \beta_2 LSIZE_{it} + \beta_3 MERGER_{it} + \beta_4 LEV_{it} + \beta_5 LBUSSEG_{it} \\
& + \beta_6 FOREIGNOPS_{it} + \beta_7 SALES_GROWTH_{it} + \beta_8 SALEVOL_{it} + \beta_9 CFO_{it} \\
& + \beta_{10} CFOVOL_{it} + \beta_{11} LOSS_{it} + \beta_{12} ROA_{it} + \beta_{13} ALTZ_{it} + \beta_{14} MTB_{it} + \beta_{15} BIGN_{it} \\
& + \beta_{16} SHORT_TENURE_{it} + \beta_{17} SPECIALIST_{it} + \beta_{18} OFFICE_SIZE_{it} \\
& + \beta_{19} INFLUENCE_{it} + \beta_{20} GC_{it} + \beta_{21} MATWEAK_{it} + \beta_{22} NO_404_{it} \\
& + IndustryFE + YearFE + \varepsilon_{it}
\end{aligned} \tag{1}$$

where, for client i and year t :

<i>MAT_MISST</i>	= indicator variable set equal to one if the client subsequently restates the current year financial statements and announces that restatement on Form 8-K, and zero otherwise;
<i>NT_VAR</i>	= one of two measures for the proportion of late-filing clients in an office: 1) the percentage of busy season late-filing clients in the office (<i>NT_PCT</i>), and 2) the size-weighted percentage of busy season late-filing clients in the office, measured as the percentage of busy season audit fees associated with late filers in an office (<i>NT_SIZE</i>);
<i>LSIZE</i>	= natural log of one plus total assets in millions;
<i>MERGER</i>	= indicator variable set equal to one if the client reported merger and acquisition activity, and zero otherwise;
<i>LEV</i>	= total long-term debt divided by average total assets;
<i>LBUSSEG</i>	= natural log of the count of business segments;
<i>FOREIGNOPS</i>	= indicator variable set equal to one if the client reported any foreign operations activity during the fiscal year, and zero otherwise;
<i>SALES_GROWTH</i>	= current year revenues less prior year revenues, divided by prior year revenues;
<i>SALEVOL</i>	= standard deviation of total revenue, divided by lagged total assets, for the current and prior two years;
<i>CFO</i>	= net cash flows from operations divided by total assets;
<i>CFOVOL</i>	= standard deviation of net cash flows from operations, divided by lagged total assets, for the current and prior two years;
<i>LOSS</i>	= indicator variable set equal to one if the client has a net loss before extraordinary items, and zero otherwise;

<i>ROA</i>	= income before extraordinary items divided by average total assets;
<i>ALTZ</i>	= Altman (1983) Z-score calculated as: $0.717 * \text{working capital}_{it} / \text{total assets}_{it} + 0.847 * \text{retained earnings}_{it} / \text{total assets}_{it} + 3.107 * \text{earnings before interest and taxes}_{it} / \text{total assets}_{it} + 0.420 * \text{book value of equity}_{it} / \text{total liabilities}_{it} + 0.998 * \text{sales}_{it} / \text{total assets}_{it}$;
<i>MTB</i>	= market value of common shares outstanding at fiscal year-end divided by book value of total equity;
<i>BIGN</i>	= indicator variable set equal to one if the auditor is one of the Big 4 audit firms, and zero otherwise;
<i>SHORT_TENURE</i>	= indicator variable set equal to one if the client has employed the same auditor for three consecutive years or less, and zero otherwise;
<i>SPECIALIST</i>	= indicator variable set equal to one if the client's auditor audits more than 33 percent of the current year total revenue in the client's industry (two-digit SIC) within a Metropolitan Statistical Area (MSA), and zero otherwise;
<i>OFFICE_SIZE</i>	= natural log of total audit fees received by the office during the fiscal year;
<i>INFLUENCE</i>	= client audit fees divided by total audit fees received by the office;
<i>GC</i>	= indicator variable set equal to one if the client receives a going concern audit opinion, and zero otherwise;
<i>MATWEAK</i>	= indicator variable set equal to one if the client received a material weakness on the originally issued audit opinion, and zero otherwise;
<i>NO_404</i>	= indicator variable set equal to one if the client does not receive an external audit opinion for internal controls over financial reporting in accordance with Section 404(b) of the Sarbanes-Oxley Act of 2002, and zero otherwise;
<i>IndustryFE</i>	= indicator variables for each two-digit SIC;
<i>YearFE</i>	= indicator variables for each fiscal year; and
ε	= error term.

I test my second hypothesis by estimating the following ordinary least squares (OLS)

model:

$$\begin{aligned}
 LNAF_{it} = & \gamma_0 + \gamma_1 NT_VAR_{it} + \gamma_2 LSIZE_{it} + \gamma_3 MERGER_{it} + \gamma_4 LEV_{it} \\
 & + \gamma_5 LBUSSEG_{it} + \gamma_6 FOREIGNOPS_{it} + \gamma_7 SALESGROWTH_{it} + \gamma_8 SALEVOL_{it} \\
 & + \gamma_9 CFO_{it} + \gamma_{10} CFOVOL_{it} + \gamma_{11} LOSS_{it} + \gamma_{12} ROA_{it} + \gamma_{13} ALTZ_{it} + \gamma_{14} MTB_{it} \\
 & + \gamma_{15} BIGN_{it} + \gamma_{16} SHORT_TENURE_{it} + \gamma_{17} SPECIALIST_{it} + \gamma_{18} OFFICE_SIZE_{it} \\
 & + \gamma_{19} INFLUENCE_{it} + \gamma_{20} GC_{it} + \gamma_{21} MATWEAK_{it} + \gamma_{22} NO_404_{it} \\
 & + MSAFE + IndustryFE + YearFE + \mu_{it}
 \end{aligned} \tag{2}$$

where control variables and subscripts i and t take the same meanings as in Equation (1), except I introduce the following variables:

$LNAF$ = natural log of one plus audit fees;

$MSAFE$ = indicator variables for each MSA; and

μ = error term.

Variables of Interest

Following Wang et al. (2013), Bartov and Konchitchki (2017), and Khalil et al. (2017), I use Form 12b-25 to identify late-filing clients and to create my variables of interest. Specifically, I construct two proxies for an office-level resource allocation shock stemming from late-filing clients. First, I create a continuous variable equal to the percentage of an office's busy season clients that file late (NT_PCT). Second, to capture the size of the late filers, I create a continuous variable equal to the percentage of an office's busy season audit fees associated with the late filers (NT_SIZE). I define the audit office at the MSA level. β_1 and γ_1 are my coefficients of interest. If late-filing clients generate unexpected resource allocation shocks for the audit office, then I expect β_1 to be positive and significant suggesting that timely-filing clients have lower audit quality when a late filer is in the audit office. I expect γ_1 to be negative and significant, strengthening the inference that resources are allocated from timely filers to late filers.

In Equations (1) and (2), I include variables to control for client characteristics (e.g., size, complexity, financial performance) and auditor characteristics that can affect audit quality and auditor effort. I control for client size by including a variable for the natural log of total assets (*LSIZE*). I control for client complexity by including variables for the presence of merger or acquisition activity (*MERGER*), the presence of foreign operations (*FOREIGNOPS*), the number of business segments (*LNBUSSEG*), leverage (*LEV*), the volatility of cash flow from operations (*CFOVOL*), the volatility of total revenue (*SALEVOL*), and the receipt of a material weakness on the original opinion for internal controls over financial reporting (*MATWEAK*). I control for client financial performance by including cash flows from operations (*CFO*), return on assets (*ROA*), the receipt of a going concern opinion (*GC*), the market-to-book ratio (*MTB*), sales growth (*SALESGROWTH*), an indicator variable for a net loss (*LOSS*), and the Altman (1983) Z-score (*ALTZ*). To control for auditor characteristics, I include variables for auditor industry specialization (*SPECIALIST*), auditor tenure (*SHORT_TENURE*), auditor size (*BIGN*), and audit-office size (*OFFICE_SIZE*). I control for other potential issues that might affect the auditor-client relationship by controlling for client influence (*INFLUENCE*) and whether the client received an external audit of internal controls over financial reporting in accordance with section 404(b) of the Sarbanes-Oxley Act of 2002 (*NO_404*). To control for time-invariant industry-level factors, I include industry fixed effects based on two-digit SIC codes (*IndustryFE*). To control for variation in audit quality and auditor effort over time that is not attributable to my variable of interest, I include year fixed effects (*YearFE*). In Equation (2), I include MSA fixed effects to control for the time-invariant pricing differences among MSAs (*MSAFE*). Except for my variables of interest, I winsorize all continuous variables at the 1st and 99th percentiles to

reduce the effect of outliers. I do not winsorize my variables of interest because they range from zero to one. Finally, I cluster standard errors by client in all analyses (Petersen, 2009).

IV. EMPIRICAL RESULTS

Descriptive Statistics

I provide descriptive statistics for timely-filing clients in Table 2 Panel A and comparative statistics for late-filing and timely-filing clients in Table 2 Panel B. Before I eliminate late filers from my sample, about 6.5 percent of busy season observations file late.¹¹ Approximately 46.0 percent of my observations (timely filers) have at least one late filer in their audit office.¹² In Panel A, about 4.8 percent of clients in an office file late (*NT_PCT*) and those clients, on average, make up about 5.0 percent of the audit fees for that office (*NT_SIZE*). Approximately 1.9 percent of observations in the sample have a misstatement revealed in an 8-K (*MAT_MISST*). Compared to timely filers, in Panel B, late filers have a significantly higher amount of subsequently revealed material misstatements (4.7 percent versus 1.9 percent), a lower return on assets (-18.9 percent versus -3.9 percent), are more likely to receive a going concern audit opinion (28.4 percent versus 3.7 percent), and are more likely to have a material weakness (25.4 percent versus 2.1 percent). This provides univariate support for the idea that late filings would lead audit offices to allocate more resources to late filers.

(Insert Table 2 here)

Table 3 provides Pearson's correlation coefficients for the main variables used in testing my hypotheses. Coefficients in bold are significant at the 10 percent level. With respect to my

¹¹ Using data from Table 1, 6.5 percent is approximately equal to 1,058 / 16,305. The denominator is equal to the sum of the final sample of 14,107 observations, the 1,058 late-filing observations, and the 1,140 observations omitted due to no variation in the material misstatement analyses.

¹² Of the 14,107 observations, 6,489 have a late filer in their office.

variables of interest, *NT_PCT* and *NT_SIZE* are both positively and significantly correlated with *MAT_MISST*. Their most extreme correlations are with each other, followed by a negative correlation with *BIGN* and *LNAF*. This suggests that timely filers with late filers in the office are less likely have a large auditor and have lower audit fees.

(Insert Table 3 here)

Tests of Hypotheses

Tests of Hypothesis 1

Table 4 presents results for the estimations of Equation (1). The dependent variable in both regressions is *MAT_MISST*. The variable of interest is *NT_PCT* in Column (2) and *NT_SIZE* in Column (3). The area under the ROC curve is approximately 0.72 in both regressions, suggesting that the models provide an acceptable level of discrimination (Hosmer, Lemeshow, and Sturdivant, 2013). Consistent with my hypothesis, the coefficients on *NT_PCT* and *NT_SIZE* are both positive and significant ($p < 0.05$ and $p < 0.01$ respectively), suggesting that among timely-filing clients, the likelihood of a material misstatement increases with the proportion of clients in the office that file late. To facilitate interpreting the economic importance of this association, I use the average marginal effect of the variables of interest (untabulated). The average marginal effect is 0.024 for *NT_PCT* and is 0.023 for *NT_SIZE*. This suggests that a one standard deviation increase in *NT_PCT* (i.e., going from zero percent to 9.10 percent late-filing clients) results in an approximately 11.50 percent increase in the unconditional probability of having a material misstatement ($0.091 \times 0.024 = 0.002814$; $0.002814/0.019 \approx 11.50$ percent, where 0.019 is the sample rate of material misstatements). A one standard deviation increase in *NT_SIZE* (i.e., going from zero percent to 10.70 percent size-adjusted late-filing clients) results

in an approximately 12.95 percent increase in the unconditional probability of having a material misstatement ($0.107 \times 0.023 = 0.002461$; $0.002461/0.019 \approx 12.95$ percent).

(Insert Table 4 here)

With respect to the control variables, in both Columns (2) and (3), I find positive and significant associations with leverage (*LEV*), the volatility of cash from operations (*CFOVOL*), and the receipt of a material weakness in internal controls over financial reporting (*MATWEAK*). I find negative and significant associations with the log of total assets (*LSIZE*), sales growth (*SALESGROWTH*), the receipt of a going concern opinion (*GC*), and when a client does not receive a SOX 404(b) audit over internal controls (*NO_404*). These coefficients are consistent with prior literature (Bills et al., 2016; Myllymaki, 2013).

Tests of Hypothesis 2

Results in Table 4 suggest a resource allocation shock stemming from late-filing clients is negatively associated with audit quality for the other timely-filing clients in an audit office. I posit that this is due to auditors allocating resources from timely-filing clients to late-filing clients. To strengthen this inference, I examine how audit effort (resource allocation) is associated with late-filing clients. I use audit fees as a proxy for audit effort (Lobo and Zhao, 2013), which is an important input into the audit process (DeFond and Zhang, 2014), and examine how the percentage of late-filing clients is associated with audit effort.

Table 5 presents results for estimations of Equation (2). In Columns (2) and (3), I find that the coefficients on *NT_PCT* and *NT_SIZE* are negative and significant ($p < 0.10$ and $p < 0.05$ respectively). This suggests that audit fees are lower for timely filers as the percentage of late filers in that office increases and is consistent with fewer resources being allocated to timely-filing clients as the percentage of late filers increases.

While Columns (2) and (3) show results for timely-filing clients, they do not offer insights on resources allocated to late-filing clients. To examine whether auditors allocate more resources to late-filing clients, I re-estimate Equation (2) but include observations for late filers and an indicator variable set equal to one if a client files Form 12b-25 for annual financial statements, and zero otherwise (*NON_TIMELY*). In Columns (4) and (5), the coefficients on *NT_PCT* and *NT_SIZE* are negative and significant while the coefficient on *NON_TIMELY* is positive and significant (all $p < 0.01$). This suggests that audit fees are lower for timely-filing clients as the percentage of late-filing clients increases and that audit fees are higher for late-filing clients. This is consistent with auditors allocating resources from timely-filing clients to late-filing clients.

In Column (6), I omit my proxies for the percentage of late-filing clients in the audit office and include only *NON_TIMELY* as the variable of interest. The coefficient on *NON_TIMELY* remains positive and significant ($p < 0.01$), supporting the idea that timely filers receive fewer resources because those resources are allocated to late filers.

The results in Table 5 are also economically meaningful. For example, in Column (4), a client with the mean percentage of late-filing clients in the office would pay 1.07 percent less in fees than a client in an office with no late filers. In contrast, results in Column (4) suggest that late filing clients pay 11.60 percent more in audit fees than timely-filing clients in offices with no late filing clients. The economic impact for late-filers is similar to that reported in Wang et al. (2013) which finds that fees increase by approximately 11.40 percent for accelerated late-filers. These results, in conjunction with results from my tests of my first hypothesis, are consistent with a resource allocation shock stemming from late-filing clients and are consistent with auditors allocating resources from timely-filing clients to late-filing clients.

(Insert Table 5 here)

With respect to the control variables, consistent with prior literature (Hay, Knechel, and Wong, 2006), variables positively associated with audit risk and auditor effort are positive and significant (*LSIZE*, *MERGER*, *LBUSSEG*, *FOREIGNOPS*, *SALEVOL*, *LOSS*, *MTB*, *INFLUENCE*, *GC*, and *MATWEAK*), variables negatively associated with audit risk and auditor effort are negative and significant (*SALESGROWTH*, *ROA*, *ALTZ*, and *NO_404*), while variables associated with higher auditor quality are positive and significant (*OFFICE_SIZE*).

Interestingly, I find a negative and significant coefficient on *BIGN*. This is similar to findings in Choi, Kim, Kim, and Zang (2010) who also include a proxy for office size, measured using audit fees, in the same audit fee regression as a *BIGN* variable. When I exclude *OFFICE_SIZE* from my regressions (untabulated), the coefficient on *BIGN* is positive and significant in all audit fee regressions and my main results remain unchanged, except in the regression where *NON_TIMELY* is the only variable of interest. In that regression, the coefficient is insignificant ($p = 0.125$, one-tailed). I retain *OFFICE_SIZE* in my tests for my second hypothesis because *OFFICE_SIZE* proxies for both audit quality and auditor capacity and is correlated with my variables of interest. *OFFICE_SIZE* is positively correlated with the percentage of late filers (i.e., in Table 3, correlations between *OFFICE_SIZE* and both *NT_PCT* and *NT_SIZE* are negative and significant), the likelihood of a late filing (i.e., correlations between *OFFICE_SIZE* and *NON_TIMELY* are negative and significant (untabulated)), and the amount of fees charged (i.e., in Table 3, correlations between *OFFICE_SIZE* and *LNAF* are positive and significant).

V. ADDITIONAL ANALYSES

The results in Table 4 suggest a resource allocation shock stemming from late-filing clients is negatively associated with audit quality for the other timely-filing clients in an audit office. These results suggest that auditors allocate resources from timely-filing clients to late-filing clients. In the remainder of this section, I report the results of several additional tests designed to strengthen my inference that the results are attributable to office-level resource allocation shocks stemming from the auditor responding to client pressure to complete the audit. I examine whether the relation between the percentage of late filers and timely filers' audit quality is mitigated by office size, whether the relation is more pronounced among clients in the same industry as the late filer, and whether the relation is more pronounced when resources are more limited (i.e., fourth calendar quarter). Finally, I examine whether the auditor responds to clients that miss an expected filing date but still file on time.

The Mitigating Effect of Large Audit Offices

If the relation documented in Table 4 is attributable to an office-level resource allocation shock, then I would expect the association to be less pronounced among larger offices. Even though larger offices must still allocate resources when a shock occurs, offices with more resources should be in a better position to do so, suggesting that larger offices mitigate the effect of a resource allocation shock.

To test this prediction, I interact my primary variables of interest, *NT_PCT* and *NT_SIZE*, with proxies for audit office size. My first audit office size proxy is the count of clients at the audit office (*CLIENT_COUNT*). The second is the log of total fees paid to the audit office for the fiscal year (*OFFICE_SIZE*). The results are presented in Table 6. For both proxies, I find that the coefficient on the interaction is significantly negative ($p < 0.10$ for client count specifications

and $p < 0.05$ for audit fee specifications). Consistent with my expectation, the results suggest that the magnitude of the relation between audit quality for timely filers and the percentage of late filers in the office is lower as office size increases.

(Insert Table 6 here)

Timely-Filing Clients that Share an Industry with Late-Filing Clients

Prior research shows that auditors benefit from industry-level expertise (Ferguson, Francis, and Stokes, 2001; Dunn and Mayhew, 2004; Francis, Reichelt, and Wang, 2005; Reichelt and Wang, 2010). One possible benefit of having numerous clients within the same industry is having the depth of personnel with industry-relevant expertise, which might allow auditors to better respond to industry-specific issues. Thus, when faced with a late-filing client, I expect that audit offices will prefer to first secure resources with relevant experience and knowledge (i.e., personnel from the same industry). This, in turn, suggests that the effects of resource allocation shocks stemming from late filers might be more pronounced among clients from the same industry as the late-filing clients.

To examine whether same-industry clients suffer more from resource allocation shocks than do clients in different industries, I modify Equation (1) by allowing the variables of interest to capture whether the timely-filing clients share an industry with the late-filing clients. I therefore create a variable for the percentage of busy season clients that are late filers that share a two-digit SIC code with the timely-filing client (*PCT_SAMEIND*) and another variable for the percentage of busy season clients that are late filers that do not share a two-digit SIC code with the timely-filing client (*PCT_DIFFIND*). I create similar variables for the size-weighted percentage of the late-filing clients (*SIZE_DIFFIND*, *SIZE_SAMEIND*).

Table 7 presents the results. The coefficients on the different-industry variables (*PCT_DIFFIND* and *SIZE_DIFFIND*) are positive and significant ($p < 0.10$ and $p < 0.05$ respectively). The coefficients on the same-industry variables (*PCT_SAMEIND* and *SIZE_SAMEIND*) are also positive and significant ($p < 0.10$ and $p < 0.01$ respectively). Although the magnitude of the effect appears larger when the late filers are in the same industry, Chi-square tests reveal that the coefficients are not statistically different. This suggests that late filing affects audit quality for timely-filing clients regardless of the late-filing clients' industries.

(Insert Table 7 here)

Resource Allocation Shocks Outside of Busy Season

If the relation documented in Table 4 is attributable to an office-level resource allocation shock, then I would expect the association to be more pronounced during periods when additional resources are limited and less pronounced during periods when additional resources are more readily available. As shown in Table 8, Panel A, the distribution of fiscal-year ends suggests that resource availability is lowest during the fourth quarter because it contains the highest concentration of fiscal-year ends (14,625 observations) and that resource availability is highest during the first three quarters because they contain the lowest concentration of fiscal-year ends (with 952, 1,225, and 799 observations, respectively). Given the distribution of fiscal-year ends, I expect my main results to be more pronounced during the busiest time of the year (fourth quarter) and less pronounced during the other three quarters.

To determine whether my association of interest exists during less-busy times, I perform analyses for each calendar quarter separately. I reconstruct my variables of interest for late filers for each calendar quarter and use a sample of timely-filing clients from those quarters. For example, I use Quarter 2 late filers when constructing my variable of interest and the sample

only includes Quarter 2 timely filers. I then estimate regressions for each calendar quarter. Table 8 presents results for these analyses.

(Insert Table 8 here)

For the quarterly analyses documented in Table 8, Panels A and B, I find that timely filers have a significantly higher likelihood of a material misstatement for both *NT_PCT_QUARTER* and *NT_SIZE_QUARTER* in the second and fourth quarters but do not have a significantly different likelihood in the first and third quarters. I do not find statistically significant differences in the coefficients across quarters.¹³ Although the second calendar quarter is the second busiest quarter in terms of fiscal year-ends, the concentration in fiscal year-ends is similar to that in the first and third quarters. Collectively, the results in Table 8 provide weak evidence that resource allocation shocks are more pronounced during periods when additional resources are limited.¹⁴

Resource Allocation Shocks Stemming from Missed *Expected* Filing Deadlines

Prior research finds that unexpected filings lead to negative abnormal returns (Chambers and Penman, 1984) which the client would also want to avoid.¹⁵ If the client pressures the auditor to complete the audit in a timely manner out of a desire to avoid negative consequences, then I expect that a client that simply files later than expected, although still on time, might also pressure the auditor to invest additional resources to perform the audit. The auditor would then respond to this pressure, allocating resources to the filing-later-than-expected clients resulting in

¹³ To determine the statistical significance of the difference in coefficients between quarters, I estimate seemingly unrelated regressions and perform chi-square tests.

¹⁴ I do not perform monthly analyses because the monthly sample sizes for the three busiest months after December are much smaller than those in the quarterly and busy season analyses. Moreover, the material misstatement rate is lower (e.g., March has a material misstatement rate of 0.9%, June has 1.5%, and September has 0.6%), resulting in significant sample attrition attributable to perfect multicollinearity.

¹⁵ Chambers and Penman (1984) specifically examine earnings announcements, but the concept applies to other disclosures where market participants interpret late news as bad news.

lower audit quality for other clients that file when expected. That is, I expect that the effects of missed expected filing deadlines could be similar to the effects of missed SEC filing deadlines.

To test this conjecture, I define an expected filing date as the prior year's date the client files their audited annual financial statements.¹⁶ When a client files later than in the prior year, the client is said to have missed the expected filing date. I obtain the financial statement filing date using the file date from the Audit Analytics Audit Opinions database. I recalculate my variables of interest as the percentage and size-weighted percentage of clients that miss their expected filing date by more than five days (*NT_PCT_UNEXPECTED* and *NT_SIZE_UNEXPECTED*). I use five days as the cut-off for an expected filing date to allow a grace period for the effects of weekends and holidays. Then, I limit my sample to busy season observations in offices with clients that either missed their expected filing date or file when expected, excluding observations in offices with late filers. I exclude observations in offices with late filers because I do not want to confound the association between the re-measured variables of interest and the main proxies for the percentage of late-filing clients.

Similar to my main analyses, Table 9 shows that both *NT_PCT_UNEXPECTED* and *NT_SIZE_UNEXPECTED* are negative and significantly associated with audit quality ($p < 0.10$ and $p < 0.05$ respectively). These results, in conjunction with my main results in Table 4, suggest that auditors respond when clients miss their expected filing date, and not only the regulatory filing date. This is consistent with auditors allocating resources in response to clients' pressure in order to avoid negative consequences.

(Insert Table 9 here)

¹⁶ This approach is similar to that in Chambers and Penman (1984) who investigate late earnings announcements.

VI. ROBUSTNESS TESTS

The prior analyses provide evidence that a resource allocation shock stemming from late-filing clients is negatively associated with audit quality for the other timely-filing clients in an audit office and that auditors allocate resources from timely-filing clients to late-filing clients. In the following section, I report the results of several robustness tests designed to examine assumptions made in the research design. Specifically, I examine whether my results hold using alternative measures for audit quality, whether my results hold when limiting my sample to observations with late filers in the audit office, whether influential observations affect my results, and whether another measure for late filing might provide similar results.

Alternative Measures for Audit Quality

To ensure that my results are not driven by my choice of audit quality proxy, I use discretionary accruals and misstatements, regardless of materiality, as alternative proxies. Specifically, I use the absolute value of performance adjusted discretionary accruals (*ABSDACC*) following Kothari, Leone, and Wasley (2005) as my first alternative measure.¹⁷ I then use misstatements, as revealed by subsequent restatements, regardless of materiality, as my second alternative measure. I re-estimate Equation (1) with discretionary accruals (using OLS) and misstatements (using logistic regressions) as my dependent variables.

Results in Table 10 show that the coefficients on *NT_PCT* and *NT_SIZE* in both discretionary accrual regressions are positive and significant ($p < 0.10$ for both) and are positive and significant in both misstatement logistic regressions ($p < 0.05$ and $p < 0.01$ respectively).

¹⁷ To calculate discretionary accruals, I estimate the following regression by industry-year: $Total\ Accruals = \alpha_0 + \alpha_1(1/Assets_{it-1}) + \alpha_2\Delta Sales_{it} + \alpha_3PPE_{it} + \alpha_4ROA_{it-1} + \varepsilon_{it}$, with *Sales* and *PPE* scaled by lagged total assets. I require observations to have at least \$5 million in total assets and industry-years to have at least 10 observations. The absolute value of the residual from this regression is *ABSDACC*.

This suggests that audit quality is lower for timely-filing clients as the percentage of late-filing clients in the office increases, consistent with results from my main tests.

(Insert Table 10 here)

Dropping Offices with no Late Filers

Because more than half of my observations have zero late filers in the office, my results could be attributed to a dichotomous effect (i.e., going from zero to one or more late filers) or to a continuous effect (i.e., going from few to many late filers). If having late filers in an audit office results in a resource allocation shock, then going from few to many late filers should also adversely impact audit quality for timely filers. To determine whether my results hold as the amount of late filers increases from few to many, I re-estimate Equation (1) but omit observations where my variables of interest are equal to zero.

The results are presented in Table 11. I find that the coefficients on *NT_PCT* and *NT_SIZE* remain positive and significant ($p < 0.10$ and $p < 0.01$ respectively), consistent with my main results. This suggests that audit quality is lower for timely filers as the amount of late filers increases from few to many.

(Insert Table 11 here)

Removing Influential Observations

To ensure that my results are not driven by influential observations, I employ diagnostic techniques designed to identify influential observations. As suggested by Hosmer et al. (2013), I use leverage to identify outliers for logistic regressions. Leverage is calculated using the diagonal elements of the regression's projection matrix adjusted for the number of observations that share the same covariate pattern (Pregibon 1981). I also use Pregibon's *dbeta* to identify outliers (Pregibon 1981). Pregibon's *dbeta* is a generalized measure of the change in the coefficient

vector that would be caused by deleting an observation and all other observations sharing the covariate pattern. Because it is a generalized measure, I can apply it to logistic regressions.

Because of the diagnostic methods I use, I must visually identify influential observations by plotting leverage and Pregibon's $dbeta$ on the likelihood of a material misstatement generated from my logistic regressions. Hosmer et al. (2013) state that logistic regression diagnostics "have to rely primarily on visual assessment, [because] the distribution of the diagnostics under the hypothesis that the model fits is known only in certain limited settings" (p. 192). While $dfbeta$ uses a formula to determine the cut-off of the diagnostic for influential observations, leverage and $dbeta$ require a visual assessment for the cut-off. Figures 2 through 5 present output generated from Stata used to determine outliers. In those figures, I plot the leverage or Pregibon's $dbeta$ values on the likelihood of a material misstatement. I visually assess the leverage cut-off at 0.50 and $dbeta$ cut-off at 0.10 for both *NT_PCT* and *NT_SIZE* specifications. I then estimate regressions without observations whose leverage or Pregibon's $dbeta$ are greater than the cut-offs, presented in Table 12. My results still hold after removing influential observations.

(Insert Table 12 here)

(Insert Figure 2 here)

(Insert Figure 3 here)

(Insert Figure 4 here)

(Insert Figure 5 here)

Including Late Filers that do not File Form 12b-25

Following prior research (Wang et al., 2013; Bartov and Konchitchki, 2017; Khalil et al., 2017), I use filed Form 12b-25s to identify late-filing clients. This choice might have affected

my results. Some clients that file late fail to file Form 12b-25. It is important to note, however, that these clients face additional consequences from the SEC and possibly also from market participants. I identify 66 observations where a client is at least five days late but does not file Form 12b-25.¹⁸ Although the 66 observations are not a large quantity, they have 429 other timely filers in their offices. I perform additional analyses including these observations that fail to file Form 12b-25 in recalculating my variables of interest (*NT_PCT_ABSOLUTE* and *NT_SIZE_ABSOLUTE*). I then exclude these non-Form 12b-25 late filers from my sample similar to Form 12b-25 late filers. In Table 13, I find results consistent with my main analyses. This suggests that my initial choice to identify late-filers with filed Form 12b-25s is not driving my results.

(Insert Table 13 here)

VII. CONCLUSION

I examine whether a resource allocation shock stemming from late-filing clients is associated with audit quality for the other timely-filing clients in an audit office and whether auditors allocate resources from timely-filing clients to late-filing clients. Because late-filing clients face significant negative consequences, they are likely to explicitly or implicitly pressure the auditor to invest additional resources to perform the audit. This, in turn, could result in lower audit quality for other clients in the office who serve as the source of additional resources. Although prior work has investigated client-specific implications of filing late, my study is the first to consider the potential implications late-filing clients have on other clients in the audit office.

¹⁸ I use five days to avoid filing dates that fall on weekends or holidays where the SEC allows an automatic due date extension.

I test my expectation with two hypotheses. I first examine the relation between audit quality and two variables that reflect office-level resource allocation shocks associated with late filings: 1) the percentage of late-filing clients in the office; and 2) the size-weighted percentage of late-filing clients in the office. I proxy for audit quality using subsequently restated financial statements where the restatement is announced using a Form 8-K (i.e., material misstatements). In tests of my first hypothesis, I find that the percentage of late-filing busy season clients and the size-weighted percentage of late-filing clients is associated with an increased likelihood in a material financial statement misstatement for the timely-filing clients in an audit office. I then examine the relation between my two proxies that reflect office-level resource allocation shocks and auditor effort (resources). I proxy for auditor effort (resources) using audit fees. In tests of my second hypothesis, I find that allocated resources are lower for timely-filing clients as the percentage and size-weighted percentage of late-filing clients increases. I find that late-filing clients pay higher audit fees, consistent with auditors allocating resources from timely-filing clients to late-filing clients.

In additional tests, I first examine factors that mitigate resource allocation shocks. Using office-level client count and audit fees as proxies for office size, I find that the association between audit quality and both my proxies for the percentage of late filers is mitigated as office size increases. Next, I examine whether my primary results are more pronounced among clients sharing an industry with the late filer. I find evidence consistent with late filers affecting both clients in the same and in different industries. I then examine whether the association between the percentage of late filers and audit quality for timely filers is more pronounced when additional resources are limited, which is during the busiest time of the year (i.e., fourth calendar quarter). Using a sample of timely-filing clients with fiscal-year ends that fall within the

respective calendar quarters, I find that the results of my primary tests hold during the two busiest times of the year (second and fourth calendar quarters) but not during the less busy times of the year (first and third calendar quarters). However, I do not find statistically significant differences between any of the coefficients for each quarter. Finally, I examine whether missing expected filing dates similarly provides pressure for the auditor to complete the audit. I find evidence consistent with my main results.

This study provides four contributions. First, I contribute to the literature on regulatory due dates and late filings. My study advances prior research by demonstrating that the impact of late filings extends to timely-filing clients that share an audit office with late-filing clients. Second, I contribute to the literature on the implications of audit office resource constraints. Prior literature examines implications of various constraints (e.g., busy season, filing deadline concentration, office growth, etc.). My study shows that a specific constraint, an office-level resource allocation shock, arises from late-filing clients. Third, I provide evidence of an office-level signal about audit quality that is easily determinable and often revealed sooner than alternative signals (e.g., misstatements). Form 12b-25 filings might provide a more timely indication of office-level audit quality for investors, auditors, and regulators.

Finally, my results highlight the importance of audit office resource allocation plans, resource slack, and late filings as relevant factors auditors should consider when making client acceptance and continuance decisions. In particular, my results suggest that the average audit office has insufficient resource slack to maintain audit quality when faced with late filers (i.e., they are unable to adequately respond to unexpected changes to resource allocation plans) and that this deficiency varies predictably with certain office characteristics that are influenced by client portfolio decisions. My results also underscore the importance of regulatory due dates and

should inform standard setters and regulators when considering costs associated with regulatory due dates.

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APPENDIX A
Variable Definitions

Dependent Variables	Definition
<i>MAT_MISST</i>	= indicator variable set equal to one if the client subsequently restates the current year financial statements and announces that restatement on Form 8-K, and zero otherwise.
<i>ABSDACC</i>	= absolute value of performance adjusted discretionary accruals following Kothari et al. (2005).
<i>MISST</i>	= indicator variable set equal to one if the client subsequently restates the current year financial statements, and zero otherwise.
<i>LNAF</i>	= natural log of one plus audit fees.
Variables of Interest	Definition
<i>NT_PCT</i>	= percentage of busy season late-filing clients in the office.
<i>NT_SIZE</i>	= percentage of busy season audit fees associated with late filers in an office.
<i>NON_TIMELY</i>	= indicator variable set equal to one if the client files Form 12b-25, and zero otherwise.
<i>CLIENT_COUNT</i>	= count of clients in an audit office.
<i>PCT_SAMEIND</i>	= percentage of busy season clients in the office that are late-filing clients that share a two-digit SIC code with the timely-filing client.
<i>PCT_DIFFIND</i>	= percentage of busy season clients in the office that are late-filing clients that do not share a two-digit SIC code with the timely-filing client.
<i>SIZE_SAMEIND</i>	= percentage of busy season audit fees associated with late-filing clients in an office that are late filers that share a two-digit SIC code with the timely-filing client.
<i>SIZE_DIFFIND</i>	= percentage of busy season audit fees associated with late-filing clients in an office that are late filers that do not share a two-digit SIC code with the timely-filing client.
<i>NT_PCT_QUARTER</i>	= percentage of calendar quarter late-filing clients in the office.

<i>NT_SIZE_QUARTER</i>	= percentage of calendar quarter audit fees associated with late-filing clients in an office.
<i>NT_PCT_UNEXPECTED</i>	= percentage of busy season late-filing clients in the office that file annual financial statements later than in the prior fiscal year.
<i>NT_SIZE_UNEXPECTED</i>	= percentage of busy season audit fees associated with late-filing clients in an office that file annual financial statements later than in the prior fiscal year.
<i>NT_PCT_ABSOLUTE</i>	= percentage of busy season late-filing clients in the office that file Form 12b-25 or are at least five days late without filing Form 12b-25.
<i>NT_SIZE_ABSOLUTE</i>	= percentage of busy season audit fees associated with late-filing clients in an office that file Form 12b-25 or are at least five days late without filing Form 12b-25.

Control Variables	Definition
<i>LSIZE</i>	= natural log of one plus total assets in millions.
<i>MERGER</i>	= indicator variable set equal to one if the client reported merger and acquisition activity, and zero otherwise.
<i>LEV</i>	= total long-term debt divided by average total assets.
<i>LBUSSEG</i>	= natural log of the count of business segments.
<i>FOREIGNOPS</i>	= indicator variable set equal to one if the client reported any foreign operations activity during the fiscal year, and zero otherwise.
<i>SALESGROWTH</i>	= current year revenues less prior year revenues, divided by prior year revenues.
<i>SALEVOL</i>	= standard deviation of total revenue, divided by lagged total assets, for the current and prior two years.
<i>CFO</i>	= net cash flows from operations divided by total assets.
<i>CFOVOL</i>	= standard deviation of net cash flows from operations, divided by lagged total assets, for the current and prior two years.
<i>LOSS</i>	= indicator variable set equal to one if the client has a net loss before extraordinary items, and zero otherwise.

<i>ROA</i>	= income before extraordinary items divided by average total assets.
<i>ALTZ</i>	= Altman (1983) Z score calculated as: $0.717 * \text{working capital}_{it} / \text{total assets}_{it} + 0.847 * \text{retained earnings}_{it} / \text{total assets}_{it} + 3.107 * \text{earnings before interest and taxes}_{it} / \text{total assets}_{it} + 0.420 * \text{book value of equity}_{it} / \text{total liabilities}_{it} + 0.998 * \text{sales}_{it} / \text{total assets}_{it}$.
<i>MTB</i>	= market value of common shares outstanding at fiscal year-end divided by book value of total equity.
<i>BIGN</i>	= indicator variable set equal to one if the auditor is one of the Big 4 audit firms, and zero otherwise.
<i>SHORT_TENURE</i>	= indicator variable set equal to one if the client has employed the same auditor for three consecutive years or less, and zero otherwise.
<i>SPECIALIST</i>	= indicator variable set equal to one if the client's auditor audits more than 33 percent of the current year total revenue in the client's industry (two-digit SIC) within an MSA, and zero otherwise.
<i>OFFICE_SIZE</i>	= natural log of total audit fees received by the office during the fiscal year.
<i>INFLUENCE</i>	= client audit fees divided by total audit fees received by the office.
<i>GC</i>	= indicator variable set equal to one if the client receives a going concern audit opinion, and zero otherwise.
<i>MATWEAK</i>	= indicator variable set equal to one if the client received a material weakness on the originally issued audit opinion, and zero otherwise.
<i>NO_404</i>	= indicator variable set equal to one if the client does not receive an external audit opinion for internal controls over financial reporting in accordance with Section 404(b) of the Sarbanes-Oxley Act of 2002, and zero otherwise.
<i>MSAFE</i>	= indicator variables for each MSA.
<i>IndustryFE</i>	= indicator variables for each two-digit SIC.
<i>YearFE</i>	= indicator variables for each fiscal year.

TABLE 1: Sample Selection

Intersection of Compustat and Audit Analytics from 2006 through 2013	71,369
Less: Financial institutions with SIC code between 6000 and 6999	(17,825)
Less: Observations not during busy season	(20,268)
Less: Observations without required variables	(16,049)
Less: Observations with less than \$5 million in total assets	(922)
Less: Observations with late filings	(1,058)
Less: Observations with no variation in material misstatement analyses	<u>(1,140)</u>
Observations used to test H ₁	<u>14,107</u>
Less: Observations without audit fees	<u>(34)</u>
Observations used to test H ₂	<u>14,073</u>

TABLE 2: Descriptive Statistics*All variables are as defined in Appendix A.***Panel A:** Descriptive statistics for timely filing sample

Variable Name	N	Mean	St. Dev.	25%	Median	75%
<i>MAT_MISST</i>	14,107	0.019	0.137	0.000	0.000	0.000
<i>NT_PCT</i>	14,107	0.048	0.091	0.000	0.000	0.056
<i>NT_SIZE</i>	14,107	0.050	0.107	0.000	0.000	0.043
<i>LSIZE</i>	14,107	6.311	2.125	4.750	6.238	7.828
<i>MERGER</i>	14,107	0.377	0.485	0.000	0.000	1.000
<i>LEV</i>	14,107	0.240	0.245	0.015	0.190	0.365
<i>LBUSSEG</i>	14,107	0.603	0.720	0.000	0.000	1.386
<i>FOREIGNOPS</i>	14,107	0.303	0.460	0.000	0.000	1.000
<i>SALESGROWTH</i>	14,107	0.144	0.503	-0.039	0.069	0.203
<i>SALEVOL</i>	14,107	0.207	0.290	0.050	0.113	0.241
<i>CFO</i>	14,107	0.034	0.198	0.021	0.077	0.128
<i>CFOVOL</i>	14,107	0.086	0.144	0.021	0.043	0.086
<i>LOSS</i>	14,107	0.353	0.478	0.000	0.000	1.000
<i>ROA</i>	14,107	-0.039	0.236	-0.052	0.029	0.073
<i>ALTZ</i>	14,107	2.464	4.121	0.965	2.119	3.647
<i>MTB</i>	14,107	2.847	4.917	1.135	1.940	3.399
<i>BIGN</i>	14,107	0.735	0.441	0.000	1.000	1.000
<i>SHORT_TENURE</i>	14,107	0.169	0.375	0.000	0.000	0.000
<i>SPECIALIST</i>	14,107	0.524	0.499	0.000	1.000	1.000
<i>OFFICE_SIZE</i>	14,107	16.957	1.842	15.775	17.377	18.376
<i>INFLUENCE</i>	14,107	0.118	0.197	0.014	0.042	0.120
<i>GC</i>	14,107	0.037	0.189	0.000	0.000	0.000
<i>MATWEAK</i>	14,107	0.021	0.144	0.000	0.000	0.000
<i>NO_404</i>	14,107	0.179	0.384	0.000	0.000	0.000
<i>MISST</i>	14,107	0.096	0.295	0.000	0.000	0.000
<i>ABSDACC</i>	13,539	0.098	0.150	0.018	0.046	0.107
<i>LNAF</i>	14,073	13.806	1.231	12.988	13.796	14.587

Panel B: Descriptive statistics for late-filing clients, timely-filing clients

Column (5) presents the differences in means between Columns (2) and (4) and Column (6) presents the associated *t*-statistic. All variables are as defined in Appendix A. ***, **, and * indicate significance at the 0.01, 0.05, and 0.10 levels, respectively (based on two-tailed tests).

Variable Name	(1)	(2)	(3)	(4)	(5)	(6)
	Late Filers N	Mean	Timely Filers N	Mean	Diff	t-stat
<i>MAT_MISST</i>	1,058	0.047	14,107	0.019	0.028***	(4.25)
<i>NT_PCT</i>	1,058	0.324	14,107	0.048	0.276***	(31.09)
<i>NT_SIZE</i>	1,058	0.351	14,107	0.050	0.301***	(31.10)
<i>LSIZE</i>	1,058	4.771	14,107	6.311	-1.540***	(-25.73)
<i>MERGER</i>	1,058	0.313	14,107	0.377	-0.064***	(-4.30)
<i>LEV</i>	1,058	0.299	14,107	0.240	0.059***	(6.12)
<i>LBUSSEG</i>	1,058	0.548	14,107	0.603	-0.055***	(-2.61)
<i>FOREIGNOPS</i>	1,058	0.252	14,107	0.303	-0.051***	(-3.65)
<i>SALESGROWTH</i>	1,058	0.216	14,107	0.144	0.072***	(3.04)
<i>SALEVOL</i>	1,058	0.373	14,107	0.207	0.166***	(11.05)
<i>CFO</i>	1,058	-0.052	14,107	0.034	-0.086***	(-11.94)
<i>CFOVOL</i>	1,058	0.157	14,107	0.086	0.071***	(9.86)
<i>LOSS</i>	1,058	0.657	14,107	0.353	0.304***	(20.07)
<i>ROA</i>	1,058	-0.189	14,107	-0.039	-0.150***	(-14.18)
<i>ALTZ</i>	1,058	0.838	14,107	2.464	-1.626***	(-11.01)
<i>MTB</i>	1,058	2.242	14,107	2.847	-0.605***	(-3.37)
<i>BIGN</i>	1,058	0.417	14,107	0.735	-0.318***	(-20.38)
<i>SHORT_TENURE</i>	1,058	0.404	14,107	0.169	0.235***	(15.18)
<i>SPECIALIST</i>	1,058	0.353	14,107	0.524	-0.171***	(-11.22)
<i>OFFICE_SIZE</i>	1,058	15.753	14,107	16.957	-1.204***	(-17.34)
<i>INFLUENCE</i>	1,058	0.178	14,107	0.118	0.060***	(7.81)
<i>GC</i>	1,058	0.284	14,107	0.037	0.247***	(17.67)
<i>MATWEAK</i>	1,058	0.254	14,107	0.021	0.233***	(17.33)
<i>NO_404</i>	1,058	0.483	14,107	0.179	0.304***	(19.33)
<i>MISST</i>	1,058	0.135	14,107	0.096	0.039***	(3.60)
<i>ABSDACC</i>	1,012	0.168	13,539	0.098	0.070***	(10.18)
<i>LNAF</i>	1,044	13.127	14,073	13.806	-0.679***	(-15.35)

TABLE 3: Correlations

This table presents Pearson's pairwise correlation coefficients. **Bold** indicates significance at the 10% level. All variables are as defined in Appendix A.

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. MAT_MISST	1.0000												
2. NT_PCT	0.0287	1.0000											
3. NT_SIZE	0.0295	0.8161	1.0000										
4. LSIZE	-0.0232	-0.2241	-0.1918	1.0000									
5. MERGER	-0.0100	-0.0679	-0.0492	0.2949	1.0000								
6. LEV	0.0452	-0.0246	-0.0496	0.2648	0.0512	1.0000							
7. LBUSSEG	-0.0146	-0.0675	-0.0597	0.3285	0.2042	0.0496	1.0000						
8. FOREIGNOPS	-0.0221	-0.0540	-0.0462	0.1380	0.1143	-0.0939	0.0688	1.0000					
9. SALESGROWTH	-0.0018	0.0469	0.0297	-0.0675	0.0128	0.0240	-0.0718	-0.0184	1.0000				
10. SALEVOL	0.0323	0.0959	0.0618	-0.2435	-0.0317	-0.0657	-0.0659	-0.0439	0.1247	1.0000			
11. CFO	-0.0018	-0.0886	-0.0851	0.4038	0.2076	-0.0130	0.1699	0.0900	-0.0639	-0.0268	1.0000		
12. CFOVOL	0.0457	0.1279	0.0992	-0.3717	-0.1814	-0.0716	-0.2010	-0.0850	0.2504	0.3886	-0.4123	1.0000	
13. LOSS	0.0022	0.0804	0.0664	-0.3999	-0.2122	0.0322	-0.2121	-0.0621	-0.0012	0.0881	-0.5116	0.2657	1.0000
14. ROA	-0.0107	-0.0882	-0.0723	0.4191	0.2098	-0.0481	0.1942	0.1043	-0.0478	-0.0463	0.8130	-0.4248	-0.6582
15. ALTZ	-0.0079	-0.0170	0.0030	0.0593	0.0731	-0.3602	-0.0099	0.0600	0.0538	0.0675	0.4185	-0.0789	-0.2953
16. MTB	0.0023	0.0045	0.0131	-0.0335	-0.0134	-0.0895	-0.0727	-0.0096	0.0982	0.0242	-0.0206	0.1030	-0.0003
17. BIGN	-0.0220	-0.3150	-0.2159	0.5563	0.1794	0.1038	0.1312	0.1064	-0.0336	-0.1836	0.1500	-0.2143	-0.1762
18. SHRT_TENURE	0.0158	0.1613	0.1222	-0.2301	-0.0727	-0.0280	-0.0590	-0.0328	0.0581	0.1404	-0.0816	0.1364	0.1036
19. SPECIALIST	-0.0166	-0.1736	-0.1227	0.3435	0.1112	0.0850	0.1153	0.0030	-0.0245	-0.0907	0.0985	-0.1287	-0.1308
20. OFFICE_SIZE	-0.0157	-0.2115	-0.1148	0.4984	0.1682	0.0633	0.1055	0.1563	-0.0340	-0.1733	0.1207	-0.1819	-0.1235
21. INFLUENCE	-0.0062	-0.0225	-0.0701	-0.0067	-0.0095	0.0527	0.0545	-0.0270	-0.0046	0.0497	0.0106	0.0098	-0.0191
22. GC	-0.0054	0.1030	0.0616	-0.2378	-0.1167	0.0967	-0.1017	-0.0566	-0.0007	0.0518	-0.3633	0.2100	0.2308
23. MATWEAK	0.0371	0.0079	0.0112	-0.0192	0.0126	0.0019	-0.0057	0.0250	-0.0122	0.0247	-0.0125	0.0036	0.0417
24. NO_404	0.0010	0.2170	0.1545	-0.5827	-0.2132	-0.0723	-0.1441	-0.1183	-0.0172	0.1730	-0.2226	0.2140	0.2403
25. MISST	0.4272	-0.0040	0.0008	0.0590	0.0524	0.0603	0.0510	0.0153	0.0016	0.0068	0.0321	-0.0041	-0.0167
26. ABSDACC	0.0096	0.0809	0.0659	-0.2320	-0.0944	0.0058	-0.1142	-0.0208	0.1410	0.1254	-0.2697	0.3009	0.1718
27. LNAF	-0.0268	-0.2443	-0.1923	0.8814	0.3283	0.1832	0.3329	0.2486	-0.0843	-0.1982	0.2961	-0.3295	-0.2936

TABLE 3: Correlations (Cont.)

Variable	<i>14.</i>	<i>15.</i>	<i>16.</i>	<i>17.</i>	<i>18.</i>	<i>29.</i>	<i>20.</i>	<i>21.</i>	<i>22.</i>	<i>23.</i>	<i>24.</i>	<i>25.</i>	<i>26.</i>
<i>14. ROA</i>	1.0000												
<i>15. ALTZ</i>	0.4416	1.0000											
<i>16. MTB</i>	-0.0132	0.1835	1.0000										
<i>17. BIGN</i>	0.1616	0.0344	0.0241	1.0000									
<i>18. SHRT_TENURE</i>	-0.0897	-0.0327	-0.0146	-0.3233	1.0000								
<i>19. SPECIALIST</i>	0.1164	0.0136	-0.0015	0.3796	-0.1400	1.0000							
<i>20. OFFICE_SIZE</i>	0.1335	0.0377	0.0346	0.7314	-0.2435	0.1725	1.0000						
<i>21. INFLUENCE</i>	0.0145	-0.0279	-0.0338	-0.3083	0.0755	0.0615	-0.6235	1.0000					
<i>22. GC</i>	-0.3901	-0.3218	-0.0470	-0.1460	0.0746	-0.0704	-0.1328	0.0469	1.0000				
<i>23. MATWEAK</i>	-0.0169	-0.0130	0.0033	-0.0209	0.0463	-0.0155	-0.0125	0.0303	0.0129	1.0000			
<i>24. NO_404</i>	-0.2376	-0.1742	-0.0781	-0.5321	0.2201	-0.2262	-0.4783	0.1324	0.2382	-0.0688	1.0000		
<i>25. MISST</i>	0.0241	-0.0042	-0.0002	0.0381	-0.0174	0.0088	0.0297	0.0022	-0.0296	0.0554	-0.0555	1.0000	
<i>26. ABSDACC</i>	-0.2640	-0.0741	0.0834	-0.1346	0.0618	-0.1013	-0.0920	0.0037	0.1874	0.0129	0.1376	0.0028	1.0000
<i>27. LNAF</i>	0.3062	0.0115	-0.0117	0.6141	-0.2395	0.3252	0.6126	-0.0353	-0.1795	0.0208	-0.5839	0.0598	-0.1824

TABLE 4: Non-Timely Filings and Audit Quality for Other Timely-Filing Clients

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable in Columns (2) and (3) is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>
<i>NT_PCT</i>	+	1.346** (1.875)	
<i>NT_SIZE</i>	+		1.252*** (2.466)
<i>LSIZE</i>		-0.156* (-1.951)	-0.150* (-1.890)
<i>MERGER</i>		-0.016 (-0.095)	-0.019 (-0.110)
<i>LEV</i>		1.393*** (4.746)	1.401*** (4.779)
<i>LBUSSEG</i>		-0.013 (-0.083)	-0.015 (-0.096)
<i>FOREIGNOPS</i>		-0.170 (-0.716)	-0.169 (-0.710)
<i>SALESGROWTH</i>		-0.243* (-1.885)	-0.235* (-1.837)
<i>SALEVOL</i>		0.159 (0.667)	0.163 (0.685)
<i>CFO</i>		0.794 (1.512)	0.822 (1.566)
<i>CFOVOL</i>		1.540*** (3.056)	1.545*** (3.066)
<i>LOSS</i>		-0.298 (-1.411)	-0.298 (-1.412)
<i>ROA</i>		-0.487 (-0.957)	-0.503 (-0.989)
<i>ALTZ</i>		0.007 (0.400)	0.007 (0.386)
<i>MTB</i>		0.002 (0.125)	0.001 (0.103)
<i>BIGN</i>		-0.126 (-0.367)	-0.136 (-0.395)
<i>SHORT_TENURE</i>		0.033 (0.189)	0.033 (0.190)

TABLE 4: Non-Timely Filings and Audit Quality for Other Timely-Filing Clients (Cont.)

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>
<i>SPECIALIST</i>		-0.157 (-0.740)	-0.166 (-0.783)
<i>OFFICE_SIZE</i>		0.000 (0.003)	-0.006 (-0.045)
<i>INFLUENCE</i>		-0.467 (-0.621)	-0.463 (-0.623)
<i>GC</i>		-0.832** (-2.115)	-0.803** (-2.044)
<i>MATWEAK</i>		1.045*** (3.298)	1.039*** (3.283)
<i>NO_404</i>		-0.485* (-1.711)	-0.484* (-1.701)
Constant		-3.307 (-1.360)	-3.268 (-1.359)
Industry Fixed Effects		Yes	Yes
Year Fixed Effects		Yes	Yes
Observations		14,107	14,107
Pseudo R-Squared		0.0691	0.0696
Area Under the ROC Curve		0.7161	0.7166

TABLE 5: Auditor Effort and Filing Timeliness

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *LNAF*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>LNAF</i>	(3) <i>LNAF</i>	(4) <i>LNAF</i>	(5) <i>LNAF</i>	(6) <i>LNAF</i>
<i>NT_PCT</i>	-	-0.082* (-1.394)		-0.223*** (-4.774)		
<i>NT_SIZE</i>	-		-0.080** (-1.863)		-0.135*** (-3.659)	
<i>NON_TIMELY</i>	+			0.116*** (5.474)	0.100*** (4.878)	0.066*** (3.282)
<i>LSIZE</i>		0.424*** (60.805)	0.423*** (60.769)	0.420*** (63.437)	0.419*** (63.386)	0.419*** (63.313)
<i>MERGER</i>		0.070*** (5.420)	0.070*** (5.427)	0.066*** (5.463)	0.066*** (5.480)	0.066*** (5.482)
<i>LEV</i>		-0.122*** (-3.452)	-0.122*** (-3.462)	-0.116*** (-3.584)	-0.117*** (-3.634)	-0.118*** (-3.647)
<i>LBUSSEG</i>		0.075*** (6.489)	0.075*** (6.495)	0.070*** (6.474)	0.070*** (6.475)	0.070*** (6.484)
<i>FOREIGNOPS</i>		0.185*** (10.850)	0.184*** (10.837)	0.186*** (11.481)	0.186*** (11.451)	0.186*** (11.463)
<i>SALESGROWTH</i>		-0.038*** (-4.746)	-0.038*** (-4.768)	-0.038*** (-4.808)	-0.038*** (-4.829)	-0.038*** (-4.798)
<i>SALEVOL</i>		0.155*** (7.514)	0.155*** (7.508)	0.157*** (8.151)	0.157*** (8.130)	0.157*** (8.105)
<i>CFO</i>		0.028 (0.644)	0.027 (0.627)	0.025 (0.630)	0.024 (0.618)	0.027 (0.672)
<i>CFOVOL</i>		-0.204*** (-4.976)	-0.204*** (-4.972)	-0.202*** (-5.028)	-0.204*** (-5.054)	-0.206*** (-5.094)
<i>LOSS</i>		0.054*** (3.722)	0.054*** (3.716)	0.048*** (3.526)	0.048*** (3.507)	0.047*** (3.466)
<i>ROA</i>		-0.182*** (-5.181)	-0.181*** (-5.168)	-0.184*** (-5.575)	-0.184*** (-5.581)	-0.188*** (-5.684)
<i>ALTZ</i>		-0.016*** (-8.724)	-0.016*** (-8.726)	-0.016*** (-9.414)	-0.016*** (-9.413)	-0.016*** (-9.385)
<i>MTB</i>		0.003*** (2.897)	0.003*** (2.898)	0.003*** (3.044)	0.003*** (3.006)	0.003*** (2.970)
<i>BIGN</i>		-0.116*** (-3.310)	-0.116*** (-3.328)	-0.124*** (-3.888)	-0.128*** (-3.988)	-0.128*** (-4.003)
<i>SHORT_TENURE</i>		-0.017 (-1.184)	-0.017 (-1.179)	-0.018 (-1.357)	-0.018 (-1.364)	-0.019 (-1.453)
<i>SPECIALIST</i>		0.019 (1.056)	0.019 (1.071)	0.016 (0.955)	0.016 (0.947)	0.014 (0.864)

TABLE 5: Auditor Effort and Filing Timeliness (Cont.)

Variable Name	(1) (+/-)	(2) <i>LNAF</i>	(3) <i>LNAF</i>	(4) <i>LNAF</i>	(5) <i>LNAF</i>	(6) <i>LNAF</i>
<i>OFFICE_SIZE</i>		0.261*** (22.371)	0.262*** (22.534)	0.270*** (25.451)	0.274*** (25.941)	0.278*** (26.210)
<i>INFLUENCE</i>		1.294*** (19.750)	1.294*** (19.794)	1.303*** (21.855)	1.310*** (21.967)	1.313*** (22.071)
<i>GC</i>		0.113*** (4.093)	0.112*** (4.068)	0.087*** (3.620)	0.083*** (3.463)	0.081*** (3.368)
<i>MATWEAK</i>		0.180*** (5.762)	0.180*** (5.758)	0.227*** (8.228)	0.231*** (8.313)	0.236*** (8.537)
<i>NO_404</i>		-0.090*** (-4.358)	-0.090*** (-4.349)	-0.094*** (-4.804)	-0.095*** (-4.840)	-0.096*** (-4.904)
Constant		6.297*** (27.935)	6.287*** (28.235)	6.664*** (22.718)	6.606*** (22.560)	6.546*** (22.314)
MSA Fixed Effects		Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects		Yes	Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes	Yes
Observations		14,073	14,073	16,253	16,253	16,253
Adjusted R-squared		0.892	0.892	0.890	0.890	0.890

TABLE 6: The Mitigating Effect of Large Audit Offices

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>	(4) <i>MAT_MISST</i>	(5) <i>MAT_MISST</i>
<i>NT_PCT</i>	?	2.007** (2.281)		10.568* (1.951)	
<i>NT_SIZE</i>	?		1.916*** (2.704)		10.638** (2.458)
<i>NT_PCT_X_CLIENT_COUNT</i>	-	-0.078* (-1.647)			
<i>NT_SIZE_X_CLIENT_COUNT</i>	-		-0.047* (-1.497)		
<i>NT_PCT_X_OFFICE_SIZE</i>	-			-0.638** (-1.706)	
<i>NT_SIZE_X_OFFICE_SIZE</i>	-				-0.613** (-2.180)
<i>CLIENT_COUNT</i>		0.018** (2.358)	0.017** (2.384)		
<i>OFFICE_SIZE</i>		-0.255 (-1.538)	-0.258 (-1.591)	0.047 (0.337)	0.056 (0.394)
Control Variables		Yes	Yes	Yes	Yes
Intercept		Yes	Yes	Yes	Yes
Industry Fixed Effects		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Observations		14,107	14,107	14,107	14,107
Pseudo R-squared		0.0736	0.0744	0.0704	0.0721
Area Under the ROC Curve		0.7237	0.7240	0.7185	0.7193

TABLE 7: Timely-Filing Clients that Share an Industry with Late-Filing Clients

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>
<i>PCT_SAMEIND</i>	+	2.601* (1.350)	
<i>PCT_DIFFIND</i>	+	1.187* (1.437)	
<i>SIZE_SAMEIND</i>	+		2.709*** (2.375)
<i>SIZE_DIFFIND</i>	+		1.008** (1.668)
Control Variables		Yes	Yes
Intercept		Yes	Yes
Industry Fixed Effects		Yes	Yes
Year Fixed Effects		Yes	Yes
Observations		14,107	14,107
Pseudo R-squared		0.0693	0.0702
Area Under the ROC Curve		0.7158	0.7160
Test of equality (Chi-square)			
<i>PCT SAMEIND = DIFFIND</i>		1.414 (0.41)	
<i>SIZE SAMEIND = DIFFIND</i>			1.701 (1.60)

TABLE 8: Resource Allocation Shocks Outside of Busy Season

Panel A: *NT_PCT* logistic regressions by quarter

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i> <i>Q1</i>	(3) <i>MAT_MISST</i> <i>Q2</i>	(4) <i>MAT_MISST</i> <i>Q3</i>	(5) <i>MAT_MISST</i> <i>Q4</i>
<i>NT_PCT_QUARTER</i>	+	-1.258 (-0.395)	3.086** (1.771)	-1.621 (-0.533)	1.288** (1.833)
Control Variables		Yes	Yes	Yes	Yes
Intercept		Yes	Yes	Yes	Yes
Industry Fixed Effects		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Observations		952	1,225	799	14,625
Pseudo R-squared		0.399	0.235	0.308	0.0753
Area Under the ROC Curve		0.9266	0.8626	0.8896	0.7216
Test of equality (Chi-square)					
<i>PCT Q4 = Q1</i>					2.546 (0.61)
<i>PCT Q4 = Q2</i>					-1.798 (0.92)
<i>PCT Q4 = Q3</i>					2.909 (0.87)
<i>PCT Q2 = Q1</i>			4.344 (1.44)		
<i>PCT Q2 = Q3</i>			4.707 (1.81)		
<i>PCT Q1 = Q3</i>		0.363 (0.01)			

Panel B: *NT_SIZE* logistic regressions by quarter

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

	(1)	(2)	(3)	(4)	(5)
Variable Name	(+/-)	<i>MAT_MISST</i> <i>Q1</i>	<i>MAT_MISST</i> <i>Q2</i>	<i>MAT_MISST</i> <i>Q3</i>	<i>MAT_MISST</i> <i>Q4</i>
<i>NT_SIZE_QUARTER</i>	+	0.126 (0.052)	2.179* (1.628)	-1.040 (-0.497)	1.193*** (2.353)
Control Variables		Yes	Yes	Yes	Yes
Intercept		Yes	Yes	Yes	Yes
Industry Fixed Effects		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Observations		952	1,225	799	14,625
Pseudo R-squared		0.398	0.230	0.308	0.0757
Area Under the ROC Curve		0.9267	0.8584	0.8890	0.7220
Test of equality (Chi-square)					
<i>SIZE Q4 = Q1</i>					1.067 (0.18)
<i>SIZE Q4 = Q2</i>					-0.986 (0.48)
<i>SIZE Q4 = Q3</i>					2.233 (1.08)
<i>SIZE Q2 = Q1</i>			2.053 (0.55)		
<i>SIZE Q2 = Q3</i>			3.219 (1.69)		
<i>SIZE Q1 = Q3</i>		1.166 (0.13)			

TABLE 9: Resource Allocation Shocks Stemming from Missed *Expected* Filing Deadlines
 Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>
<i>NT_PCT_UNEXPECTED</i>	+	1.239* (1.595)	
<i>NT_SIZE_UNEXPECTED</i>	+		1.426** (2.308)
Control Variables		Yes	Yes
Intercept		Yes	Yes
Industry Fixed Effects		Yes	Yes
Year Fixed Effects		Yes	Yes
Observations		5,734	5,734
Pseudo R-squared		0.117	0.120
Area Under the ROC Curve		0.7820	0.7856

TABLE 10: Alternative Measures for Audit Quality

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable in Columns (2) and (3) is *ABSDACC* and in Columns (4) and (5) is *MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>ABSDACC</i>	(3) <i>ABSDACC</i>	(4) <i>MISST</i>	(5) <i>MISST</i>
<i>NT_PCT</i>	+	0.026* (1.684)		0.960** (2.165)	
<i>NT_SIZE</i>	+		0.020* (1.840)		0.906*** (2.919)
<i>LSIZE</i>		-0.004*** (-4.757)	-0.004*** (-4.675)	0.002 (0.056)	0.005 (0.124)
<i>MERGER</i>		0.005** (2.137)	0.005** (2.128)	0.210** (2.525)	0.209** (2.507)
<i>LEV</i>		0.033*** (4.302)	0.034*** (4.319)	0.777*** (4.117)	0.783*** (4.146)
<i>LBUSSEG</i>		0.002 (1.569)	0.002 (1.566)	0.198*** (2.831)	0.198*** (2.828)
<i>FOREIGNOPS</i>		0.000 (0.160)	0.000 (0.181)	0.035 (0.348)	0.037 (0.373)
<i>SALESGROWTH</i>		0.013*** (3.535)	0.013*** (3.549)	-0.010 (-0.135)	-0.006 (-0.087)
<i>SALEVOL</i>		0.032*** (5.366)	0.032*** (5.388)	0.101 (0.707)	0.104 (0.727)
<i>CFO</i>		0.001 (0.096)	0.002 (0.105)	0.507* (1.668)	0.522* (1.712)
<i>CFOVOL</i>		0.091*** (5.118)	0.091*** (5.113)	0.940*** (3.192)	0.942*** (3.204)
<i>LOSS</i>		-0.007** (-2.311)	-0.007** (-2.307)	0.074 (0.697)	0.073 (0.696)
<i>ROA</i>		-0.038*** (-2.602)	-0.038*** (-2.612)	-0.215 (-0.747)	-0.224 (-0.782)
<i>ALTZ</i>		0.001 (1.466)	0.001 (1.471)	-0.002 (-0.147)	-0.002 (-0.151)
<i>MTB</i>		0.000 (1.366)	0.000 (1.374)	0.002 (0.226)	0.001 (0.220)
<i>BIGN</i>		-0.005 (-1.297)	-0.006 (-1.389)	0.138 (0.795)	0.131 (0.763)
<i>SHORT_TENURE</i>		0.001 (0.438)	0.001 (0.450)	-0.029 (-0.275)	-0.031 (-0.292)

TABLE 10: Alternative Audit Quality Measures (Cont.)

Variable Name	(1) (+/-)	(2) <i>ABSDACC</i>	(3) <i>ABSDACC</i>	(4) <i>MISST</i>	(5) <i>MISST</i>
<i>SPECIALIST</i>		-0.003 (-1.069)	-0.003 (-1.138)	-0.100 (-1.067)	-0.106 (-1.130)
<i>OFFICE_SIZE</i>		-0.002* (-1.924)	-0.003** (-2.017)	0.016 (0.294)	0.012 (0.231)
<i>INFLUENCE</i>		-0.004 (-0.546)	-0.005 (-0.614)	0.226 (0.666)	0.230 (0.684)
<i>GC</i>		0.066*** (6.616)	0.066*** (6.643)	-0.524** (-2.383)	-0.509** (-2.310)
<i>MATWEAK</i>		0.006 (0.849)	0.006 (0.849)	0.943*** (5.580)	0.942*** (5.573)
<i>NO_404</i>		0.007 (1.537)	0.007 (1.559)	-0.464*** (-2.904)	-0.464*** (-2.908)
Constant		0.089*** (4.138)	0.091*** (4.231)	-3.089*** (-2.784)	-3.010*** (-2.790)
Industry Fixed Effects		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Observations		14,465	14,465	14,107	14,107
Adjusted/Pseudo R-squared		0.311	0.311	0.0440	0.0443
Area Under the ROC Curve		-	-	0.6585	0.6586

TABLE 11: Dropping Offices with no Late Filers

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>
<i>NT_PCT</i>	+	1.747* (1.427)	
<i>NT_SIZE</i>	+		1.385*** (2.587)
Control Variables		Yes	Yes
Intercept		Yes	Yes
Industry Fixed Effects		Yes	Yes
Year Fixed Effects		Yes	Yes
Observations		6,003	6,003
Pseudo R-squared		0.0867	0.0882
Area Under the ROC Curve		0.7303	0.7326

TABLE 12: Removing Influential Observations

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>dbeta</i>	(3) <i>dbeta</i>	(4) <i>Leverage</i>	(5) <i>Leverage</i>
<i>NT_PCT</i>	+	1.224** (1.825)		1.332** (2.129)	
<i>NT_SIZE</i>	+		1.199** (2.278)		1.239*** (2.511)
Control Variables		Yes	Yes	Yes	Yes
Intercept		Yes	Yes	Yes	Yes
Industry Fixed Effects		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Observations		12,253	12,253	14,102	14,102
Pseudo R-squared		0.0689	0.0696	0.0682	0.0688
Area Under the ROC Curve		0.7176	0.7187	0.7155	0.7161

TABLE 13: Including Late-Filers that do not File Form 12b-25

Column (1) indicates the predicted sign of the coefficients of interest. The dependent variable is *MAT_MISST*. ***, **, and * indicate one (two) tailed significance when a prediction is (is not) made at the 0.01, 0.05, and 0.10 levels, respectively. All variables are as defined in Appendix A.

Variable Name	(1) (+/-)	(2) <i>MAT_MISST</i>	(3) <i>MAT_MISST</i>
<i>NT_PCT_ABSOLUTE</i>	+	1.189** (1.655)	
<i>NT_SIZE_ABSOLUTE</i>	+		1.238*** (2.445)
Control Variables		Yes	Yes
Intercept		Yes	Yes
Industry Fixed Effects		Yes	Yes
Year Fixed Effects		Yes	Yes
Observations		14,044	14,044
Pseudo R-Squared		0.0684	0.0693
Area Under the ROC Curve		0.7151	0.7163

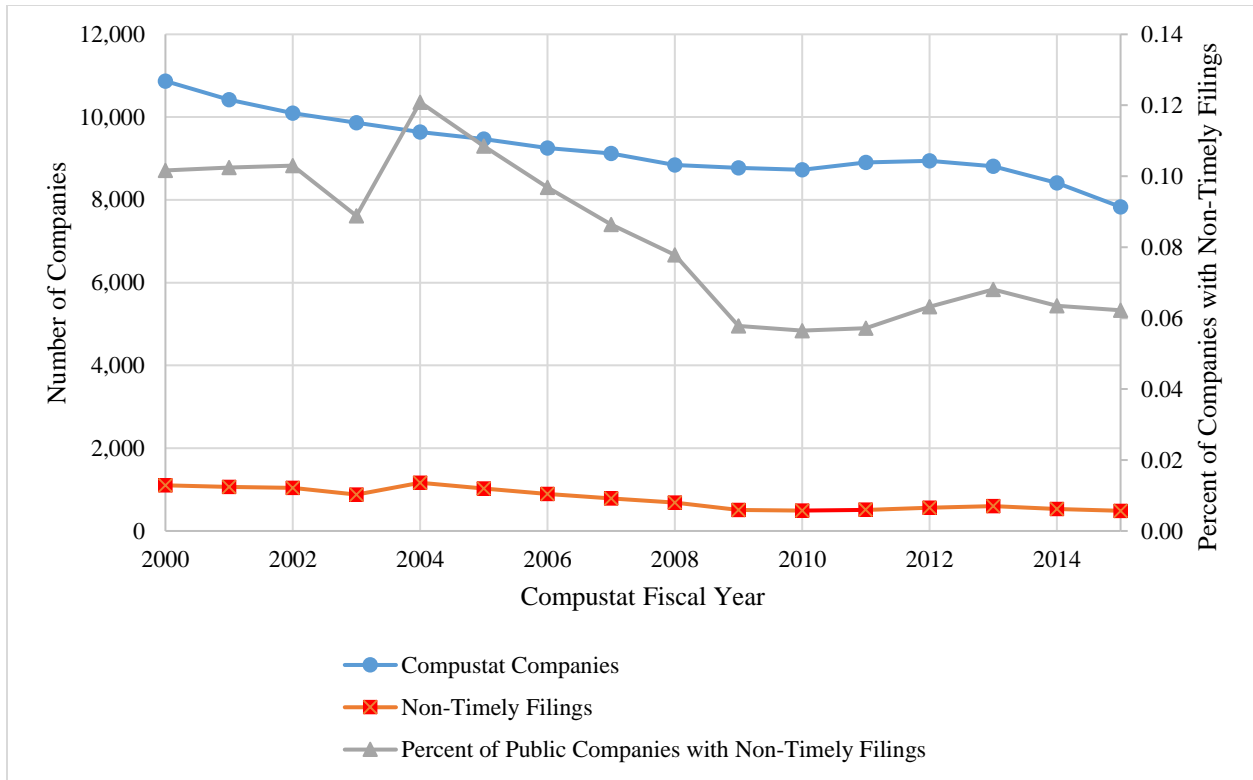


Figure 1: Non-Timely Filing Trend

The line with the circle nodes presents the number of Compustat companies with gvkeys by year. The line with the square nodes presents the number of non-timely filings (i.e., Form 12b-25) by year. The line with the triangle nodes presents the percentage of non-timely filings of Compustat companies with gvkeys by year.

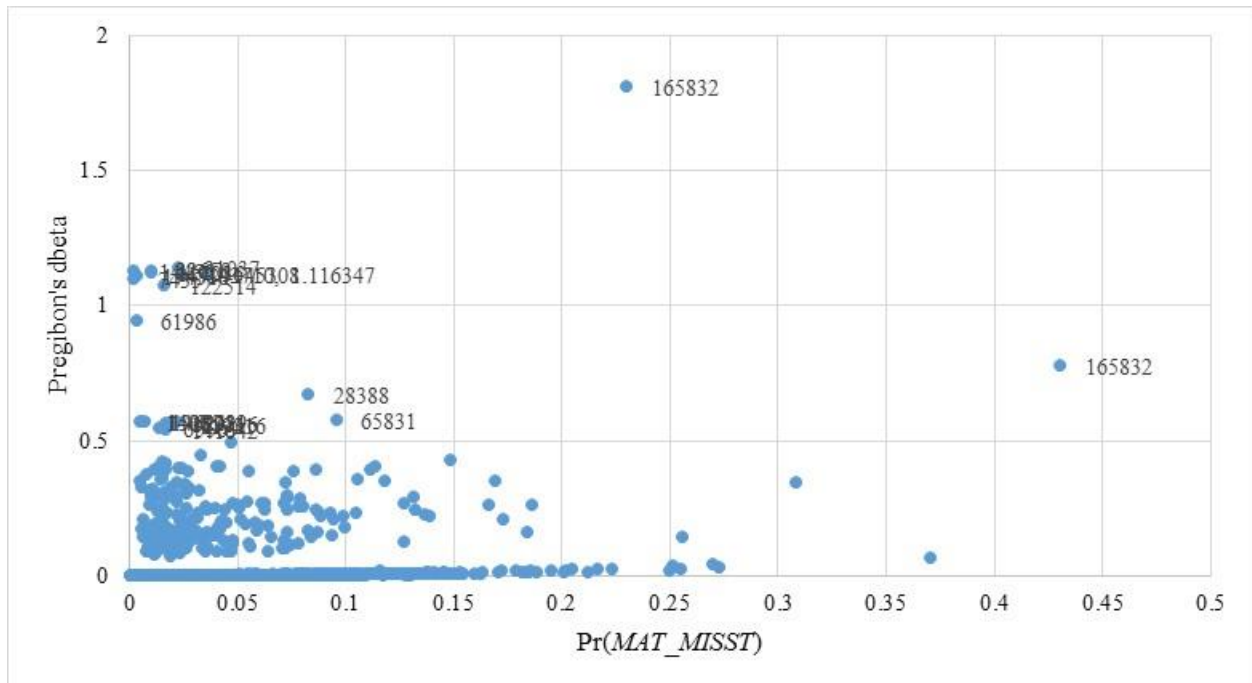


FIGURE 2: Pregibon’s dbeta Scatter Plot for NT_PCT
The vertical axis presents Pregibon’s dbeta diagnostic values while the horizontal axis presents the probability of a material misstatement generated from Equation (1) using NT_PCT for the variable of interest. The numbers next to points present the gvkey for identified influential observations.

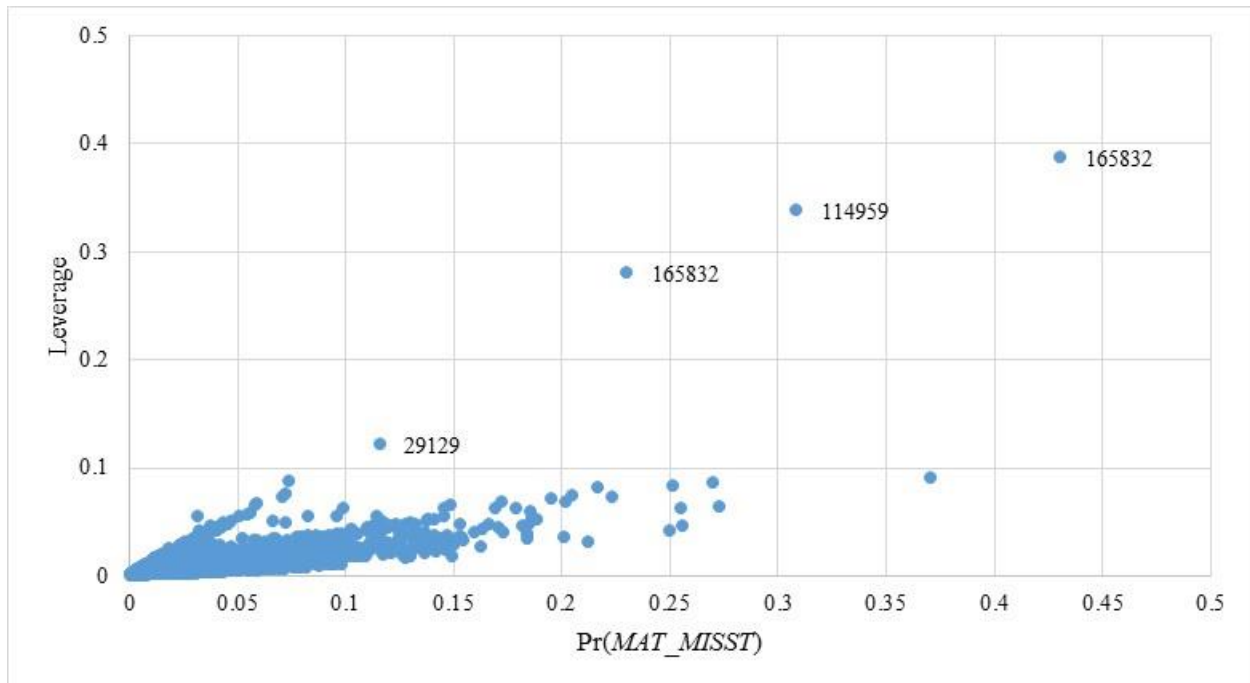


FIGURE 4: Leverage Scatter Plot for *NT_PCT*

*The vertical axis presents leverage diagnostic values while the horizontal axis presents the probability of a material misstatement generated from Equation (1) using *NT_SIZE* for the variable of interest. The numbers next to points present the key for identified influential observations.*

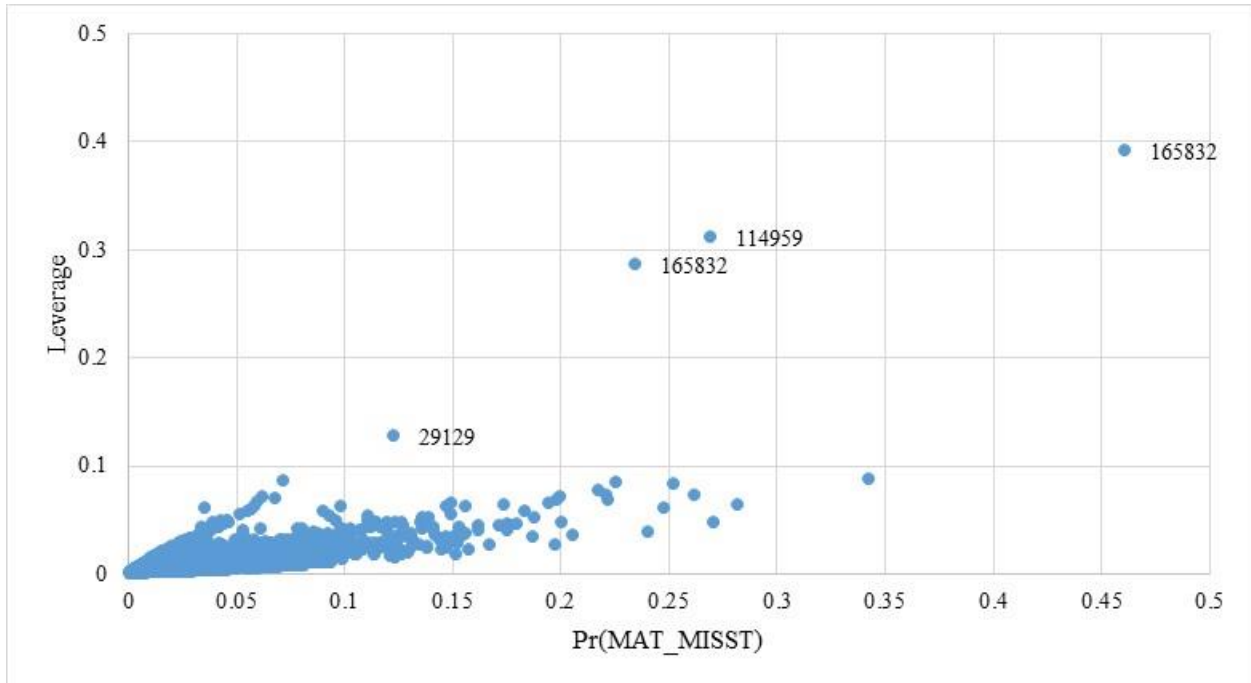


FIGURE 5: Leverage Scatter Plot for *NT_SIZE*

*The vertical axis presents leverage diagnostic values while the horizontal axis presents the probability of a material misstatement generated from Equation (1) using *NT_SIZE* for the variable of interest. The numbers next to points present the key for identified influential observations.*