INFORMATION INTERMEDIARIES – AUDITORS AND FINANCIAL ANALYSTS: CASES OF DECREASED EFFECTIVENESS

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ABSTRACT OF THE DISSERTATION

Information Intermediaries – Auditors and Financial Analysts: Cases of Decreased Effectiveness

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Auditors and financial analysts serve to reduce information asymmetries in capital markets. The role of the independent auditor is to obtain reasonable assurance on whether a client's financial statements are free of material misstatement and to express an appropriate opinion (PCAOB, AS1001). The role of the sell-side analyst is to obtain and analyze financial information and provide this information to investors in the form of research reports. This dissertation consists of three essays that examine settings where these parties may fall short in their roles as information intermediaries.

The first essay investigates whether time pressure on the audit increases the cost and/or reduces the quality of professional audit services. I examine this question in the context of the accelerated filing regulation passed by the Securities and Exchange Commission in 2002. I identify client engagements that may experience audit time pressure given their audit report dates in the years prior to regulatory implementation. I analyze audit fees as an input cost to measure changes in audit effort and/or perceived audit risk. I then investigate the relationship between audit fees and restatements, an output measure of audit quality. I find time-pressure engagements are associated with significantly *lower* audit fee increases during implementation years when compared to other engagements.

Initially, lower fee changes are associated with higher audit quality; however, this benefit is lost during further deadline reductions. Findings suggest changes in audit effort to meet the shortened deadlines with mixed implications for quality. This study may be of interest to both academics and regulators concerned with potential unintended consequences of audit time pressure.

The second essay investigates a possible unintended consequence of audit workload and time pressures, the shifting of auditor effort. I investigate this in the context of the accelerated filing regulation and Section 404(b) of the Sarbanes Oxley Act, implemented during the years 2003-2004. These regulations shortened the filing deadlines and increased audit production requirements for accelerated filers, imposing time and resource pressures on auditors. Given non-accelerated filers were not subject to these regulations, auditors may reallocate effort (resources) away from this group and toward their accelerated filer clients. Results show a significant increase in the audit report lags of non-accelerated filers during this period. The increase is more pronounced for clients whose audit firms and offices have a greater proportion of accelerated filers in their portfolio (high-pressure auditors), clients with greater reporting slack (resource availability), and clients of audit offices with neighbor offices in proximity (resource transferability). Overall, high-pressure auditors at the firm level maintain higher audit quality on non-accelerated engagements; however, high-pressure auditors at the office level are associated with greater absolute changes in discretionary accruals. Furthermore, resource availability and resource transferability play a role in reducing negative quality effects. Findings are suggestive of audit resource reallocations with a downside of reduced audit timeliness and quality.

The third essay investigates the overlooked subset of analyst recommendation revisions for which investors react in the opposite direction. In a sample from 2000-2016, I find approximately 32% of all recommendation downgrades (upgrades) are associated with a positive (negative) market reaction for which I use the term "conflicting reaction." I investigate the determinants of a conflicting reaction and whether revisions with conflicting reactions are related to future earnings surprises. Results indicate that low firm-relevant news media attention or opposing news media sentiment are positively associated with a conflicting reaction. Investor inattention, changes in investor sentiment, information redundancy, information leakage, and weak analyst signals are also positively associated with a conflicting reaction. Further, revisions for stocks with larger analyst following, higher volatility, and greater analyst disagreement are positively associated with a conflicting reaction. Finally, revisions made by less experienced/reputable analysts and smaller brokerages are positively associated with a conflicting reaction. Looking at future earnings surprise, results suggest that analyst recommendations are equally helpful in identifying earnings surprises in the conflicting and non-conflicting subsamples. Trading portfolios that take advantage of the contradictory reaction earn approximately 7% to 14% per annum, providing evidence of price reversals. Findings suggest that revisions with conflicting reactions have important information that is initially overlooked by investors.

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ESSAY 1: The Effects of Time Pressure on Audit Effort and Audit Risk: An Analysis of Audit Fees Surrounding the Accelerated Filing Regulation

1. INTRODUCTION

This study investigates whether the imposition of time constraints on the independent audit causes time pressure that increases the cost and/or reduces the quality of professional audit services. In September 2002, The Securities and Exchange Commission (SEC) finalized its decision to accelerate the quarterly 10-Q and annual 10-K filing deadlines of large public companies. In doing so, the SEC wished to improve the timeliness of financial reporting so that information provided is more relevant and useful to investors (SEC 2002). The SEC stressed the importance of achieving this goal, "…without sacrificing accuracy or completeness or imposing undue burden and expense on registrants (SEC 2002)." This decision resulted in a lot of push-back from both companies and auditors. The SEC received 302 comment letters on the initial proposal with the large majority (282 commenters) in opposition.[1] Many anticipated significant effort adjustments needed by companies and their auditors and thus increased internal costs and audit fees charged to comply with the earlier deadlines. Furthermore, commenters expressed concerns that accelerating the deadlines would diminish the quality of financial reporting by putting time pressure on both the year-end close and audit review process. Finally, given the increased financial reporting and auditing requirements resulting from the Sarbanes-Oxley Act (SOX), also passed in 2002, many worried the concurrent implementation of

[1] Twenty of the commenters were investors and financial analysts in support of the proposal. The remaining 282 commenters were companies, business associations, law firms, and accounting firms in opposition (SEC 2002).

accelerated filing would prove detrimental to achieving its end goals. For example, in its May 22, 2002 comment letter KPMG LLP stated the following:

> We agree that timeliness of information is a critical component of an effective capital market. However, we believe that the investing public would be better served, at this critical juncture, if company management, boards of directors, audit committees, auditors, attorneys and other advisors could continue to focus their efforts on improving the quality of financial reporting without the added complication of meeting accelerated filing deadlines for quarterly and annual reports.
>
> Based on a limited survey of current filing practices, we would expect some of the larger companies may be able to meet the proposed accelerated filing deadlines. However, many companies would need to incur substantial effort and costs to comply with the deadlines in the Proposed Rule. Similarly, audit effort and costs would increase commensurate with compressed audit efforts (adjusted audit timing, methodology and approaches) as each company situation warrants. (SEC 2002)

Prior studies investigating the impact of accelerated filing deadlines focus on the timeliness (Farag 2017; Impink, Lubberink, Praag, and Veenman 2012; Krishnan and Yang 2009; Kutcher, Peng, and Zvinakis 2007), information usefulness (Doyle and Magilke 2013) and quality of financial reporting (Boland, Bronson, and Hogan 2015; Bryant-Kutcher, Peng, and Weber 2013; Doyle and Magilke 2013; Lambert, Jones, Brazel, and Showalter 2017). These studies rely on output-based measures of relevance and reliability (e.g. audit report lags, late filings, market returns, accruals, restatements). This study extends the literature by analyzing the impact of accelerated filing deadlines on audit fees, an input-based measure used to proxy for audit effort and/or perceived audit risk. Analyzing audit fees surrounding the regulation provides insight on how auditors (at the *engagement* level) adjust to time pressure imposed on the year-end audit. Fee adjustments may signal changes to the engagement model, and furthermore, may have important implications for audit quality.

This study also contributes to the more general audit time pressure literature. Most studies examine the impact of time pressure on *individual* auditor behavior (Asare, Wright, and Trompeter 2000; Bennett, Hatfield, and Stefaniak 2015; Braun 2000; Coram, Ng, and Woodliff 2004; Gramling 1999; Houston 1999; Kelley and Margheim 1990; Kelley, Margheim, and Pattison 1999, 2005; Kin-Yew and Hun-Tong 2011; Margheim and Pany 1986). Recent studies provide limited evidence on strategies implemented at the audit *engagement* level (Dong, Nash, and Xu 2018; Lambert et al. 2017). This study extends the literature by using archival methodologies to investigate engagement-level strategies and responses to audit time pressure.

To execute this study, I rely on a traditional audit fee model (Hay, Knechel, and Wong 2006; Simunic 1980) and a difference-in-differences design, to investigate the effect of the accelerated filing regulation on audit fees of client engagements with time pressure to accelerate their audit report date. I focus on the following three events surrounding the regulation: (I) the initial reduction in annual filing deadlines to 75 days (for all accelerated filers), (II) the first year of SOX 404 implementation (for all accelerated filers), and (III) the final reduction in annual filing deadlines to 60 days (for large accelerated filers). Results provide evidence that client engagements under time pressure to reduce their audit report lag are associated with significantly *lower* audit fee increases in the years of regulatory implementation when compared to other engagements.

Given these findings, I then investigate the association between abnormal audit fees of time-pressure engagements and audit quality. Abnormal audit fees reflect the difference between actual and expected fees and are measured as the residuals from the audit fee model (Asthana and Boone 2012; Blankley, Hurtt, and MacGregor 2012; Choi, Kim, and

Zang 2010; Doogar, Sivadasan, and Solomon 2015; Eshleman and Guo 2014; Simunic 1980; Yuping, Bedard, and Hoitash 2017). Using restatements as an output measure of audit quality, I find lower abnormal audit fees (of time-pressure engagements) are associated with higher audit quality during implementation of the 75-day deadline; however, this benefit is lost during implementation of the 60-day deadline.

Overall, results suggest changes in audit effort to meet the shortened deadlines. Although these changes reflect an initial positive impact on audit quality, they appear to fall short in supporting the additional 15-day deadline reduction. In subsequent analyses, I find limited evidence of internal audit playing a role in the documented lower fees of time-pressure engagements. Results may be of interest to both academics and regulators concerned with potential unintended consequences of audit time pressure. Furthermore, findings may provide insight into the effects of engagement model changes on audit quality.

2. THEORETICAL MODELS

Simunic (1980) develops a theoretical model in which audit fees in a competitive market are equal to the expected total cost of the audit $E(\tilde{C})$, or the sum of audit production costs cq plus a premium for expected losses due to litigation $E(\tilde{d}|a,q)E(\tilde{\theta})$:

$$\text{Audit Fee} = E(\tilde{C}) = cq + E(\tilde{d}|a,q)E(\tilde{\theta}) \quad (1)$$

where c is the unit cost of audit resources, q is the quantity of audit resources utilized, $\tilde{d}$ is the present value of possible future losses which may arise from this period's audited financial statements, a is the quantity of client resources utilized in operating the internal

accounting system, and θ is the ex-post fraction of losses born by the auditor where $0 \leq \theta \leq 1$. This model can be related to the Audit Risk Model used in practice (Figure 1).

[INSERT FIGURE 1 HERE]

Auditors rely on the Audit Risk Model to reduce audit risk (AR) to an acceptable level.[2] The Audit Risk Model is comprised of the risk of material misstatement (RMM) and detection risk (DR). RMM represents the risk of a material misstatement *prior to any audit work* being done, whereas DR is the risk that an auditor will *fail to detect* a misstatement. During the planning stages of the audit, auditors assess the levels of inherent risk and control risk (components of RMM) to determine the nature, timing and extent of substantive audit procedures. Such audit procedures are intended to reduce DR and maintain AR at an acceptable level.[3] Clients with higher levels of inherent risk or control risk may require more substantive procedures (i.e. audit effort) to keep AR low (PCAOB 2010).

Linking Simunic's (1980) fee model to the Audit Risk Model, the unconditional expected losses from litigation $E(\tilde{d})$ represents the client's level of inherent risk. The auditee's choice of a (i.e. investment in internal control system) will determine the client's level of control risk. The auditor's choice of q (i.e. effort) will determine the level of detection risk. $E(\tilde{d}|a,q)E(\tilde{\theta})$ represents expected litigation losses resulting from the audit, or a client's inherent risk, conditional on the levels of control risk and detection risk.

[2]Audit risk is the risk that the auditor will unknowingly fail to modify an opinion on financial statements which are materially misstated (PCAOB 2010).

[3] Inherent risk may consist of firm specific or environmental risks that increase the likelihood of a material misstatement. Control risk is the risk that a material misstatement, if it were to occur, would not be prevented or detected on a timely basis by a firm's internal controls (PCAOB 2010).

Finally, cq reflects the costs of audit effort. Therefore, the audit fee can be interpreted as the costs of audit effort cq plus a premium for audit risk $E(\tilde{d}|a,q)E(\tilde{\theta})$. Relying on this definition, I empirically test the impact of accelerated filing deadlines on audit fees to gain insight into the effects of time pressure on audit effort and/or perceived audit risk.

3. REGULATORY BACKGROUND

In recent years, the regulatory environment over financial reporting has emphasized both relevance and reliability. Specifically, two notable changes impacting large public companies were Section 404 of the Sarbanes-Oxley Act (SOX), enacted by Congress in July 2002, and the Amendment to the Exchange Act Rule 12b-2, passed by the SEC shortly thereafter in September 2002. Addressing the issue of reliability, Sections 404 (a) & (b) of SOX require that managers of publicly traded companies assess the effectiveness of internal controls over financial reporting and that independent auditors attest to management's assessment. Section 404(c) provides an exemption under Section 404(b) for non-accelerated filers, or companies with public float of less than $75 million (SEC 2010).[4] During this period, the Public Company Accounting Oversight Board (PCAOB) issued several standards that laid out the framework for auditors to follow when testing internal controls (PCAOB 2004, 2007).[5] Overall, SOX and the PCAOB standards vastly expanded the responsibilities and workload of the auditor for year-end audits of large companies. To

[4]Section 989G of the Dodd-Frank Act (2010) approves Section 404(c) exemption for non-accelerated filers. Management, however, is still required to report on internal controls as required under Section 404 (a) (SEC 2010).

[5] In 2004, the Public Company Accounting Oversight Board (PCAOB) issued Auditing Standard No. 2 (AS2) which laid out the framework to be followed by auditors when performing an audit of internal controls (PCAOB 2004). In 2007, AS2 was superseded by AS5 in response to concerns over the extensive financial costs of implementation. The goal of AS5 was to narrow the focus of the controls testing process as well as reduce the burden on the auditor by allowing reliance on the "work of others" (PCAOB 2007).

address the issue of relevance, the amendment to the Exchange Act Rule 12b-2 reduced the filing deadlines of quarterly and annual reports for all accelerated filers, or companies with public float $75 million or greater (SEC 2002, 2004). In 2005, the amendment was further updated by expanding the filer status into three categories, large accelerated, accelerated and non-accelerated filers and reducing year-end filing deadlines to 60, 75 and 90 days, respectively (SEC 2005).[6] This amendment imposed a strict time constraint on both clients and their auditors to close the books, complete the audit and report the financials. Figure 2 shows a timeline of the two regulations.

[INSERT FIGURE 2 HERE]

4. PRIOR RESEARCH AND HYPOTHESES

4.1 SOX & Audit Fees

A large stream of literature investigates the impact of SOX regulation on audit fees (Coster, Dahl, and Jenson 2014; Dechun and Jian 2012; DeFond and Lennox 2011; Desir, Casterella, and Kokina 2014; Dickins, Higgs, and Skantz 2008; Doogar, Sivadasan, and Solomon 2010; Ettredge, Chan, and Scholz 2007; Charles, Glover, and Sharp 2010; Ghosh and Pawlewicz 2009; Hoitash, Hoitash, and Bedard 2008; Iliev 2010, Jiang and Wu 2009; Krishnan, Krishnan, and Song 2011; Raghunandan and Rama 2006; Sneller and Langendijk 2007). Results from these studies show an overall increase in audit fees during the period of adoption and implementation (2002-2007), with increases being most significant for smaller accelerated filers and clients with material weakness disclosures.

[6] Large accelerated filers are defined as firms with market value of outstanding voting and non-voting common equity held by non-affiliates of $700 million or greater. Accelerated filers are defined as firms with market value of outstanding voting and non-voting common equity held by non-affiliates between $75 million and $700 million. Non-accelerated filers are defined as firms with market value of outstanding voting and non-voting common equity held by non-affiliates of less than $75 million (SEC 2005).

Fee increases are attributed to increased audit effort and expected legal liability due to increased auditor responsibility under SOX.

Given the significant fee increases, researchers are interested if net benefits are obtained from the regulation. Iliev (2010) investigates the impact of SOX Section 404 compliance on earnings quality. Findings show that although experiencing significant fee increases, companies issuing auditor attestation reports had lower accruals in the first year of reporting. Additionally, both Iliev (2010) and Chen et al. (2013) find increased earnings informativeness for these companies, looking at returns.

4.2 Accelerated Filing Literature

Despite expressed concerns over increased audit effort/costs, I find no prior literature that investigates the impact of the accelerated filing regulation on audit fees. Prior studies investigating the impact of this regulation focus on the timeliness (Farag 2017; Impink et al. 2012; Krishnan and Yang 2009; Kutcher et al. 2007), information usefulness (Doyle and Magilke 2013) and quality of financial reporting (Boland et al. 2015; Bryant-Kutcher et al. 2013; Doyle and Magilke 2013; Lambert et al. 2017).

For timeliness, Krishnan & Yang (2009) find that in the period prior to implementation (2001-2002), most companies were filing their 10-Ks more than 75 days from year-end. During the period of implementation (2003-2006), they report a decrease in the mean file lags falling in line with the new 75 and 60-day deadlines for accelerated and large accelerated filers, respectively. Thus overall, results indicate the goal of timeliness was achieved for most companies. However, looking at the audit report lag, despite remaining within accelerated deadlines, the mean lag increased significantly from

43 days in 2001 to 65 days in 2006. This increase may reflect additional time needed due to increased auditor responsibilities under SOX 404 during this period.

Although on average, companies appear to be meeting the new filing deadlines, researchers are interested in whether the regulation resulted in a change in the incidence of late filing. Depending on the research design, studies have found conflicting results. Looking at the two categories of companies subject to acceleration (accelerated filers and large accelerated filers), Impink et al. (2012) finds no increase in the incidence of late-filing for either group in the first year of implementation of the accelerated deadlines. In contrast, Lambert et al. (2017) finds an increased probability of late filing for accelerated filers whose 10-K file dates did not meet the new deadline in the year prior to implementation.

For information usefulness, Doyle & Magilke (2013) find a significant decrease in the market reaction to the 10-K filings of small accelerated filers upon accelerating their year-end reporting from 90 to 75 days. When large accelerated filers are required to further reduce their reporting to 60 days, the study finds a significant increase in the market reaction. Findings suggest that investors perceive a negative (positive) impact to information usefulness of small (large) accelerated filers.

For financial reporting and/or audit quality, overall, findings indicate that accelerated filing deadlines resulted in decreased quality for affected companies. In analyzing the impact on quality several different proxies are used. Studies looking at the impact of acceleration on restatements find an overall increased likelihood of restatement for accelerated filers but only in the first acceleration to 75 days (Boland et al. 2015; Bryant-Kutcher et al. 2013; Doyle and Magilke 2013). Studies looking at the impact of

acceleration on accruals report conflicting results depending on the research design. During the period 2001-2006, Krishnan & Yang (2009) report no significant association between long audit report lags (or 10-K file lags) and quality, for companies reporting within 1 day of the accelerated deadline or after. In contrast, Lambert et al. (2017) finds a significant decrease in accruals quality for companies whose prior year audit report lag did not meet the accelerated deadline. The effect was more pronounced for small accelerated filers and during the first acceleration to 75 days. Doyle & Magilke (2013) report similar results and find a significant decrease in accruals quality for small accelerated filers, but no significant change for large accelerated filers in the first acceleration to 75 days. The study further finds a significant increase in accruals quality for large accelerated filers in the second acceleration to 60 days.

This study extends the accelerated filing literature by investigating the impact of the regulation on audit fees. Here, audit fees are used to proxy for audit effort and/or perceived audit risk. By analyzing fee changes surrounding the regulation, I wish to gain insight on how auditors adjust to time pressure (at the *engagement* level) and the implications of these adjustments on audit quality.

4.3 Time Pressure Literature

Time pressure studies typically analyze *individual* auditor behavior and use experimental or survey methodologies. For example, Bennett et al. (2015) investigates the impact of impending reporting deadlines on auditor-client financial reporting negotiations and finds auditors concede more to management. Several studies investigate the impact of time-deadline pressure or time-budget pressure on individual auditor task-time allocations. These studies find time pressure results in fewer budgeted hours (Houston 1999), decreased

extent and depth of testing (Asare et al. 2000; Kelley and Margheim 1990; Coram et al. 2004), reduced focus on qualitative aspects (Braun 2000), accepting doubtful evidence (Coram et al. 2004; Kelley and Margheim 1990), and increased reliance on internal audit's work (Gramling 1999). Additionally, studies find evidence that time pressure results in premature signoffs and underreporting of time (Kelley and Margheim 1990; Kelley et al. 1999; Margheim and Pany 1986).

A few archival studies investigate the *engagement*-level effects of audit time pressure using client deadline concentration (of an auditor's portfolio) as a proxy for "workload compression" (Czerny, Jang, and Omer 2017; López and Peters 2012). These studies provide an alternative setting to measure audit time pressure and document reduced audit timeliness and/or quality on engagements of "compressed" auditors; however, like the accelerated filing literature, their focus is on audit outputs. I find only a handful of studies that investigate audit inputs at the *engagement* level (Dong et al. 2018; Lambert et al. 2017). Lambert et al. (2017) surveys 32 retired audit partners and documents increased hours, interim testing, and rescheduling non-public audits as the primary methods used in response to deadline reductions of the accelerated filing regulation. Furthermore, using archival methodologies, Dong et al. (2018) finds evidence of intra-office resource reallocations in response to increased time pressure with negative implications for audit timeliness and quality. This study extends the general time pressure literature by using archival methodologies to investigate *engagement*-level strategies and responses to audit time pressure.

4.4 Hypothesis Development

In this study, I examine the following research questions:

RQ1: Is audit engagement time pressure associated with increased audit fees?

RQ2: What is the association between audit fee changes (due to time pressure) and audit quality?

To answer these questions, I identify client engagements that may experience audit time pressure given their audit report lags in the year prior to each mandatory reduction in filing deadlines. Audit report lag refers to the number of days from the fiscal year-end date to the date the audit report is signed. 10-K file lag refers to the number of days from the fiscal year-end date to the date the 10-K is filed with the SEC. Figure 3 shows a timeline that identifies each of these variables. In this study, my focus is the audit report lag, because the audit report date is the date by which the financial statements are finalized and the audit opinion is issued.

[INSERT FIGURE 3 HERE]

For the first acceleration to 75 days, the time-pressure group consists of all accelerated filers whose audit report lag was greater than 75 days in the year prior to mandatory reduction (beginning fiscal year-end December 15, 2003). For the second acceleration to 60 days, the time-pressure group consists of large accelerated filers whose audit report lag was greater than 60 days two years prior to mandatory reduction (beginning fiscal year-end December 15, 2006).[7] The control groups are all accelerated filers (large accelerated

[7] I use two years prior, given there is evidence of early adoption of the 60-day deadline in the year immediately prior to mandatory reduction.

filers) whose audit report lags in the year (two years) prior to mandatory reduction were less than or equal to 75 (60) days for the first (second) acceleration.

4.4.1 Research Question 1

I analyze the differential impact of regulatory induced time pressure on audit fees of time-pressure engagements vs. the control groups during the first two years of Phase 1 of the acceleration (decreasing the annual filing requirements from 90 to 75 days for all accelerated filers) and the first year of Phase 2 of the acceleration (further decreasing the annual filing requirement to 60 days for large accelerated filers). Note the second year of implementation of the 75-day deadline is also the first year of SOX 404 implementation (beginning fiscal year-end November 15, 2004). I include this year to investigate any incremental impact the additional SOX 404 requirements may have on time-pressure engagements.

Looking at time-pressure engagements, both the prior year's audit report and 10-K file lags did not meet the accelerated deadline. First, looking at the audit function, acceleration of the audit process is required to meet the tighter deadline. The audit process may be accelerated by reallocating extra staff, changing the timing of procedures (e.g. shifting more testing to interim) or making changes to the audit methodology as described in the KPMG comment letter (SEC 2002). Such changes are reflective of increased audit effort and therefore we should expect increased audit fees. However, even if reallocations are made, due to time and resource constraints, it is possible that effort falls short of maintaining audit quality. For example, there may be a shortage of audit resources resulting in less hours billed, less productive hours billed (e.g. more overtime and late-night hours), less experienced hours billed (e.g. lower level staff on the engagement and/or staff recruited

from other departments), or weaker methodologies used resulting in increased detection risk. Thus, fees may decrease (increase) due to decreased audit effort (increased perceived audit risk). Alternatively, it is possible that auditors are not constrained by the deadline reductions and have built-in slack under the old 90-day deadline. Thus, the accelerated fiing regulation may provide the impetus for auditors to reduce this slack on engagements by increasing audit efficiencies. In this case, fees may decrease despite the deadline changes.

Second, looking at the client's financial reporting process, the imposed deadlines also affect the timing of year-end reporting and the filing of the 10-K. Given that accelerations are necessary, auditors may perceive these clients as riskier (i.e. increased inherent risk) as the acceleration of the client's financial reporting process may lead to reduced earnings quality. Prior studies find lower accruals quality (Doyle and Magilke 2013; Lambert et al. 2017) and increased likelihood of restatements (Boland, Bronson, and Hogan 2015; Bryant-Kutcher et al. 2013; Doyle and Magilke 2013) in the first year of acceleration to 75 days for companies subject to the reduction in deadlines, in particular, small accelerated filers and companies whose prior year audit report and/or file lags did not meet the new deadline. Further, studies find a heightened sensitivity to financial reporting risk beginning in 2002 (Charles et al. 2010). I therefore anticipate auditors to price any financial reporting risk resulting from the client's acceleration. Thus, fees may increase due to increased perceived audit risk stemming from increased inherent risk.

Further, given the need to accelerate the financial reporting and/or audit process to meet the new deadlines, these companies may be perceived by auditors as having a higher risk of late filing upon implementation. Lambert et al. (2017), finds that companies needing

to accelerate were more likely to file late in the first year of implementation of the accelerated deadlines. Furthermore, studies indicate negative capital market consequences for late filers in the form of negative returns (Alford, Jones, and Zmijewski 1994; Bartov and Konchitchki 2017) and find audit fees are positively associated with Non-Timely Notifications (Changjiang, Raghunandan, and McEwen 2013). Given these findings, it is possible that auditors perceive time-pressure clients as having increased business risk (i.e. regulatory penalties, shareholder litigation, reputational or other negative market effects) and price this risk in the form of increased fees.

To investigate any changes in audit effort and/or perceived audit risk, I look to the years of implementation of both the 75-day and 60-day accelerated deadlines. Summarized in Figure 4 is the distribution of audit report lags in the year prior to implementation (12/15/2002-12/14/2003) and first year of implementation (12/15/2003-11/14/2004) of the 75-day deadline for all accelerated filers.[8] In the year prior to implementation, 16% of clients have audit report lags greater than 75 days (i.e. time-pressure engagements) and 11% of clients fall in the 61 to 75-day interval immediately to the left. In the year of implementation, only 8% of clients have audit report lags greater than 75 days, indicating a significant reduction in reporting lags by time-pressure engagements to meet the 75-day deadline. Meanwhile, in the year of implementation, 29% of clients fall in the 61 to 75-day interval, indicating an overall trend of increasing audit report lags for control engagements. This suggests increased resource strains on auditors during this period.

[8] I end the implementation period for the 75-day accelerated filing deadline at 11/14/2004 to avoid effects due to SOX 404 implementation as 12/15/2004 is the first month of SOX 404 implementation for all accelerated filers.

[INSERT FIGURE 4 HERE]

I predict increased auditor effort was necessary to achieve this reduction to 75 days and thus increased audit fees. Given the trend of increasing audit fees during this period (Coster et al. 2014; Ettredge et al. 2007; Ghosh and Pawlewicz 2009; Hoitash et al. 2008; Iliev 2010; Raghunandan and Rama 2006; Sneller and Langendijk 2007), I make my prediction with respect to fee *increases* for time-pressure vs. control engagements. I therefore make the following hypothesis:

H1: In the first year of implementation (of the 75-day deadline), audit fee increases will be greater for time-pressure engagements compared to control engagements.

Figure 5 is the distribution of audit report lags in the year prior to implementation (12/15/2003-11/14/2004) and first year of implementation (11/15/2004-11/14/2005) of SOX 404 for all accelerated filers. In the year prior to implementation, 8% of clients have audit report lags greater than 75 days (i.e. time-pressure clients) and 29% of clients fall in the 61 to 75-day interval immediately to the left. In the year of implementation, 16% of clients have audit report lags greater than 75 days and 57% of clients fall in the 61 to 75-day interval. This indicates a significant increase in the average audit report lag of all clients in the first year of SOX 404 implementation, likely due to the increased audit and financial reporting requirements imposed by the regulation.[9]

[INSERT FIGURE 5 HERE]

[9] Sections 404 (a) & (b) of SOX require that managers of publicly traded companies assess the effectiveness of internal controls over financial reporting and that independent auditors attest to management's assessment.

How did the remaining time-pressure engagements (in the 76 to 90-day interval) handle the additional workload pressures under SOX 404 while simultaneously trying to meet the new 75-day deadline? I predict increased auditor effort was necessary and thus increased audit fees for these clients. I therefore make the following hypothesis:

H2: In the first year of implementation (of SOX 404), audit fee increases will be greater for time-pressure engagements compared to control engagements.

Figure 6 is the distribution of audit report lags in the year prior to implementation (12/15/2005-12/14/2006) and first year of implementation (12/15/2006-11/14/2007) of the 60-day deadline for large accelerated filers. In the year prior to implementation, 61% of large accelerated filers have audit report lags greater than 60 days and 33% of large accelerated filers fall into the 46 to 60-day interval immediately to the left. In the year of implementation, only 24% of large accelerated filers have audit report lags greater than 60 days, and 71% of large accelerated filers fall in the 46 to 60-day interval. Findings indicate a significant reduction in reporting lags by time-pressure clients to meet the 60-day deadline.

[INSERT FIGURE 6 HERE]

I predict increased auditor effort was necessary to achieve this reduction to 60 days and thus increased audit fees. I therefore make the following hypothesis regarding the second acceleration for large accelerated filers:

H3: In the first year of implementation (of the 60-day deadline), audit fee increases will be greater for time-pressure engagements compared to control engagements.

4.4.2 Research Question 2

In the second part of this study, I investigate the association between fee changes (due to time pressure) and audit quality during the first years of implementation of the 75-day deadline, SOX 404, and 60-day deadline. I use restatements as my measure of audit quality, with higher (lower) levels of restatements indicating lower (higher) audit quality. Restatements reflect a direct measure of audit failure (i.e. the failure to modify an opinion for financial statements that are materially misstated).

Prior research shows mixed evidence on the relationship between audit fees and future restatements. Several studies looking at pre-SOX years find a positive relationship; these findings suggest issues of auditor independence (Kinney Jr, Palmrose, and Scholz 2004; Li and Lin 2005; Stanley and Todd DeZoort 2007). Looking at the post-SOX era, other studies find a negative relationship (Blankley et al. 2012; Yuping et al. 2017). These later studies suggest earlier findings were due to correlated, omitted variables (either material weaknesses in internal controls or the heightened regulatory scrutiny over auditor independence). Later studies support the argument that audit fees reflect the level of auditor effort. Finally, studies looking at other measures of audit quality, such as discretionary accruals, also find evidence in support of the effort argument (Asthana and Boone 2012; Eshleman and Guo 2014), or a positive association between audit fees and audit quality. This study starts in the period of adoption and implementation of SOX 404; thus, I anticipate audit fees will show an effort story. Furthermore, I plan to control for material weaknesses in my analysis. Therefore, I make the following hypothesis:

H4: There is a negative association between fee changes (due to time pressure) and the likelihood of restatement during the implementation periods.

5. RESEARCH METHODS AND SAMPLE SELECTION

5.1 Research Design

Using a traditional audit fee model (Hay et al. 2006; Simunic 1980) and a difference-in-differences design, I investigate the effect of the following three events on audit fees of time-pressure engagements:

5.1.1 Events Investigated

I. The initial reduction in filing deadlines to 75 days (for all accelerated filers) beginning fiscal year-end December 15, 2003.

II. The first year of SOX 404 implementation (for all accelerated filers) beginning fiscal year-end November 14, 2004.

III. The final reduction in filing deadlines to 60 days (for large accelerated filers) beginning fiscal year-end December 15, 2006.

5.1.2 Time-Pressure Engagements

Events I & II. I define time-pressure engagements (the treatment group) using a similar definition as seen in Bryant-Kutcher et al. (2013) and Lambert et al. (2017). For the first acceleration to 75 days, the time-pressure group consists of all accelerated filers whose audit report lag was greater than 75 days in the year prior to mandatory reduction. For the first year of SOX 404 implementation, I further split the time-pressure group into "early adopters" and "non-early adopters." Early adopters are those time-pressure engagements that successfully accelerated their reporting to meet the new 75-day deadline in the first year of mandatory reduction (pre-SOX 404). Non-early adopters are the remaining time-pressure engagements that fell short in meeting the new deadline in the first year (but still

maintained the old 90-day deadline). The control group are all accelerated filers whose audit report lags one year prior to mandatory reduction were less than or equal to 75 days.

Event III. For the second acceleration to 60 days, the time-pressure group consists of large accelerated filers whose audit report lag was greater than 60 days two years prior to mandatory reduction.[10] Again, I further split the time-pressure group into "early adopters" and "non-early adopters." Early adopters are those time-pressure engagements that accelerated their reporting in the year prior to mandatory reduction and met the new 60-day deadline. Non-early adopters are the remaining time-pressure engagements that must accelerate in the first year of mandatory reduction to the 60-day deadline. The control group are all large accelerated filers whose audit report lags two years prior to mandatory reduction were less than or equal to 60 days.

5.1.3 Audit Fee Regressions

I utilize a "levels" rather than a "changes" model given the high explanatory power of the fee "levels" model, approximately 80% (Hay et al. 2006), and its widespread use and acceptance within the audit fee literature.[11] I utilize a difference-in-differences design to reduce the bias of omitted correlated variables in cross-sectional regressions that are client-specific and time invariant as well as the bias of time-series trends unrelated to the treatment effect.

Using OLS regression I estimate the following model:

---

[10] I use two years prior, given there is evidence of early adoption of the 60-day deadline in the year immediately prior to mandatory reduction.

[11] For robustness, I also employ a "changes" model as in Ghosh & Lustgarten (2006) and Ghosh & Pawlewicz (2009). Results are consistent with the fee "levels model (Appendices 3-4).

$$
\begin{aligned}
FEE = {} & \alpha + \beta_1 IMP + \beta_2 TIMEPRESSURE \\
& + \beta_3 TIMEPRESSURE * IMP \\
& + \beta_4 EARLYADOPT_5 + \beta_5 OFFICESLACK + \beta_6 OFFICESIZE \\
& + \beta_7 OFFICESPEC + \beta_8 ASSETS + \beta_9 BTM + \beta_{10} INVREC \\
& + \beta_{11} BUSSEG + \beta_{12} FOREIGN + \beta_{13} SPECIAL + \beta_{14} ACQ \\
& + \beta_{15} CURRENTRATIO + \beta_{16} LEV + \beta_{17} ROA + \beta_{18} LOSS \\
& + \beta_{19} GCONCERN + \beta_{20} MW302/M404 + \beta_{21} BIG4 + \beta_{22} BUSY \\
& + \beta_{23} AUDITORCHG + \beta_{24} ABSDA + \beta_{25} LATE + \beta_{26} LFEE \\
& + IndustryControls + \varepsilon \qquad (2)
\end{aligned}
$$

Model (2) is estimated separately over two distinct periods and sample groups. The first sample period/group includes engagements with fiscal year-end 12/15/2002-11/14/2005 for both large accelerated and accelerated clients to capture the effects of the first acceleration to 75 days (12/15/2003-11/14/2004) and SOX 404 (11/15/2004-11/14/2005) compared to the prior period (12/15/2002-12/14/2003). The second sample period/group includes engagements with fiscal year-end 11/15/2004-12/14/2007 for large accelerated clients only to capture the effect of the final acceleration to 60 days (12/15/2006-12/14/2007) compared to the prior period (11/15/2004-12/14/2005). Non-accelerated filers are dropped from the sample as these client engagements are not subject to accelerated filing deadlines. Furthermore, given these clients are permanently exempt from SOX 404 (b) and granted extension for compliance with SOX 404 (a), they do not make a good matched control group for comparison against accelerated filers (SEC 2010). Finally, for robustness I employ a probability-weighted regression; sample observations are weighted using the inverse of the propensity score from a first-stage logistic regression

which estimates the probability of treatment (time-pressure engagement) given a client's size (prior year total assets).

The dependent variable *FEE* is the natural logarithm of audit fees charged to the client firm. *TIMEPRESSURE* is an indicator variable to identify client engagements whose audit report lag in the year (two years) prior to the year of mandatory reduction was greater than the 75-day (60-day) deadline. *IMP* is an indicator variable to identify the different treatment years for events (I), (II), and (III) denoted *IMP75, IMPSOX,* and *IMP60*, respectively. *PREIMP60* is an indicator variable to identify the year prior to mandatory reduction in filing deadlines to 60 days for large accelerated filers (fee trends show evidence of early adoption by some client engagements during this year). *EARLYADOPT* is an indicator variable to identify "early adopters" and is equal to 1 if the period is *IMPSOX* or *IMP60* and the client engagement was identified as *TIMEPRESSURE* but already accelerated its audit report date in the prior year to meet the new deadline.

OFFICESLACK, OFFICESIZE, and *OFFICESPEC* control for office-level characteristics that may impact audit fees. *OFFICESLACK* is equal to the average engagement slack for all clients of a given audit office. Engagement slack is measured in days and equal to the prior year's audit report deadline minus the client's prior year audit report date. Offices with greater slack may have more resources available to give to time-pressure engagements resulting in lower audit fees. Prior studies find evidence in support of office-level slack playing a role in reducing the negative effects of engagement-level time pressure (Dong et al. 2018). There is an expected negative relationship between *OFFICESLACK* and audit fees. *OFFICESIZE* is a measure for audit office size and is equal to the number of audit office clients. Overall, prior studies find a positive relationship

between audit office size and audit fees/quality (Choi, Kim, Kim, and Zang 2010; Francis and Yu 2009; Francis, Michas, and Yu 2013; Fung, Gul, and Krishnan 2012). *OFFICESPEC* is an indicator variable equal to 1 if the audit office was an industry specialist (the audit office billing the largest total fees for an industry group) in the current year, else 0. Prior studies document a positive relationship between industry specialization and audit fees (Casterella et al. 2004; Fung, Gul, and Krishnan 2012; Francis, Reichelt, and Wang 2005). Thus, there is an expected positive association between *OFFICESIZE* and *OFFICESPEC* and audit fees.

ASSETS is the natural logarithm of total client assets and is used to control for client-firm size. Audit effort is expected to be increasing with client-firm size, thus there is an expected positive association with audit fees (Hay et al. 2006; Simunic 1980). *INVREC* is the sum of the client's inventory plus receivables divided by total assets. *INVREC* involves balance sheet accounts generally identified as having greater exposure to loss and more complex valuation thus increasing a client's inherent risk and in turn auditor effort for which there is an expected positive association with audit fees (Hay et al. 2006; Simunic 1980).

BTM is the client's book value of common equity divided by market value and is used to control for a client's growth opportunities, for which there is an expected negative association with audit fees. *SPECIAL* is equal to 1 if the client firm reported either an extraordinary item or discontinued operations during the period, and *ACQ* is equal to 1 if the client firm reported an acquisition during the period. Both *SPECIAL* and *ACQ* are used to control for client activities with financial reporting complexities thus increasing a client's inherent risk and in turn auditor effort for which there is an expected positive

association with audit fees (Hay et al. 2006). *BUSSEG* and *FOREIGN* are used to control for complexity of the client's operations due to decentralization and diversification. *BUSSEG* is equal to the number of client business segments, and *FOREIGN* is equal to 1 if a client has foreign sales, else 0. There is an expected positive association between both *BUSSEG* and *FOREIGN* and audit fees due to greater exposure to loss and thus increased inherent risk (Hay et al. 2006; Simunic 1980).

ROA, LOSS, GCONCERN, and *CURRENTRATIO* are used to control for client profitability or liquidity for which there is an expected negative association with audit fees; as client profitability increases, the auditor's risk of bearing all losses due to client insolvency decreases (Simunic 1980; Hay et al. 2006). *ROA* or return on assets is measured as the client's net income divided by total assets for which there is an expected negative association with audit fees (Simunic 1980; Hay et al. 2006). *LOSS* is equal to 1 if the client reported a net loss in the current, for which there is an expected positive association with audit fees (Ghosh and Lustgarten 2006). *GCONCERN* is equal to 1 if the audit opinion includes a going-concern qualification in the current year, for which there is an expected negative association with audit fees (Ghosh and Lustgarten 2006). *CURRENTRATIO* is the client's current ratio measured as total current assets divided by total current liabilities for which there is an expected negative association with audit fees. *LEV* is client leverage measured as total liabilities divided by total assets and is used to control for the risk of client insolvency. There is an expected positive association between *LEV* and audit fees (Hay et al. 2006; Simunic 1980).

MW302/404 measures control risk and is equal to 1 if either a SOX 302 or SOX404 material weakness is reported in the current year, else 0.[12] There is an expected positive association between control risk and audit fees (Simunic 1980; Hay et al. 2006). *BIG4* is equal to 1 if the auditor is part of the Big 4 (i.e. Deloitte & Touche, Ernst & Young, KPMG or PricewaterhouseCoopers) and is used to control for audit quality (Becker, Defond, Jiambalvo, & Subramanyam 1998) for which there is an expected positive association with audit fees (Hay et al. 2006). *BUSY* is equal to 1 if the client's fiscal year-end is in December and is used to control for the auditor's "busy-season" during which resource constraints are higher for auditors (Hay et al. 2006). *AUDITORCHG* is equal to 1 if there was a change in auditor during the current year for which there is an expected negative association with audit fees due to audit firms offering new clients a discount to attract business (Ghosh and Lustgarten 2006; Ghosh and Pawlewicz 2009; Ebrahim 2010; Hay et al. 2006).

ABSDA is the absolute value of discretionary accruals measured using the Modified Jones Model (Dechow, Sloan, and Sweeney 1995). Studies find a decrease in accruals quality for client firms affected by the accelerated filing regulation in the first year of implementation (Doyle and Magilke 2013; Lambert et al. 2017). Decreased accruals quality may have a negative (positive) association with audit fees due to decreased audit effort (increased rents or risk premium) (Asthana and Boone 2012; Eshleman and Guo 2014; Gul, Chen, and Tsui 2003; Mande and Son 2015; Srinidhi and Gul 2007). *LATE* is equal to 1 if the client's audit report was signed after the SEC deadline for the current

[12] Given the implementation of SOX 404 did not begin until fiscal years ending on or after 12/15/2004 and my sample period extends before and after this date, I expand this control variable to include either SOX 302 or SOX 404 material weakness disclosures.

year.[13] Studies find an increased incidence of late filing for time-pressure clients in the first year of implementation of the accelerated deadlines (Lambert et al. 2017). Further, non-timely filing notifications are found to be positively associated with audit fees due to increased audit effort and/or perceived audit risk (Changjiang, Raghunandan, and McEwen 2013).

LFEE is the natural logarithm of prior year audit fees charged to the client firm and is used as an additional control variable for unobserved client-specific factors incorporated into audit pricing. There is an expected positive association between prior year and current year audit fees (Xie, Chun, and Ye 2010). Finally, *IndustryControls* are indicator variables used to control for client industry following the categories as defined in Frankel, Johnson, & Nelson (2002). Prior research suggests some industries are more difficult to audit than others (Hay et al. 2006; Simunic 1980).

5.1.4 Restatement Regressions

To execute the second part of this study, I estimate abnormal audit fees, or the residuals from the audit fee model.[14] Abnormal audit fees reflect the difference between actual and expected audit fees and may capture fee changes due to time pressure. Then, to investigate the relationship between abnormal audit fees and audit quality I estimate the following logistic regression separately for time-pressure engagements vs. the control group over the years of regulatory implementation (Events I-III):

[13] I also run regressions using NT-Notifications identified from the Audit Analytics Database instead of late-filing (as calculated by audit report lags). Results are consistent using either variable.

[14] See Appendix 2 for summary of regression coefficients.

$$RESTATE = \alpha + \beta_1 AFEENEG + \beta_2 RESANN + \beta_3 NEWFIN + \beta_4 NEGEQUITY + \beta_5 AGE + \beta_6 OFFICESLACK + \beta_7 OFFICESIZE + \beta_8 OFFICESPEC + \beta_9 ASSETS + \beta_{10} BTM + \beta_{11} INVREC + \beta_{12} BUSSEG + \beta_{13} FOREIGN + \beta_{14} SPECIAL + \beta_{15} ACQ + \beta_{16} CURRENTRATIO + \beta_{17} LEV + \beta_{18} ROA + \beta_{19} LOSS + \beta_{20} GCONCERN + \beta_{21} MW302/M404 + \beta_{22} BIG4 + \beta_{23} BUSY + \beta_{24} AUDITORCHG + \beta_{25} ABSDA + \beta_{26} LATE + \beta_{27} LFEE + IndustryControls + \varepsilon \quad (3)$$

RESTATE is an indicator variable equal to 1 if there is a restatement originating in the current year's 10-K, else 0. *AFEENEG* is equal to -1 multiplied by estimated abnormal audit fees for the client-firm-year.[15] This is the variable of interest, for which there is a predicted positive association with restatements, meaning that as abnormal audit fees decrease, there is an increased likelihood of a restatement originating in the current year's 10-K. *RESANN* is equal to 1 if a restatement for a prior reporting period was announced during the current year under audit, else 0. Clients with restatement announcements are more likely to have restatements in subsequent reporting years (Boland et al. 2015). *NEWFIN* is equal to 1 if the client issued new long-term debt or equity which exceeded 20% of total assets for the period, else 0. There is an expected positive association with new debt or equity issuances and restatements (Boland et al. 2015). *NEGEQUITY* is equal to 1 if the client has negative equity (i.e. total liabilities are greater than total assets). There is an expected positive association with restatements (Yuping, et al. 2017). *AGE* is equal

[15] For robustness, I also use ΔFEENEG (or -1 multiplied by the percentage change in audit fees) as an independent variable and re-estimate the regression using controls from the fee change model (Appendices 4-5).

to the natural logarithm of total years since the client firm first became available on Compustat for which there is an expected negative association with restatements (Boland et al. 2015). The remaining control variables are the same as those used for the audit fee regression model and are summarized above.

5.2 Sample Selection

Table 1 shows the sample derivation process and identifies each database used. Sample data is collected for engagements with fiscal years-ended 12/15/2002-12/14/2007. I start with the Audit Analytics – Audit Opinions database to obtain the audit report dates (signature dates), 10-K file dates and the auditor assigned to the engagement for each client-year observation. Using Audit Fees, I obtain total audit fees charged. Using SOX 302/404, I obtain material weaknesses identified in management's report on disclosure controls or in the auditor's report on internal controls (for periods in which SOX 404 is applicable). Using Auditor Changes, I identify client-years in which there was a change in auditor. I use Compustat to obtain client-specific financial data and merge this data with the Audit Analytics dataset. I drop non-accelerated filers when analyzing the implementation of the 75-day deadline and SOX 404 and both non-accelerated and accelerated filers for the implementation of the 60-day deadline. I exclude foreign issuers as these client firms were subject to different reporting regulations. Consistent with prior fee studies, I exclude financial companies (6000-6999). These companies have significantly different reporting formats which makes comparison of Compustat financial variables difficult. I exclude observations with missing Segment information needed to determine total number of business segments. I drop observations with missing financial data needed to estimate discretionary accruals. I drop observations with missing prior or

current year audit report dates used to determine time-pressure groups as well as missing variables from the regression model. I drop any duplicate fiscal year reports as well as any 10-KT transition reports. I drop observations where either the audit report or file lag falls outside the window 0-365 days. Finally, for the first regression I exclude any client firms whose prior year audit report lag was greater than 90 days; these clients were already missing the old deadline. For the second regression I exclude any client firms whose prior year audit report lag was greater than 75 days; these clients were already missing the 75-day deadline from the first acceleration. The final sample for the audit fee regressions consists of 4,790 unique client-years for the first acceleration period and 2,346 unique client-years for the second acceleration period. From here, I keep client-year observations from the years of implementation and merge the sample with the Restatements database found in Audit Analytics. I drop any observations whose prior year 10-K was restated as these clients may be more likely to restate in the current year. The final sample for the restatement regressions consists of 3,174 unique client-years for the implementation of the 75-day deadline and SOX 404 and 519 unique client-years for the implementation of the 60-day deadline.

[INSERT TABLE 1 HERE]

6. RESULTS & DISCUSSION

6.1 Engagement-Level Time Pressure & Audit Fees

Figure 7 shows audit fee trends over the period 12/15/2001-11/14/2005 for all accelerated filers and compares client engagements whose prior year audit report lag was between 75 and 90 days to those whose prior year audit report lag was less than or equal to 75 days. Overall, there is a trend of increasing audit fees during the sample period, and

average audit fees are the same for both client categories prior to regulatory implementation. However, beginning in the first year of implementation of the 75-day deadline and extending into the first year of SOX 404 implementation, I find year-over-year decreases in the slope of clients whose prior year audit report lag was between 75 and 90 days. In contrast, looking at clients whose prior year audit report lag was less than or equal to 75 days, I document year-over-year increases in the slope during the implementation periods. The result is lower average audit fees during the implementation periods, *IMP75* & *IMPSOX,* by approximately $60,000 and $1.3 million respectively, for clients whose prior year audit report lags were between 75 and 90 days. This suggests the 75-day threshold for audit reports is an important factor in the determination of audit fees beginning in the first year of regulatory implementation of the 75-day deadline.

[INESRT FIGURE 7 HERE]

Figure 8 shows audit fee trends over the period 12/15/2001-12/14/2007 for all large accelerated filers and compares client engagements whose prior year audit report lag was between 60 and 75 days, to those whose prior year audit report lag was less than or equal to 60 days. Overall, there is a trend of increasing audit fees during the sample period, and average audit fees are the same for both groups prior to regulatory implementation. However, beginning in the year prior to implementation of the 60-day deadline and extending into the first year of implementation, I document a decrease in average audit fees of clients whose prior year audit report lag was between 60 and 75 days. In contrast, fees continue to increase for clients whose prior year audit report lag was less than or equal to 60 days. The result is lower average audit fees during the early and implementation periods (*PREIMP60* and *IMP60*) by approximately $1.2 million and $1.7 million respectively, for

clients whose prior year audit report lags were between 60 and 75 days. This suggests the 60-day threshold for audit reports is an important factor in the determination of audit fees around the time of regulatory implementation of the 60-day deadline.

[INSERT FIGURE 8 HERE]

Table 2 reports the descriptive statistics for time-pressure engagements vs. the control group. Looking at Table 2, during the sample period 12/15/2002-12/14/2007, time-pressure clients have lower average total assets, higher leverage, and lower return on assets than the control group clients. Time-pressure clients are also younger in age and have a higher percentage of new debt/equity issuances. These clients also have a greater percentage of loss years, receive more going concern opinions, and report more material control weaknesses on average. Finally, time-pressure clients have a higher incidence of late filing, report higher levels of absolute discretionary accruals, and have a greater percentage of restatements over the sample period.

[INSERT TABLE 2 HERE]

Tables 3-5 summarize regression results for Model (2) which employs a fee levels model and a difference-in-differences design. Table 3 reports the main model results. Table 4 reports results using probability weighting.[16] Table 5 reports results for Big 4 clients

[16] Given time-pressure clients are on average smaller than control clients (with a p-value of less than 1%), I consider an alternative method to control for firm size as a confounding factor. Tables 4 -5 present regression results of Model (2) using probability weighting in which sample observations are weighted using the inverse of the propensity score of from a first stage logistic regression of *TIMEPRESSURE* on *ASSETS*. First stage regression is estimated in the year immediately prior to the treatment year (*IMP75* for the first acceleration and *IMP60* for the second acceleration).

only.[17] The model is estimated both with and without segment data: Regressions (1) & (3) and Regressions (2) & (4), respectively.[18] Regressions (1) & (2) summarize results for the first years of implementation of the 75-day deadline and SOX 404; the coefficients on the interaction terms *TIMEPRESSURE*IMP75* and *TIMEPRESSURE*IMPSOX* are negative and statistically significant with p-values less than 5% and 1%, respectively (Tables 3-5). Results indicate lower audit fee increases for time-pressure engagements in the years of regulatory implementation (*IMP75* and *IMPSOX*). These findings contradict hypotheses H1 and H2.

Regressions (3) & (4) summarize results for the first year of implementation of the 60-day deadline for large accelerated filers; the coefficient on the interaction term *TIMEPRESSURE*IMP60* is negative and statistically significant with a p-value less than 1% (Table 3). The coefficient loses some significance in the probability weighted regression (Table 4); however, significance at the 1% level holds when dropping clients with non-Big 4 auditors (Table 5). Overall, results indicate lower audit fee increases for time-pressure engagements during the implementation period (*IMP60*). This finding contradicts hypothesis H3.

For robustness, Appendices 3-4 reports results using a fee changes model. Results are consistent with the above findings during all three implementation periods (*IMP75, IMPSOX, & IMP60*). Findings suggest time pressure on the audit has a negative effect on total audit fees billed. This result is counterintuitive given the expected increase in auditor

[17] Given the majority of the sample consists of Big-4 engagements **(**approximately **91%-95%** of the sample), I re-run regressions for Big-4 clients only to remove the effect of any resource differences driven by audit firm-type (Table 5).

[18] Approximately 30% of sample observations are lost when including segment controls. Excluding these allows for a larger sample size.

effort, and thus cost of audit services to get the work done sooner. Findings may be indicative of constrained audit resources and possibly lower audit effort for time-pressure engagements during the implementation years. Alternatively, auditors may have built-in slack under the old 90-day deadline, and the negative fee effects may refelct increased audit efficiencies. Thus, it is important to understand the quality implications, if any, of the lower fees.

[INSERT TABLES 3- 5 HERE]

6.2 Audit Fee Changes & Audit Quality

Tables 6-7 summarize regression results for Model (3), which estimates restatement likelihood during each of the implementation periods (*IMP75, IMPSOX, IMP60*). Regressions are estimated separately on the sample of time-pressure engagements vs. the control group. Table 6 (Table 7) documents results including (excluding) segment controls. The variable of interest is *AFEENEG* (or -1 multiplied by abnormal audit fees). If lower fees result in impaired quality, we should expect a positive coefficient on *AFEENEG* of time-pressure engagements. A positive coefficient would indicate an increased likelihood of restatement as abnormal audit fees decrease. Regressions (1) & (2) summarize results for the first years of implementation of the 75-day deadline and SOX 404; the coefficient on *AFEENEG* of time-pressure engagements is negative and statistically significant, with a p-value ranging from 5% - 10% depending on the model specification. This finding contradicts hypothesis H4. The coefficient on *AFEENEG* of control engagements is positive but not statistically significant. Overall, findings suggest the lower fees surrounding the first deadline reduction (to 75 days) resulted in improved audit quality for

time-pressure engagements. This implies positive changes were made on these engagements.

Regressions (3) & (4) summarize results for the first year of implementation of the 60-day deadline for large accelerated filers; the coefficient on *AFEENEG* of time-pressure engagements is positive and significant with a p-value ranging from 5% - 10% depending on the model specification. This finding supports hypothesis H4. In contrast, the coefficient on *AFEENEG* of control engagements is negative and significant with a p-value ranging from 1% - 5% depending on the model specification. Findings suggest fee decreases are related to increased audit efficiencies and improved audit quality during the post-SOX period for control engagements; however, time-pressure engagements do not share in these efficiencies. The lower fees surrounding the second deadline reduction (to 60 days) appear to be at the expense of lower audit quality for time-pressure engagements. Furthermore, if changes in audit effort during the second acceleration (to 60 days) are rooted in the same implementation strategies as applied in the first acceleration (to 75 days), it's possible that such strategies have a cap to their effectiveness. For robustness, I also run the restatement regression using percentage change in audit fees as the independent variable and using the controls from the fee change model as documented in Appendices (6-7). Results are consistent with those documented using abnormal audit fees.

[INSERT TABLES 6-7 HERE]

6.3 Engagement-Level Responses & Changes

The counterintuitive finding of lower fees poses the following question: what is being changed on audit engagements of time-pressure clients? Using the audit risk model

as the theoretical underpinning for changes in audit fees, I investigate plausible scenarios in which auditors may reduce fees. Lower fees imply less effort and/or less perceived audit risk. Given, the portfolio of time-pressure clients has characteristics generally associated with higher audit risk (e.g. a greater percentage of material weakness disclosures, going concern opinions, and loss years), I predict changes in effort (i.e. audit production) to be the driver of fee change.

Production economics literature proposes several strategies that service firms can utilize to match supply to increased demand (Sasser 1976). Three applicable strategies that may relate to the documented lower fees for time-pressure engagements include: *sharing capacity*, *increasing consumer participation*, and *maximizing efficiency*. For *sharing capacity,* Sasser (1976) notes that service businesses often invest in equipment and labor that are not used at full capacity and suggests, "The service manager might consider sharing capacity with another business to use required, expensive, but underused resources jointly." Applying this to the audit setting, audit firms may consider *sharing capacity* with other audit engagements by means of intra-office or inter-office resource sharing (Bills, Swanquist, and Whited 2016; Dong et al. 2018). For *increasing consumer participation*, Sasser (1976) notes, "The more the consumer does, the lower the labor requirements for the producer;" however, also warns that with this strategy, "the manager's control over delivery of the service is reduced." Applying this to the audit setting, audit firms may consider increasing reliance on internal audit. Finally, looking at *maximizing efficiency,* Sasser (1976) suggests, *"*...managers may use slack periods for doing supporting tasks, which in essence they are inventorying for peak periods." Applying this to the audit setting, auditors may perform more testing during interim (non-peak) periods to ease some of the

workload during year-end (busy-season). One of the challenges in this study is obtaining appropriate measures for these constructs.

6.3.1 Sharing Capacity

To investigate *sharing capacity,* I consider office-level slack *OFFICESLACK*. Offices with greater slack on other client engagements in their portfolio, may engage in intra-office resource sharing. Prior studies document findings consistent with intra-office resource sharing during periods of increased workload and time pressures (Bills et al. 2016). Furthermore, Dong et al. (2018) documents positive engagement-level quality effects for audit offices with higher slack. If offices have resources available to reallocate (i.e. built-in slack) they may not need to increase fees on time-pressure engagements. Overall, I document a negative relationship between *OFFICESLACK* and audit fees, in line with this theory (Tables 3-5). However, looking at the descriptive statistics (Table 2), findings show average *OFFICESLACK* is lower for time-pressure clients for both accelerations, with statistical significance at the 1% level. This suggests intra-office resource sharing may not be an available solution for time-pressure engagements in this sample. Furthermore, after controlling for *OFFICESLACK* in the fee regressions, the result of lower fees on these engagements still holds (Tables 3-5), suggesting something else is driving the findings.

6.3.2 Increasing Consumer Participation

I also consider the effect of *increasing consumer participation* by investigating the role of internal audit. It is possible that external auditors of time-pressure engagements placed or increased reliance on the work of internal audit. Given the newly imposed time pressure, a reallocation of audit work may have been a solution to meeting the tightened

deadlines. Studies document a positive relationship between reliance on internal audit and audit report timeliness (Peters, Abbott, and Parker 2012; Pizzini, Shu, and Ziegenfuss 2015). Furthermore, the regulatory focus on improvements to corporate governance during this period (e.g. SOX, NYSE Corporate Governance Proposal, and various NASDAQ Provisions) may have provided the impetus for external auditors to consider increased reliance. Such provisions forced public companies to re-assess items such as audit committee composition and responsibilities and the internal control environment, among others. A particular provision of the NYSE Corporate Governance Proposal required the existence of an internal audit function by all registrants (SEC 2003). These regulatory changes promoted improvements to corporate governance, and more specifically, investments in internal audit. Moreover, reliance on the work performed by a client's internal auditors was encouraged during this period (e.g. AU Section 322 and later AS No. 5).

In a case of increased reliance, rather than sacrificing overall effort, the external auditors are simply passing on some of this work to the client. Prior studies find mixed evidence on the relationship between reliance on internal audit and audit fees (Abbott, Parker, and Peters 2012; Felix Jr, Gramling, and Maletta 2001; Goodwin-Stewart and Kent 2006; Mat Zain, Zaman, and Mohamed 2015, Mohamed et al. 2012; Peters et al. 2012; Pizzini et al. 2015; Prawitt, Sharp, and Wood 2011). Furthermore, the quality implications of the decision to rely on the work of internal audit is a relatively unexplored area within the literature (Bame-Aldred, Brandon, Messier Jr., Rittenberg, and Stefaniak 2013).

In an analysis of client disclosures (10-K, 10-Q, 8-K, DEF-14A), I find an increased mention of "internal audit" *IAFIRSTMENTION* beginning in the first year of mandatory

reduction to the 75-day deadline for all client firms (Table 8). Furthermore, there is a greater proportion of "internal audit" mention for time-pressure clients during the implementation periods (*IMP75, IMPSOX,* and *IMP60*) when compared to control clients (Table 8). Findings suggest an increased importance of internal audit for time-pressure clients. Looking at univariate analyses, overall, there is a negative correlation between audit fees and "internal audit" mention during the implementation periods (Table 8). Looking at multivariate regression results, mention of "internal audit" is associated with lower audit fees during the first acceleration to 75-days and first year of SOX 404 implementation, with statistical significance at the 5% and 10% levels, respectively (Table 9). I obtain this data by performing a proximity search using the SeekInf search engine and the SeekEdgar database. Overall, findings are suggestive of improvements to the client's control environment and possible increased reliance on the work of internal audit during these two periods (in particular, for time-pressure engagements). However, the keyword search of corporate disclosures only provides for an indirect measure of improvements to and/or reliance on internal audit (possibility of both Type I and Type II errors). There exists an opportunity for further extension of this study if able to obtain a more direct measure for the amount of reliance the external auditor places on the work of internal audit.

[INSERT TABLES 8-9 HERE]

6.3.3 Maximizing Efficiency

Finally, I consider the effect of *maximizing efficiency*. Prior survey literature documents that interim testing was a strategy utilized to combat audit time pressures during this period (Lambert et al. 2017). I also have anecdotal evidence from current audit partners that shifting testing to interim may result in reduced fees; however, I do not have an

appropriate measure to test this effect. This would be an interesting area for further research.

7. ROBUSTNESS TESTS

I perform several robustness and sensitivity analyses. First, I investigate the results for RQ1 utilizing a fee "changes" model as in Ghosh & Lustgarten (2006) and Ghosh & Pawlewicz (2009). Results are consistent with the fee "levels" model used in the main analysis (Appendices 3-4). Second, I investigate the results for RQ2 using percentage change in audit fees as the independent variable instead in abnormal audit fees (Appendices 6-7). Results are consistent under both measurements. Finally, auditor changes were prevalent during this period (Ettredge et al. 2007), and prior studies find evidence of fee discounting on first year engagements (Ghosh & Lustgarten 2006). Additionally, the collapse of Arthur Andersen (AA) in 2002 resulted in a de facto change in auditor for all AA clients. To address the confounding factor of auditor changes and former AA clients, I re-run the fee regressions on a constant auditor-client sample, excluding client firms with one or more auditor changes during the sample period and those who were prior AA clients (Appendix 5). Results are consistent with those documented in the full sample regressions.

8. CONCLUSION

This study uses the events surrounding the accelerated filing regulation to investigate the impact of engagement-level time pressure on audit fees and the implications for audit quality. Results provide evidence that client engagements under time-pressure to reduce their audit report lags are associated with significantly *lower* fee increases in the years of regulatory implementation when compared to other engagements. Lower fee changes are associated with higher audit quality during the first acceleration to 75 days;

however, this benefit is lost during the second acceleration to 60 days. Findings suggest changes in audit effort to meet the shortened deadlines. Although these changes reflect an initial positive impact on audit quality, they may have fallen short in supporting the additional 15-day deadline reduction. Furthermore, in additional analyses, I find limited evidence of internal audit playing a role in the documented lower fees of time-pressure engagements. Overall, results of this study may be of interest to both academics and regulators concerned with potential unintended consequences of audit time pressure on the external audit. Furthermore, findings may provide insight into the effects of engagement model changes on audit quality.

There are several setbacks to this study. First, there exists the challenge of obtaining a direct measure of audit effort. Another setback is the small sample size of restatements. Finally, the concurrent implementation of SOX during this period poses a difficulty in isolating the effects related to time pressure only.

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10. FIGURES AND TABLES

FIGURE 1
Audit Risk Model

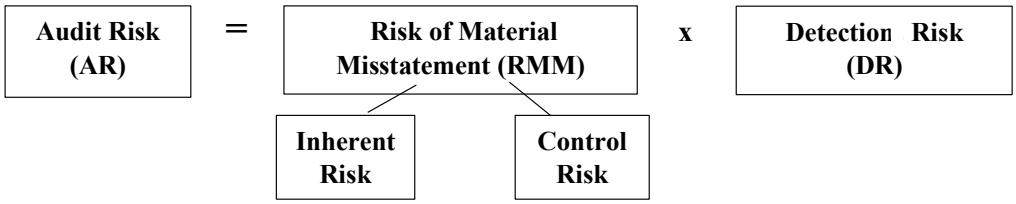

FIGURE 2
Timeline of Regulations Impacting Accelerated Filers

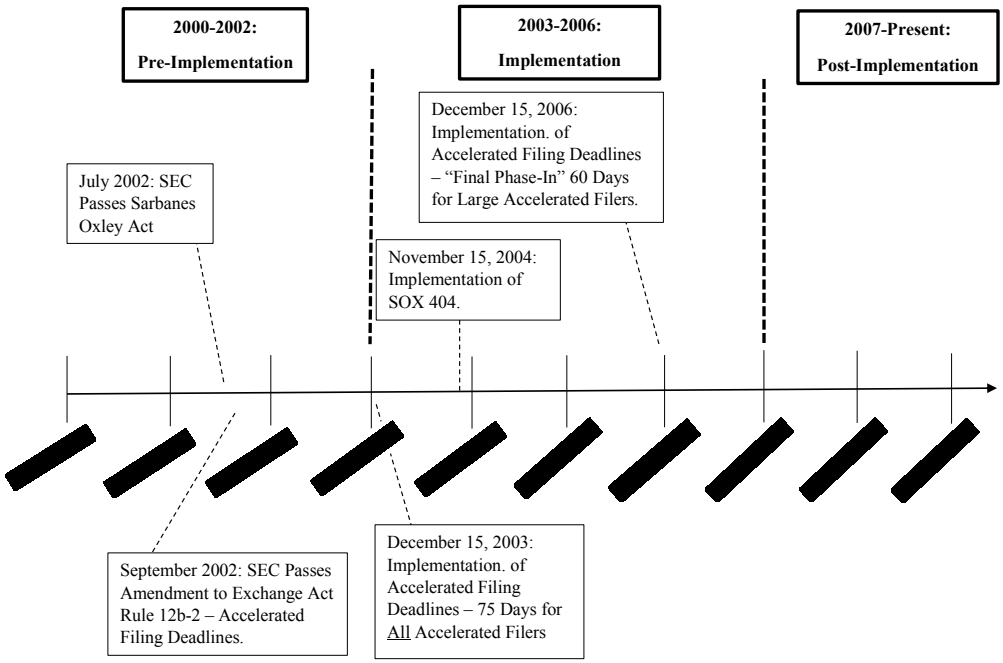

FIGURE 3
Timeline of Audit Report and 10-K Filing

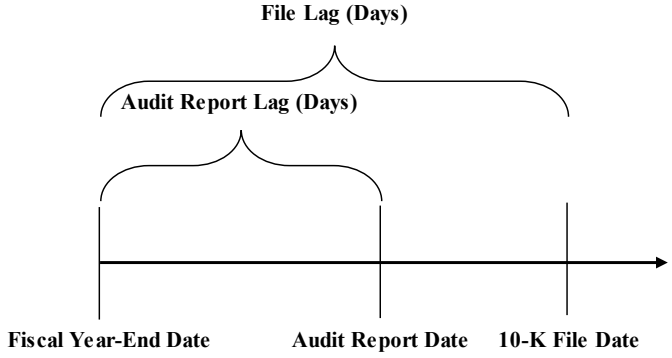

FIGURE 4

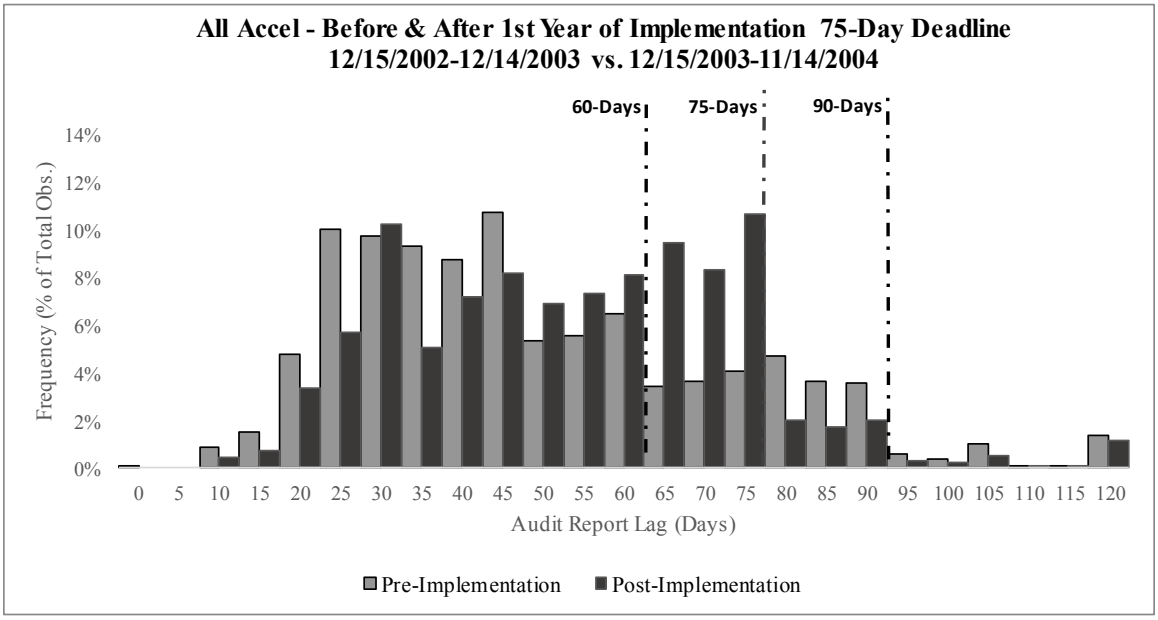

Figure 4 is the distribution of audit report lags in the year prior to implementation (12/15/2002-12/14/2003) and first year of implementation (12/15/2003-11/14/2004) of the 75-day deadline for all accelerated filers. Sample includes all accelerated filers from the Audit Analytics – Audit Opinions database.

FIGURE 5

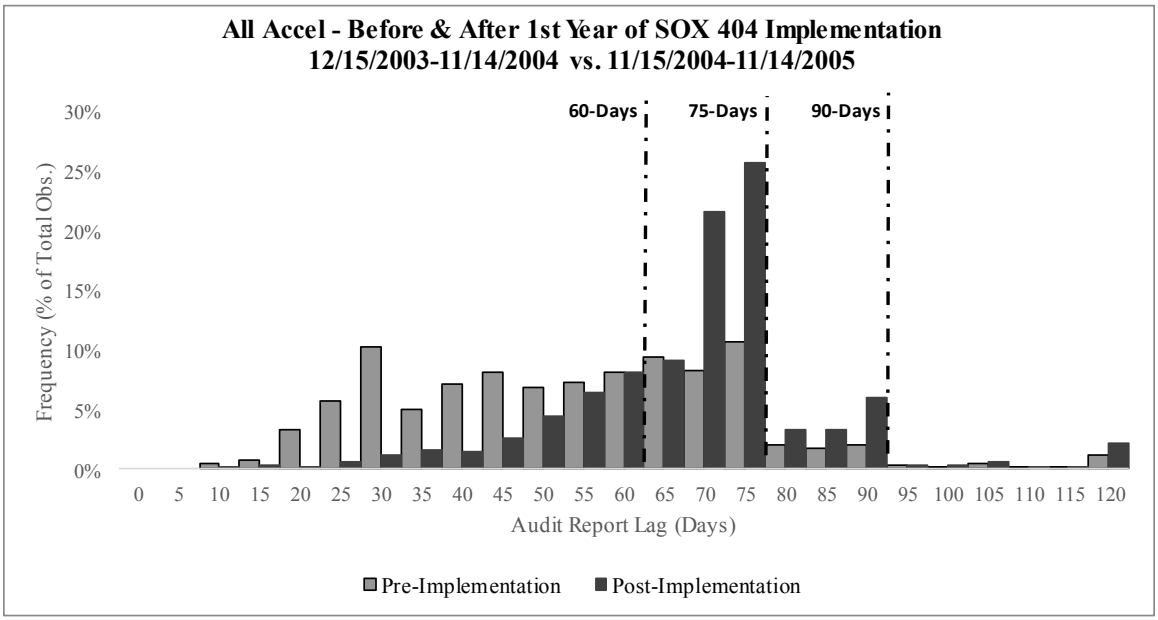

Figure 5 is the distribution of audit report lags in the year prior to implementation (12/15/2003-11/14/2004) and first year of implementation (11/15/2004-11/14/2005) of SOX 404 for all accelerated filers. Sample includes all accelerated filers from the Audit Analytics – Audit Opinions database.

FIGURE 6

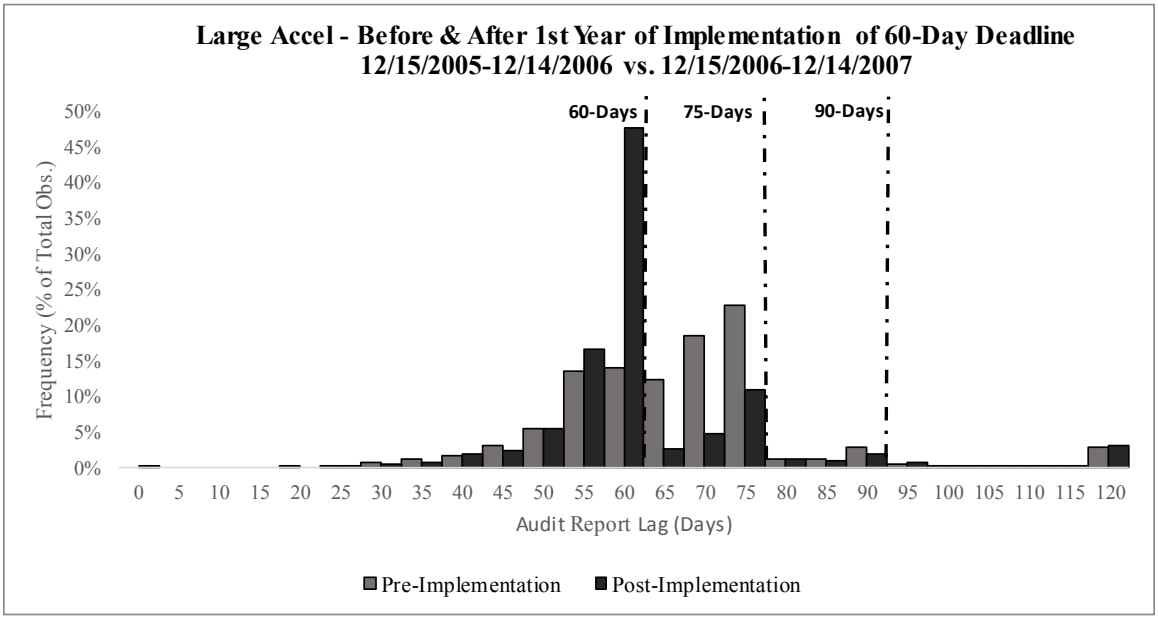

Figure 6 is the distribution of audit report lags in the year prior to implementation (12/15/2005-12/14/2006) and first year of implementation (12/15/2006-11/14/2007) of the 60-day deadline for large accelerated filers. Sample includes all large accelerated filers from the Audit Analytics – Audit Opinions database.

FIGURE 7

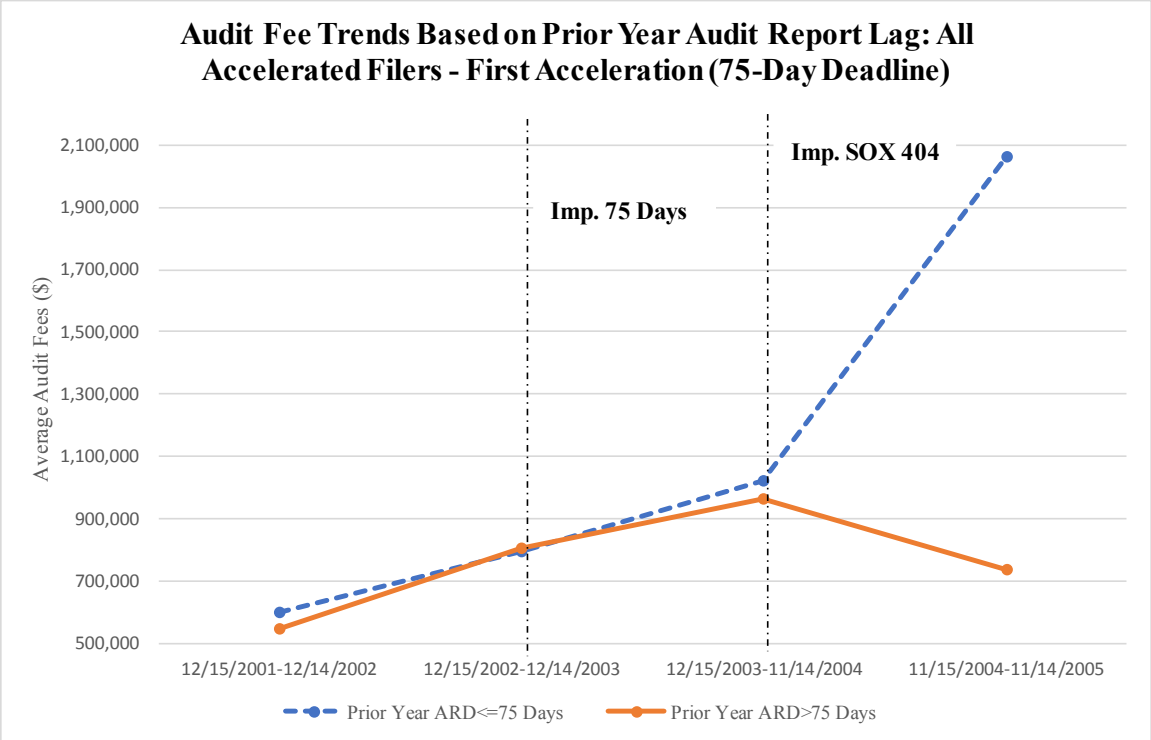

Figure 7 shows audit fee trends over the period 12/15/2001-11/14/2005 for all accelerated filers and compares client engagements whose prior year audit report lag was between 75 and 90 days to those whose prior year audit report lag was less than or equal to 75 days. Same sample data restrictions as in Audit Fee Regressions (Table 1) but over an extended sample period.

FIGURE 8

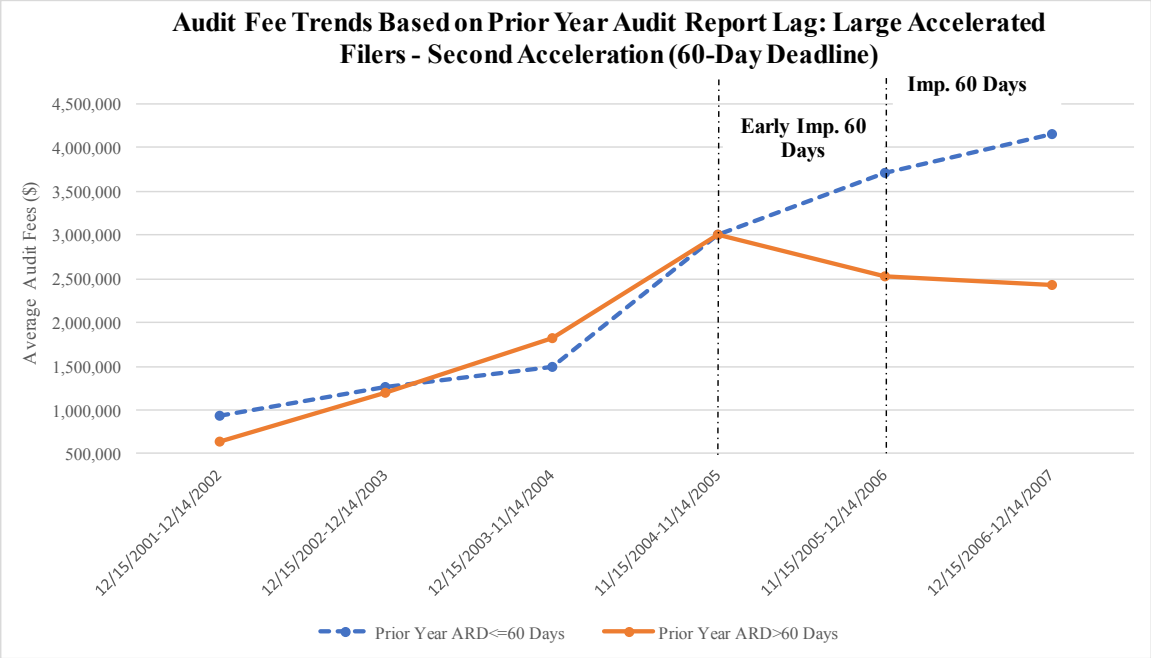

Figure 8 shows audit fee trends over the period 12/15/2001-12/14/2007 for all large accelerated filers and compares client engagements whose prior year audit report lag was between 60 and 75 days, to those whose prior year audit report lag was less than or equal to 60 days. Same sample data restrictions as in Audit Fee Regressions (Table 1) but over an extended sample period.

TABLE 1
Sample Selection

	Implementation - 75 Days & SOX 404 12/15/2002-11/14/2005 Client-Years	Implementation - 60 Days 11/15/2004-12/14/2007 Client-Years
1. Merged Compustat and Audit Analytics data	17,429	16,581
2. Less: NAFs for "Imp - 75 Days & SOX 404"; NAFs & AFs for "Imp - 60 Days"	(8,174)	(11,602)
Foreign issuers	(219)	(193)
Financial companies (6000-6999)	(2,448)	(1,253)
Missing Segments data	(624)	(475)
Missing information to estimate discretionary accruals	(164)	(60)
Missing information to determine "Time Pressure" groups	(377)	(138)
Missing variables from regression model	(353)	(181)
Obs. where audit report or file lag falls outside the window: 0-365 days	(22)	(9)
Obs. with 10-KT transition reports	(7)	-
Duplicate fiscal-year reports	(1)	(7)
Obs. where prior year audit report date was greater than 90 days for "Imp- 75 Days & SOX404" & 75 days for "Imp- 60 Days"	(250)	(317)
3. Final sample for Audit Fee Regressions	***4,790***	***2,346***
4. Less: Fiscal years other than implementation years of "IMP75 & IMPSOX"; "IMP60".	(1,531)	(1,562)
Obs. where prior year 10-K was restated.	*(23)*	(3)
Obs. dropped from regression due to regressors predicting failure perfectly.	(99)	(262)
5. ***Final sample for Restatement Regressions***	***3,174***	***519***

TABLE 2
Descriptive Statistics

Panel A: Continuous Variables

	Implementation of First Acceleration to 75 Days & SOX 404				Implementation of Second Acceleration to 60 Days			
	All Accelerated Filers				Large Accelerated Filers Only			
	Sample Period: 12/15/2002-11/14/2005				Sample Period: 11/15/2004-12/14/2007			
Variable Mean (Standard Deviation)	Overall	Time Pressure	Control	P-Values for Dif in Means	Overall	Time Pressure	Control	P-Values for Dif in Means
FEE	13.159	13.067	13.174	0.0512	14.360	14.286	14.522	0.0000
	(1.314)	(1.297)	(1.317)		(1.064)	(0.999)	(1.180)	
OFFICESLACK	34.065	28.654	34.940	0.0000	13.448	12.392	15.767	0.0000
	(13.728)	(14.057)	(13.473)		(12.795)	(12.766)	(12.560)	
OFFICESIZE	38.120	42.162	37.466	0.0004	34.076	33.883	34.501	0.6141
	(31.534)	(34.734)	(30.940)		(27.543)	(28.275)	(25.876)	
ASSETS	6.098	5.602	6.179	0.0000	7.398	7.199	7.834	0.0000
	(1.808)	(1.857)	(1.787)		(1.557)	(1.440)	(1.711)	
BTM	0.496	0.455	0.503	0.0075	0.374	0.384	0.352	0.0011
	(0.428)	(0.464)	(0.421)		(0.220)	(0.230)	(0.193)	
INVREC	0.234	0.233	0.234	0.9593	0.227	0.225	0.231	0.3666
	(0.171)	(0.179)	(0.170)		(0.153)	(0.152)	(0.154)	
BUSSEG	2.239	2.207	2.244	0.5650	2.696	2.596	2.914	0.0000
	(1.534)	(1.468)	(1.545)		(1.694)	(1.651)	(1.766)	
CURRENTRATIO	3.077	2.986	3.092	0.3734	2.441	2.563	2.174	0.0000
	(2.868)	(2.980)	(2.850)		(1.944)	(1.968)	(1.861)	
LEV	0.471	0.494	0.467	0.0106	0.519	0.509	0.542	0.0009
	(0.256)	(0.284)	(0.250)		(0.228)	(0.237)	(0.206)	
ROA	-0.032	-0.083	-0.023	0.0000	0.043	0.037	0.054	0.0017
	(0.224)	(0.287)	(0.211)		(0.117)	(0.122)	(0.105)	
ABSDA	1.318	1.593	1.273	0.0110	0.930	0.999	0.779	0.0287
	(3.015)	(3.291)	(2.966)		(2.249)	(2.352)	(1.998)	
LFEE	12.757	12.688	12.768	0.1090	14.088	14.006	14.268	0.0000
	(1.204)	(1.201)	(1.204)		(1.134)	(1.070)	(1.244)	
AGE	2.628	2.479	2.652	0.0000	2.934	2.844	3.130	0.0000
	(0.774)	(0.679)	(0.786)		(0.782)	(0.746)	(0.824)	
Observations	4790	667	4123		2346	1612	734	
% of Sample		14%	86%			69%	31%	

Table 2 reports the descriptive statistics for regression variables comparing time-pressure engagements to control engagements during the periods surrounding the first acceleration to 75 days for all accelerated filers and the second acceleration to 60 days for large accelerated filers only. Sample periods are engagements with fiscal year-end 12/15/2002-11/14/2005 and 11/15/2004-12/14/2007, respectively. Panel A summarizes the mean and standard deviation of continuous variables. See Appendix 1 for variable definitions. Continuous independent variables are winsorized at the 1st and 99th percentiles.

TABLE 2 Continued
Descriptive Statistics

Panel B: Indicator Variables

Rate of Occurrence	Overall	Time Pressure	Control	Overall	Time Pressure	Control
OFFICESPEC	0.059	0.066	0.058	0.072	0.080	0.053
FOREIGN	0.217	0.198	0.220	0.297	0.308	0.274
SPECIAL	0.249	0.286	0.244	0.258	0.258	0.260
ACQ	0.400	0.367	0.406	0.513	0.510	0.520
LOSS	0.329	0.396	0.318	0.138	0.146	0.119
GCONCERN	0.016	0.052	0.011	0.006	0.006	0.004
MW302/MW404	0.043	0.070	0.039	0.032	0.040	0.014
BIG4	0.912	0.864	0.920	0.950	0.952	0.947
BUSY	0.732	0.753	0.728	0.773	0.771	0.777
AUDITORCHG	0.101	0.127	0.096	0.054	0.058	0.045
LATE	0.053	0.133	0.040	0.065	0.073	0.049
RESTATE	0.075	0.087	0.073	0.046	0.052	0.034
RESANN	0.055	0.088	0.049	0.058	0.069	0.033
NEWFIN	0.274	0.333	0.264	0.241	0.255	0.211
NEGEQUITY	0.028	0.042	0.026	0.027	0.032	0.016

Table 2 reports the descriptive statistics for regression variables comparing time-pressure engagements to control engagements during the periods surrounding the first acceleration to 75 days for all accelerated filers and the second acceleration to 60 days for large accelerated filers only. Sample periods are engagements with fiscal year-end 12/15/2002-11/14/2005 and 11/15/2004-12/14/2007, respectively. Panel B summarizes the rate of occurrence of indicator variables. See Appendix 1 for variable definitions. Continuous independent variables are winsorized at the 1st and 99th percentiles.

TABLE 3
Audit Fee Regression Results (Using Fee Level Model):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers				Implementation of Second Acceleration to 60 Days for Large Accelerated Filers			
Dependent Variable: FEE		Time-Pressure All Accel vs. Control				Time-Pressure Large Accel vs. Control			
	Pred.	(1)		(2)		(3)		(4)	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
IMP75	+	0.148***	(6.28)	0.144***	(6.30)				
IMPSOX	+	0.640***	(22.92)	0.635***	(23.89)				
PREIMP60	-					-0.452***	(-12.52)	-0.470***	(-14.90)
IMP60	-					-0.413***	(-12.92)	-0.423***	(-14.86)
TIMEPRESSURE	?	0.164***	(3.30)	0.176***	(3.74)	0.097***	(3.45)	0.107***	(4.05)
TIMEPRESSURE*IMP75	**+**	**-0.148****	**(-2.09)**	**-0.159****	**(-2.39)**				
TIMEPRESSURE*IMPSOX	**+**	**-0.395*****	**(-4.06)**	**-0.419*****	**(-4.45)**				
TIMEPRESSURE*PREIMP60	?					**-0.104*****	**(-2.62)**	**-0.117*****	**(-3.24)**
TIMEPRESSURE*IMP60	**+**					**-0.078****	**(-1.99)**	**-0.100*****	**(-2.79)**
EARLYADOPT	?	0.066	(1.40)	0.072	(1.62)	0.022	(0.85)	0.009	(0.37)
OFFICESLACK	-	-0.001**	(-1.98)	-0.002**	(-2.43)	-0.001	(-1.50)	-0.001	(-1.54)
OFFICESIZE	+	0.001***	(4.03)	0.001***	(4.27)	0.000	(1.48)	0.000	(1.55)
OFFICESPEC	+	0.103***	(2.76)	0.103***	(2.93)	0.095***	(3.60)	0.097***	(4.11)
ASSETS	+	0.269***	(22.30)	0.271***	(22.64)	0.155***	(10.41)	0.150***	(11.20)
BTM	-	-0.073***	(-3.21)	-0.070***	(-3.27)	-0.032	(-0.70)	-0.041	(-0.95)
INVREC	+	0.391***	(6.32)	0.425***	(7.29)	0.239***	(3.20)	0.254***	(3.74)
BUSSEG	+	0.029***	(4.72)			0.017***	(3.08)		
FOREIGN	+	0.071***	(3.36)			0.053***	(3.29)		
SPECIAL	+	0.004	(0.17)	0.024	(1.16)	-0.020	(-1.10)	-0.015	(-0.91)
ACQ	+	0.070***	(3.75)	0.070***	(4.05)	0.070***	(4.20)	0.067***	(4.58)
CURRENTRATIO	-	-0.014***	(-4.18)	-0.017***	(-4.84)	-0.005	(-0.84)	-0.005	(-0.86)
LEV	+	0.061	(1.48)	0.032	(0.80)	0.048	(0.96)	0.033	(0.69)
ROA	-	-0.238***	(-4.62)	-0.243***	(-4.89)	-0.083	(-0.71)	-0.123	(-1.11)
LOSS	-	0.052**	(2.09)	0.041*	(1.75)	0.024	(0.60)	0.002	(0.05)
GCONCERN	+	-0.051	(-0.66)	-0.082	(-1.20)	0.023	(0.23)	-0.020	(-0.20)
MW302/MW404	+	0.148***	(3.26)	0.141***	(3.36)	0.093**	(2.04)	0.101**	(2.49)
BIG4	+	0.263***	(6.71)	0.262***	(7.06)	0.094	(1.49)	0.121*	(1.91)
BUSY	+	-0.034*	(-1.94)	-0.038**	(-2.31)	-0.018	(-0.98)	-0.024	(-1.52)
AUDITORCHG	-	-0.727***	(-12.77)	-0.700***	(-13.23)	-0.399***	(-5.11)	-0.355***	(-5.18)
ABSDA	?	0.002	(0.69)	0.001	(0.67)	0.002	(0.43)	0.002	(0.52)
LATE	+	0.006	(0.12)	0.029	(0.63)	0.005	(0.13)	0.011	(0.28)
LFEE	+	0.498***	(24.91)	0.517***	(26.77)	0.691***	(27.04)	0.719***	(33.33)
CONSTANT	?	3.953***	(9.81)	3.824***	(10.09)	3.433***	(12.88)	3.106***	(13.48)
Observations		4790		5277		2346		2701	
Adjusted R-squared		0.813		0.820		0.876		0.881	
Industry Controls Included		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No	
Sample Period		12/15/2002-12/14/2005				11/15/2004-12/14/2007			

Table 3 shows regression results for Model (2). Dependent variable *FEE* is equal to the natural logarithm of audit fees reported for the fiscal year audit. Independent variable of interest is the interaction between a time-pressure engagement (*TIMEPRESSURE*) and an implementation year (*IMP75, IMPSOX, IMP60*). For each regression, all continuous independent variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 4
Audit Fee Regression Results (Using Fee Level Model - Probability Weighted):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers				Implementation of Second Acceleration to 60 Days for Large Accelerated Filers			
Dependent Variable: FEE		Time-Pressure All Accel vs. Control				Time-Pressure Large Accel vs. Control			
	Pred.	(1)		(2)		(3)		(4)	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
IMP75	+	0.165***	(6.16)	0.165***	(6.37)				
IMPSOX	+	0.684***	(16.76)	0.678***	(17.47)				
PREIMP60	-					-0.471***	(-11.86)	-0.490***	(-13.48)
IMP60	-					-0.442***	(-12.77)	-0.454***	(-14.44)
TIMEPRESSURE	?	0.180***	(3.52)	0.193***	(3.95)	0.082***	(2.62)	0.088***	(2.91)
TIMEPRESSURE*IMP75	+	**-0.165****	**(-2.19)**	**-0.179****	**(-2.51)**				
TIMEPRESSURE*IMPSOX	+	**-0.390*****	**(-3.85)**	**-0.420*****	**(-4.30)**				
TIMEPRESSURE*PREIMP60	?					**-0.093****	**(-2.11)**	**-0.100****	**(-2.42)**
TIMEPRESSURE*IMP60	+					**-0.058**	**(-1.36)**	**-0.072***	**(-1.78)**
EARLYADOPT	?	0.074*	(1.69)	0.076*	(1.84)	0.038	(1.38)	0.029	(1.10)
OFFICESLACK	-	-0.000	(-0.05)	-0.000	(-0.38)	-0.001	(-1.08)	-0.001	(-1.28)
OFFICESIZE	+	0.001	(1.40)	0.001**	(2.12)	0.000	(1.09)	0.000	(1.22)
OFFICESPEC	+	0.150***	(2.68)	0.128***	(2.61)	0.100***	(3.85)	0.097***	(4.16)
ASSETS	+	0.279***	(16.11)	0.275***	(16.57)	0.142***	(10.31)	0.138***	(10.94)
BTM	-	-0.057*	(-1.71)	-0.052*	(-1.67)	-0.034	(-0.62)	-0.035	(-0.70)
INVREC	+	0.424***	(4.66)	0.423***	(4.81)	0.202**	(2.06)	0.219**	(2.45)
BUSSEG	+	0.035***	(3.85)			0.014***	(2.77)		
FOREIGN	+	0.084**	(2.35)			0.063***	(4.04)		
SPECIAL	+	-0.004	(-0.13)	0.022	(0.77)	-0.015	(-0.79)	-0.011	(-0.63)
ACQ	+	0.045	(1.50)	0.051*	(1.85)	0.066***	(4.04)	0.061***	(4.13)
CURRENTRATIO	-	-0.015***	(-3.59)	-0.018***	(-4.27)	-0.015*	(-1.90)	-0.015*	(-1.83)
LEV	+	0.062	(1.10)	0.037	(0.67)	-0.003	(-0.06)	-0.013	(-0.25)
ROA	-	-0.214***	(-3.20)	-0.222***	(-3.44)	-0.160	(-1.26)	-0.189	(-1.51)
LOSS	-	0.090**	(2.40)	0.066*	(1.87)	-0.012	(-0.28)	-0.024	(-0.57)
GCONCERN	+	-0.052	(-0.52)	-0.114	(-1.24)	0.025	(0.34)	-0.032	(-0.38)
MW302/MW404	+	0.080	(0.99)	0.066	(0.89)	0.037	(0.42)	0.038	(0.47)
BIG4	+	0.255***	(4.89)	0.255***	(5.27)	0.038	(0.65)	0.063	(1.12)
BUSY	+	-0.047*	(-1.83)	-0.076***	(-3.12)	-0.015	(-0.77)	-0.020	(-1.10)
AUDITORCHG	-	-0.691***	(-8.87)	-0.624***	(-8.63)	-0.345***	(-4.33)	-0.303***	(-4.33)
ABSDA	?	0.003	(0.75)	0.003	(0.74)	0.001	(0.15)	0.001	(0.19)
LATE	+	0.033	(0.49)	0.066	(1.03)	-0.009	(-0.19)	-0.011	(-0.25)
LFEE	+	0.475***	(14.79)	0.506***	(17.48)	0.707***	(30.45)	0.730***	(35.08)
CONSTANT	?	4.090***	(8.76)	3.895***	(9.08)	3.449***	(14.38)	3.193***	(14.50)
Observations		4786		5273		2345		2700	
Adjusted R-squared		0.816		0.821		0.890		0.895	
Industry Controls Included		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No	
Sample Period		12/15/2002-12/14/2005				11/15/2004-12/14/2007			

Table 4 shows regression results for Model (2) using probability weighting. Sample observations are weighted using the inverse of the propensity score of from a first stage logistic regression of *TIMEPRESSURE* on *ASSETS*. First stage regression is estimated in the year immediately prior to implementation of *IMP75* for the first acceleration and *IMP60* for the second acceleration. Dependent variable *FEE* is equal to the natural logarithm of audit fees reported for the fiscal year audit. Independent variable of interest is the interaction between a time-pressure engagement (*TIMEPRESSURE*) and an implementation year (*IMP75, IMPSOX, IMP60*). For each regression, all continuous independent variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 5
Audit Fee Regression Results (Using Fee Level Model - Probability Weighted - Big 4 Clients Only):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers				Implementation of Second Acceleration to 60 Days for Large Accelerated Filers			
Dependent Variable: FEE		Time-Pressure All Accel vs. Control				Time-Pressure Large Accel vs. Control			
	Pred.	(1)		(2)		(3)		(4)	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
IMP75	+	0.189***	(6.57)	0.182***	(6.62)				
IMPSOX	+	0.738***	(21.51)	0.727***	(22.19)				
PREIMP60	-					-0.487***	(-12.83)	-0.511***	(-14.62)
IMP60	-					0.085***	(3.16)	-0.469***	(-16.62)
TIMEPRESSURE	?	0.178***	(3.36)	0.192***	(3.84)	-0.079**	(-2.00)	0.090***	(3.49)
TIMEPRESSURE*IMP75	**+**	**-0.175****	**(-2.24)**	**-0.189****	**(-2.58)**				
TIMEPRESSURE*IMPSOX	**+**	**-0.427*****	**(-3.94)**	**-0.409*****	**(-3.97)**				
TIMEPRESSURE*PREIMP60	?					**-0.452*****	**(-14.47)**	**-0.083****	**(-2.27)**
TIMEPRESSURE*IMP60	**+**					**-0.085****	**(-2.30)**	**-0.103*****	**(-2.99)**
EARLYADOPT	?	0.097**	(2.18)	0.077*	(1.91)	0.041*	(1.66)	0.033	(1.53)
OFFICESLACK	-	0.000	(0.07)	-0.000	(-0.16)	-0.001	(-0.97)	-0.001	(-1.40)
OFFICESIZE	+	0.001	(1.57)	0.001**	(2.18)	0.000*	(1.69)	0.000*	(1.72)
OFFICESPEC	+	0.108*	(1.94)	0.102**	(2.11)	0.102***	(4.39)	0.101***	(4.73)
ASSETS	+	0.268***	(14.19)	0.263***	(14.81)	0.133***	(10.31)	0.130***	(10.83)
BTM	-	-0.056	(-1.61)	-0.044	(-1.34)	-0.080	(-1.45)	-0.078	(-1.57)
INVREC	+	0.395***	(4.27)	0.388***	(4.48)	0.272***	(3.80)	0.282***	(4.43)
BUSSEG	+	0.032***	(3.74)			0.018***	(3.68)		
FOREIGN	+	0.083**	(2.52)			0.059***	(4.02)		
SPECIAL	+	0.006	(0.20)	0.033	(1.22)	-0.038**	(-2.02)	-0.026	(-1.56)
ACQ	+	0.058*	(1.88)	0.065**	(2.30)	0.076***	(4.71)	0.071***	(4.95)
CURRENTRATIO	-	-0.011***	(-2.62)	-0.014***	(-3.38)	-0.013*	(-1.74)	-0.011*	(-1.65)
LEV	+	0.087	(1.45)	0.054	(0.96)	-0.035	(-0.67)	-0.043	(-0.87)
ROA	-	-0.170**	(-2.34)	-0.187***	(-2.68)	-0.159	(-1.28)	-0.184	(-1.50)
LOSS	-	0.088**	(2.22)	0.055	(1.49)	-0.010	(-0.22)	-0.024	(-0.57)
GCONCERN	+	0.015	(0.12)	-0.057	(-0.51)	0.047	(0.59)	-0.015	(-0.18)
MW302/MW404	+	0.090	(1.58)	0.106**	(1.99)	0.125***	(3.28)	0.125***	(3.66)
BUSY	+	-0.034	(-1.27)	-0.064**	(-2.55)	0.006	(0.29)	-0.005	(-0.26)
AUDITORCHG	-	-0.591***	(-7.38)	-0.562***	(-7.58)	-0.180***	(-2.71)	-0.143***	(-2.62)
ABSDA	?	-0.003	(-0.67)	-0.002	(-0.50)	0.003	(0.88)	0.003	(1.04)
LATE	+	0.121**	(2.08)	0.134**	(2.52)	0.012	(0.39)	0.016	(0.56)
LFEE	+	0.498***	(14.66)	0.526***	(17.19)	0.725***	(34.26)	0.744***	(39.95)
CONSTANT	?	4.478***	(13.33)	4.291***	(14.11)	3.303***	(15.22)	3.116***	(16.27)
Observations		4175		4667		2072		2410	
Adjusted R-squared		0.819		0.824		0.906		0.909	
Industry Controls Included		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No	
Sample Period		12/15/2002-12/14/2005				11/15/2004-12/14/2007			

Table 5 shows regression results for Model (2) using probability weighting for sample clients with Big 4 auditors only (approximately 91%-95% of the total sample). Sample observations are weighted using the inverse of the propensity score of from a first stage logistic regression of *TIMEPRESSURE* on *ASSETS*. First stage regression is estimated in the year immediately prior to implementation of *IMP75* for the first acceleration and *IMP60* for the second acceleration. Dependent variable *FEE* is equal to the natural logarithm of audit fees reported for the fiscal year audit. Independent variable of interest is the interaction between a time-pressure engagement (*TIMEPRESSURE*) and an implementation year (*IMP75, IMPSOX, IMP60*). For each regression, all continuous independent variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 6
Restatement Regression Results (Using Abnormal Audit Fees):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers								Implementation of Second Acceleration to 60 Days for Large Accelerated Filers							
Dep. Variable: RESTATE		Time-Pressure Engagements				Control Engagements				Time-Pressure Engagements				Control Engagements			
	Pred.	(1)		(2)		(1)		(2)		(3)		(4)		(3)		(4)	
Indep. Variables	Sign	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)
AFEENEG	+	**-1.739**	**(-1.61)**	**-0.995****	**(-1.99)**	**0.170**	**(1.05)**	**0.138**	**(0.85)**	**3.488****	**(2.53)**	**1.885****	**(2.01)**	**-13.184*****	**(-3.59)**	**-4.219*****	**(-2.78)**
RESANN	+	0.752	(0.72)	1.118	(1.52)	1.519***	(6.81)	1.504***	(6.82)	0.422	(0.44)	0.482	(0.66)	4.560***	(2.71)	2.954*	(1.91)
NEWFIN	+	-0.033	(-0.04)	0.088	(0.12)	0.395**	(2.29)	0.393**	(2.34)	1.638**	(1.99)	1.380**	(2.32)	1.182	(1.03)	0.361	(0.34)
NEGEQUITY	+	0.000	(.)	0.000	(.)	-0.199	(-0.33)	-0.117	(-0.20)	0.000	(.)	0.000	(.)	2.775	(0.46)	0.542	(0.26)
AGE	-	0.324	(0.54)	-0.043	(-0.08)	0.187	(1.48)	0.187	(1.53)	-1.003*	(-1.84)	-0.872*	(-1.88)	-2.702**	(-2.35)	-0.087	(-0.08)
OFFICESLACK	-	0.055	(1.41)	0.031	(1.21)	-0.004	(-0.62)	-0.004	(-0.69)	0.028	(1.04)	-0.000	(-0.02)	0.029	(0.69)	0.015	(0.33)
OFFICESIZE	+	0.011	(0.83)	0.003	(0.27)	0.002	(0.93)	0.002	(0.85)	-0.013	(-1.03)	-0.004	(-0.32)	-0.125***	(-2.73)	-0.038	(-1.55)
OFFICESPEC	+	-0.177	(-0.09)	-0.212	(-0.14)	0.476	(1.60)	0.430	(1.50)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
ASSETS	+	-0.639*	(-1.81)	-0.039	(-0.13)	-0.207**	(-2.37)	-0.191**	(-2.31)	-0.752	(-1.44)	-0.882**	(-2.31)	-0.240	(-0.26)	0.133	(0.26)
BTM	+	1.729	(1.42)	1.001	(1.03)	0.111	(0.41)	0.185	(0.69)	1.369	(0.81)	0.476	(0.35)	0.155	(0.06)	-1.404	(-0.66)
INVREC	+	-0.485	(-0.22)	-0.415	(-0.22)	-0.998	(-1.53)	-0.673	(-1.21)	0.147	(0.03)	-2.777	(-0.78)	20.867**	(2.13)	4.453	(1.18)
BUSSEG	+	0.334	(1.19)	0.295	(1.48)	0.078	(1.38)	0.080	(1.43)	0.191	(1.24)	0.260*	(1.93)	0.027	(0.06)	0.318	(0.67)
FOREIGN	+	0.014	(0.01)	0.017	(0.02)	0.117	(0.63)	0.084	(0.46)	-0.198	(-0.30)	0.092	(0.16)	-0.157	(-0.08)	0.816	(0.57)
SPECIAL	+	1.195	(1.33)	0.967	(1.41)	0.229	(1.17)	0.236	(1.25)	0.439	(0.57)	0.080	(0.15)	2.246*	(1.70)	1.156	(0.88)
ACQ	+	0.313	(0.37)	0.158	(0.25)	0.252	(1.52)	0.244	(1.50)	-0.306	(-0.34)	0.215	(0.31)	0.449	(0.38)	-0.531	(-0.59)
CURRENTRATIO	-	-0.210	(-1.05)	-0.013	(-0.13)	-0.061	(-1.55)	-0.092**	(-2.38)	-0.292	(-1.15)	-0.310**	(-2.36)	-0.009	(-0.01)	-0.132	(-0.45)
LEV	+	2.457	(1.62)	1.966	(1.29)	0.146	(0.30)	0.171	(0.36)	2.930	(1.42)	2.267	(1.17)	3.411	(0.50)	0.024	(0.01)
ROA	-	-0.158	(-0.05)	0.605	(0.24)	0.551	(0.94)	0.851	(1.48)	-2.339	(-0.44)	-1.347	(-0.41)	-24.593**	(-2.03)	-6.556	(-1.47)
LOSS	-	-2.536*	(-1.77)	-0.844	(-1.37)	0.870***	(3.97)	0.856***	(3.90)	1.719	(1.53)	1.647*	(1.73)	-5.255	(-1.58)	-2.767*	(-1.72)
GCONCERN	+	-1.666	(-0.59)	1.265	(0.80)	-0.206	(-0.31)	-0.030	(-0.05)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
MW302/MW404	+	3.005**	(2.26)	1.757**	(2.13)	0.727***	(2.73)	0.655**	(2.49)	1.850	(1.53)	1.552*	(1.69)	0.000	(.)	0.000	(.)
BIG4	+	-1.604*	(-1.76)	-1.431*	(-1.73)	0.174	(0.55)	0.188	(0.60)	1.448	(1.30)	1.548	(1.36)	5.188	(1.44)	1.172	(0.65)
BUSY	+	-1.365	(-1.18)	-1.058*	(-1.67)	-0.001	(-0.00)	0.002	(0.01)	0.000	(.)	0.000	(.)	1.132	(0.82)	1.757**	(2.13)
AUDITORCHG	?	-0.868	(-0.70)	-1.026	(-1.01)	0.431	(1.33)	0.395	(1.23)	0.368	(0.39)	-0.153	(-0.15)	0.000	(.)	0.000	(.)
ABSDA	+	0.019	(0.14)	0.032	(0.48)	0.009	(0.35)	-0.008	(-0.31)	0.366	(0.43)	0.033	(0.14)	-9.945***	(-2.66)	-3.068*	(-1.90)
LATE	+	0.785	(1.04)	0.872	(1.26)	0.394	(1.49)	0.412	(1.59)	0.894	(1.02)	0.784	(0.97)	4.147	(1.48)	1.351	(0.85)
LFEE	+	0.055	(0.13)	-0.117	(-0.37)	0.046	(0.40)	0.031	(0.29)	1.042	(1.16)	1.077	(1.58)	-1.827***	(-2.67)	-1.369**	(-2.23)
CONSTANT	?	2.861	(0.56)	-2.939	(-0.73)	-4.535***	(-2.84)	-3.184***	(-2.85)	-12.783	(-1.28)	-13.043	(-1.55)	15.923*	(1.95)	11.722	(1.29)
Observations		201		259		2959		2967		223		272		296		336	
Pseudo- R-squared		0.3194		0.2179		0.1028		0.0910		0.372		0.3093		0.5522		0.3813	
Wald p-value		0.1429		0.0065		0.0000		0.0000		0.0101		0.0085		0.0009		0.0000	
Industry Controls Included		YES		NO		YES		NO		YES		NO		YES		NO	
Segment Controls Included		YES		YES		YES		YES		YES		YES		YES		YES	
Year Controls Included		YES		YES		YES		YES		NO		NO		NO		NO	
Sample Period		12/15/2003-11/14/2005				12/15/2003-11/14/2005				12/15/2006-12/14/2007				12/15/2006-12/14/2007			

Table 6 shows regression results for Model (3) during the years of implementation (*IMP75 & IMPSOX; IMP60*) comparing time-pressure engagements to the control group. Dependent variable *RESTATE* is equal to 1 if there is a restatement originating in the current year's 10-K. Independent variable of interest is *AFEENEG,* equal to -1 multiplied by estimated abnormal audit fees for the client-firm-year. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. Z-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 7
Restatement Regression Results (Using Abnormal Audit Fees - No Segment Controls):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers								Implementation of Second Acceleration to 60 Days for Large Accelerated Filers							
Dep. Variable: RESTATE		Time-Pressure Engagements				Control Engagements				Time-Pressure Engagements				Control Engagements			
	Pred.	(1)		(2)		(1)		(2)		(3)		(4)		(3)		(4)	
Indep. Variables	**Sign**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**
AFEENEG	+	**-1.352****	**(-2.06)**	**-1.020***	**(-1.87)**	**0.159**	**(0.99)**	**0.128**	**(0.79)**	**2.589****	**(2.55)**	**1.420***	**(1.82)**	**-10.222****	**(-2.48)**	**-4.095****	**(-2.53)**
RESANN	+	1.177	(1.46)	1.364**	(2.10)	1.502***	(7.21)	1.497***	(7.25)	0.491	(0.60)	0.510	(0.74)	3.902***	(3.34)	2.875***	(3.14)
NEWFIN	+	0.095	(0.12)	0.094	(0.14)	0.351**	(2.13)	0.333**	(2.07)	1.392*	(1.91)	0.983*	(1.74)	-0.492	(-0.60)	-0.201	(-0.25)
NEGEQUITY	+	0.000	(.)	0.000	(.)	-0.175	(-0.30)	-0.114	(-0.20)	0.000	(.)	0.000	(.)	1.446	(0.50)	0.837	(0.51)
AGE	-	0.161	(0.31)	-0.011	(-0.02)	0.234*	(1.92)	0.221*	(1.88)	-0.761	(-1.54)	-0.665	(-1.54)	-1.844	(-1.53)	-0.026	(-0.04)
OFFICESLACK	-	0.029	(1.25)	0.012	(0.68)	-0.005	(-0.92)	-0.005	(-0.95)	-0.011	(-0.43)	-0.025	(-1.03)	0.036	(0.95)	0.018	(0.54)
OFFICESIZE	+	-0.002	(-0.16)	-0.004	(-0.37)	0.002	(0.69)	0.001	(0.58)	-0.008	(-0.68)	-0.007	(-0.58)	-0.053*	(-1.85)	-0.026	(-1.54)
OFFICESPEC	-	0.718	(0.45)	-0.137	(-0.10)	0.362	(1.26)	0.352	(1.26)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
ASSETS	+	-0.454	(-1.42)	0.073	(0.25)	-0.226***	(-2.67)	-0.213***	(-2.68)	-0.543	(-1.09)	-0.880**	(-2.23)	-0.275	(-0.43)	0.045	(0.12)
BTM	+	1.880	(1.63)	0.773	(0.83)	0.179	(0.69)	0.244	(0.94)	1.471	(0.99)	0.469	(0.39)	1.150	(0.43)	0.097	(0.06)
INVREC	+	-1.109	(-0.55)	-0.256	(-0.17)	-0.845	(-1.36)	-0.734	(-1.40)	0.784	(0.20)	-1.309	(-0.56)	9.034***	(2.60)	4.034*	(1.89)
SPECIAL	+	0.986	(1.49)	0.954*	(1.65)	0.159	(0.83)	0.172	(0.93)	0.804	(1.24)	0.776	(1.45)	2.734**	(2.31)	1.320*	(1.69)
ACQ	+	0.586	(0.75)	0.672	(1.07)	0.273*	(1.76)	0.275*	(1.79)	0.151	(0.22)	0.329	(0.53)	0.728	(0.70)	-0.354	(-0.47)
CURRENTRATIO	-	-0.075	(-0.60)	0.032	(0.37)	-0.037	(-0.96)	-0.072*	(-1.94)	-0.292	(-1.42)	-0.249**	(-2.35)	0.237	(0.66)	-0.065	(-0.38)
LEV	+	2.508	(1.54)	1.563	(1.15)	0.184	(0.39)	0.220	(0.47)	3.316	(1.57)	3.087	(1.51)	5.220	(0.99)	0.192	(0.08)
ROA	-	1.289	(0.51)	0.621	(0.28)	0.624	(1.09)	0.928*	(1.65)	-3.293	(-0.71)	-1.928	(-0.61)	-9.941	(-1.34)	-3.175	(-0.98)
LOSS	-	-1.228	(-1.48)	-0.716	(-1.12)	0.760***	(3.58)	0.739***	(3.47)	1.011	(1.01)	1.054	(1.29)	-0.933	(-0.40)	-0.266	(-0.15)
GCONCERN	+	-2.238	(-1.38)	-0.134	(-0.11)	-0.199	(-0.31)	-0.062	(-0.10)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
MW302/MW404	+	2.058**	(2.31)	1.320	(1.56)	0.736***	(2.98)	0.692***	(2.83)	0.507	(0.48)	0.340	(0.33)	0.000	(.)	0.000	(.)
BIG4	+	-2.030**	(-2.28)	-1.802**	(-2.29)	0.187	(0.64)	0.189	(0.65)	-0.326	(-0.34)	-0.373	(-0.37)	2.828*	(1.79)	1.481	(1.21)
BUSY	+	-0.518	(-0.77)	-0.729	(-1.43)	0.026	(0.15)	0.029	(0.17)	0.000	(.)	0.000	(.)	1.142	(0.97)	1.895*	(1.90)
AUDITORCHG	?	-1.530	(-1.41)	-1.585	(-1.64)	0.309	(1.01)	0.288	(0.95)	-1.002	(-0.67)	-0.260	(-0.23)	0.000	(.)	0.000	(.)
ABSDA	+	0.040	(0.40)	0.024	(0.35)	0.011	(0.46)	0.000	(0.01)	0.264	(0.40)	0.054	(0.27)	-7.574***	(-2.71)	-3.376**	(-2.20)
LATE	+	0.494	(0.81)	0.566	(0.90)	0.386	(1.52)	0.393	(1.57)	1.053	(1.25)	0.400	(0.59)	1.452	(1.20)	1.104	(1.12)
LFEE	+	0.030	(0.07)	-0.086	(-0.25)	0.104	(0.94)	0.091	(0.88)	0.597	(0.89)	0.792	(1.60)	-2.027***	(-3.15)	-1.080**	(-2.11)
CONSTANT	?	1.741	(0.38)	-2.299	(-0.59)	-5.107***	(-3.25)	-3.657***	(-3.39)	-7.419	(-0.98)	-7.440	(-1.20)	23.248***	(3.00)	7.865	(1.55)
Observations		227		286		3264		3292		261		312		335		383	
Pseudo- R-squared		0.2905		0.1928		0.0919		0.0823		0.3133		0.2401		0.4843		0.3451	
Wald p-value		0.0056		0.0069		0.0000		0.0000		0.0065		0.0047		0.0000		0.0000	
Industry Controls Included		YES		NO		YES		NO		YES		NO		YES		NO	
Segment Controls Included		NO		NO		NO		NO		NO		NO		NO		NO	
Year Controls Included		YES		YES		YES		YES		NO		NO		NO		NO	
Sample Period		12/15/2003-11/14/2005				12/15/2003-11/14/2005				12/15/2006-12/14/2007				12/15/2006-12/14/2007			

Table 7 shows regression results for Model (3) during the years of implementation (*IMP75 & IMPSOX; IMP60*) comparing time-pressure engagements to the control group. Regressions excludes segments controls to increase sample size. Dependent variable *RESTATE* is equal to 1 if there is a restatement originating in the current year's 10-K. Independent variable of interest is *AFEENEG,* equal to -1 multiplied by estimated abnormal audit fees for the client-firm-year. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. Z-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 8
Analysis of Client Disclosures and the Mention of Internal Audit (IA)

Pre-Imp. Period	*IMP75*	*IMPSOX*	*PREIMP60*	*IMP60*	Post-Imp. Period		
		Correlation *FEE*IAFIRSTMENTION*				**Client Category**	**All Accelerated Filers (*ACCEL*) vs. Large Accelerated Filers Only (*LGACCEL*)**
0.1535***	0.0263	-0.0452*	-0.0129	-0.0304	0.0236	*ACCEL*	
0.1797***	-0.0375	-0.076**	-0.0282	-0.0621*	0.0411	*LGACCEL*	
		Frequency *IAFIRSTMENTION*				**Client Category**	**Sample 1 - All Accelerated Filers (*ACCEL*) - Time Pressure (*TIMEPRESSURE*) for First Acceleration to 75 Days**
13.93%	22.88%	23.59%	11.85%	12.55%	8.65%	*CONTROL * ACCEL*	
13.19%	25.14%	26.42%	15.12%	16.49%	8.52%	*TIMEPRESSURE * ACCEL*	
		Frequency *IAFIRSTMENTION*				**Client Category**	**Sample 1 - Large Accelerated Filers (*LGACCEL*) - Time Pressure (*TIMEPRESSURE*) for First Acceleration to 75 Days**
17.11%	23.65%	20.40%	11.75%	12.91%	8.54%	*CONTROL * LGACCEL*	
11.94%	26.76%	21.11%	11.11%	15.38%	5.88%	*TIMEPRESSURE * LGACCEL*	
		Frequency *IAFIRSTMENTION*				**Client Category**	**Sample 2 - Large Accelerated Filers (*LGACCEL*) - Time Pressure (*TIMEPRESSURE*) for Second Acceleration to 60 Days**
18.29%	23.08%	18.18%	11.39%	11.39%	5.53%	*CONTROL * LGACCEL*	
17.10%	24.32%	21.84%	11.38%	12.01%	9.69%	*TIMEPRESSURE * LGACCEL*	

The top portion of Table 8 shows the correlations between first mention of "internal audit" in a client's disclosures (*IAFIRSTMENTION*) and audit fees (*FEE*) for client-firms during the period before, during, and after implementation of the accelerated filing deadlines. The remainder of the table documents the frequencies of *IAFIRSTMENTION* for client-firms used in each of the fee regressions comparing time-pressure categories (*TIMEPRESSURE*) to the control group (*CONTROL*). See Appendix 1 for variable definitions. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

TABLE 9
Audit Fee Regression Results (Using Fee Level Model - Probability Weighted - Internal Audit Analysis):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated				Implementation of Second Acceleration to 60 Days for Large Accelerated Filers			
Dependent Variable: FEE		Time-Pressure All Accel vs. Control				Time-Pressure Large Accel vs. Control			
	Pred.	(1)		(2)		(3)		(4)	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
IMP75	+	0.119***	(4.14)	0.126***	(4.48)				
IMPSOX	+	0.600***	(15.84)	0.594***	(16.70)				
PREIMP60	-					-0.538***	(-15.11)	-0.559***	(-17.54)
IMP60	-					-0.480***	(-13.03)	-0.508***	(-15.53)
IAFIRSTMENTION	?	0.095*	(1.86)	0.135***	(2.77)	-0.019	(-0.44)	-0.012	(-0.29)
IAFIRSTMENTION*IMP75	**?**	**-0.091**	**(-1.38)**	**-0.153****	**(-2.43)**				
IAFIRSTMENTION*IMPSOX	**?**	**-0.098**	**(-1.55)**	**-0.107***	**(-1.75)**				
IAFIRSTMENTION*PREIMP60	**?**					**-0.062**	**(-0.82)**	**-0.049**	**(-0.71)**
IAFIRSTMENTION*IMP60	**?**					**-0.003**	**(-0.06)**	**0.017**	**(0.33)**
OFFICESLACK	-	-0.001	(-0.93)	-0.001	(-1.49)	-0.002**	(-2.18)	-0.002*	(-1.90)
OFFICESIZE	+	0.001**	(2.54)	0.001***	(3.08)	0.000	(1.47)	0.000	(1.42)
OFFICESPEC	+	0.106***	(2.61)	0.103***	(2.75)	0.101***	(3.31)	0.098***	(3.57)
ASSETS	+	0.272***	(18.11)	0.270***	(19.04)	0.173***	(9.47)	0.168***	(10.13)
BTM	-	-0.076**	(-2.39)	-0.067**	(-2.33)	0.014	(0.30)	-0.010	(-0.21)
INVREC	+	0.342***	(4.52)	0.360***	(5.03)	0.269***	(2.97)	0.291***	(3.43)
BUSSEG	+	0.027***	(3.47)			0.018***	(2.63)		
FOREIGN	+	0.047	(1.56)			0.043**	(2.21)		
SPECIAL	+	-0.026	(-0.99)	-0.002	(-0.09)	-0.020	(-0.92)	-0.014	(-0.71)
ACQ	+	0.041	(1.63)	0.047**	(2.02)	0.066***	(3.21)	0.077***	(4.20)
CURRENTRATIO	-	-0.019***	(-4.56)	-0.022***	(-5.06)	0.002	(0.26)	0.002	(0.29)
LEV	+	0.041	(0.77)	0.010	(0.20)	0.107*	(1.92)	0.075	(1.42)
ROA	-	-0.285***	(-3.86)	-0.288***	(-4.16)	0.090	(0.70)	-0.001	(-0.01)
LOSS	-	0.043	(1.33)	0.031	(1.01)	0.085**	(1.97)	0.054	(1.32)
GCONCERN	+	-0.118	(-1.16)	-0.106	(-1.20)	-0.013	(-0.11)	-0.033	(-0.30)
MW302/MW404	+	0.157***	(2.67)	0.149***	(2.74)	0.115**	(2.33)	0.131***	(2.91)
BIG4	+	0.303***	(5.72)	0.307***	(6.23)	0.179**	(2.22)	0.202**	(2.42)
BUSY	+	-0.055**	(-2.41)	-0.068***	(-3.25)	-0.027	(-1.25)	-0.033*	(-1.72)
AUDITORCHG	-	-0.679***	(-10.78)	-0.639***	(-10.75)	-0.423***	(-4.65)	-0.391***	(-4.77)
ABSDA	?	0.000	(0.11)	0.000	(0.07)	0.004	(0.70)	0.004	(0.82)
LATE	+	0.042	(0.76)	0.064	(1.28)	-0.008	(-0.16)	0.003	(0.07)
LFEE	+	0.501***	(20.54)	0.522***	(23.27)	0.665***	(20.29)	0.692***	(25.11)
CONSTANT	?	3.963***	(9.29)	3.833***	(9.69)	3.612***	(10.67)	3.303***	(11.38)
Observations		4211		4654		2163		2477	
Adjusted R-squared		0.814		0.821		0.864		0.869	
Industry Controls Included		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No	
Sample Period		12/15/2002-12/14/2005				11/15/2004-12/14/2007			

Table 9 shows regression results for Model (2) using probability weighting. Sample observations are weighted using the inverse of the propensity score of from a first stage logistic regression of *TIMEPRESSURE* on *ASSETS*. First stage regression is estimated in the year immediately prior to implementation of *IMP75* for the first acceleration and *IMP60* for the second acceleration. Dependent variable *FEE* is equal to the natural logarithm of audit fees reported for the fiscal year audit. Independent variable of interest is the interaction between the first mention of "internal audit" in a client's disclosures (*IAFIRSTMENTION*) and an implementation year (*IMP75, IMPSOX, IMP60*). For each regression, all continuous independent variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

11. APPENDICES

APPENDIX 1

Regression Variable Definitions

Variable	Description
FEE	Natural logarithm of total audit fees charged to client firm in the current year.
LFEE	Natural logarithm of total audit fees charged to client firm in the prior year.
Δ*FEE*	Percentage change in total audit fees charged to client firm (current vs. prior year audit).
Δ*FEENEG*	Equal to -1 multiplied by the percentage change in total audit fees charged to client firm (current vs. prior year audit).
AFEE	Estimated abnormal audit fees (i.e. the residuals from the audit fee model).
AFEENEG	Equal to -1 multiplied by estimated abnormal audit fees (i.e. the residuals from the audit fee model).
TIMEPRESSURE	Client engagement whose audit report lag was greater than 75 (60) days in the year (two years) prior to the first year of mandatory acceleration of the 75-day (60-day) deadline for all accelerated filers (large accelerated filers).
IMP75	First year of implementation of the 75-day deadline for all accelerated filers (fiscal years-ended 12/15/2003-11/14/2004).
IMPSOX	First year of implementation of SOX 404 for all accelerated filers (fiscal years-ended 11/15/2004-11/14/2005).
PREIMP60	Year prior to implementation of the 60-day deadline for large accelerated filers (fiscal years-ended 11/15/2005-12/14/2006).
IMP60	First year of implementation of the 60-day deadline for large accelerated filers (fiscal years-ended 12/15/2006-12/14/2007).
EARLYADOPT	1 if the period is *IMPSOX* or *IMP60* and the client engagement was identified as *TIMEPRESSURE* but already accelerated its audit report date to meet the new deadline in the prior year.
OFFICESLACK	Office slack (in days) - equal to the average engagement slack for all clients of a given audit office. Engagement slack is equal to the prior year's audit report deadline minus the client's prior year audit report date.
OFFICESIZE	Office size - equal to the total number of current year audit office clients.
Δ*OFFICESIZE*	*OFFICESIZE* minus lagged *OFFICESIZE* (current vs. prior year).
OFFICESPEC	1 if the audit office was an industry specialist (the audit office billing the largest total fees for an industry group) in the current year, else 0.

Δ*OFFICESPEC*	1 if there was a change in *OFFICESPEC* in the current year, else 0.
ASSETS	Natural logarithm of total client assets.
Δ*ASSETS*	Natural logarithm of total client assets minus the lagged natural logarithm of total client assets (current vs. prior year).
BTM	Book-to-market ratio (total book value of common equity divided by total market value of common equity).
Δ*BTM*	Book-to-market ratio minus the lagged book-to-market ratio (current vs. prior year).
INVREC	Sum of client's inventory plus receivables divided by total assets.
Δ*INVREC*	*INVREC* minus lagged *INVREC* (current vs. prior year).
BUSSEG	Number of client's business segments.
Δ*BUSSEG*	*BUSSEG* minus lagged *BUSSEG* (current vs. prior year).
FOREIGN	1 if the client has foreign sales, else 0.
SPECIAL	1 if the client reported either an extraordinary item or discontinued operations, else 0.
SPECNOSPEC	1 if the client reported either an extraordinary item or discontinued operations in the prior year but not in the current year, else 0.
NOSPECSPEC	1 if the client reported either an extraordinary item or discontinued operations in the current year but not in the prior year, else 0.
ACQ	1 if the client reported an acquisition, else 0.
ACQNOACQ	1 if the client reported an acquisition in the prior year but not in the current year, else 0.
NOACQACQ	1 if the client reported an acquisition in the current year but not in the prior year, else 0.
CURRENTRATIO	Client's current ratio (total current assets divided by total current liabilities).
Δ*CURRENTRATIO*	*CURRENTRATIO* minus lagged *CURRENTRATIO* (current vs. prior year).
LEV	Client's leverage (total liabilities divided by total assets).
Δ*LEV*	*LEV* minus lagged *LEV* (current vs. prior year).
ROA	Client's return on assets (net income divided by total assets).
LOSS	1 if the client reported a net loss for the current year, else 0.

LOSSNOLOSS	1 if the client reported a net loss for the prior year but not in the current year, else 0.
NOLOSSLOSS	1 if the client reported a net loss for the current year but not in the prior year, else 0.
GCONCERN	1 if the client's audit opinion includes a going concern qualification in the current year, else 0.
GCNOGC	1 if the client's audit opinion includes a going concern qualification in the prior year but not in the current year, else 0.
NOGCGC	1 if the client's audit opinion includes a going concern qualification in the current year but not in the prior year, else 0.
MW302/MW404	1 if the client's audit reports a SOX 302/404 material weakness in the current year, else 0.
MWNOMW	1 if the client's audit reports a SOX 302/404 material weakness in the prior year but not in the current year, else 0.
NOMWMW	1 if the client's audit reports a SOX 302404 material weakness in the current year but not in the prior year, else 0.
BIG4	1 if the auditor is part of the Big 4 (Deloitte & Touche, Ernst & Young, KPMG or PricewaterhouseCoopers), else 0.
BUSY	1 if the client's fiscal year end is in December ("Busy-Season" audits), else 0.
AUDITORCHG	1 if there was a change in auditor, else 0.
ABSDA	Absolute value of client's discretionary accruals estimated using the Modified Jones Model.
ABSCHDA	Absolute change in client's discretionary accruals estimated using the Modified Jones Model.
LATE	1 if the client's audit report was signed after the SEC deadline for the current year, else 0.
RESTATE	1 if there is a restatement originating in the current year's 10-K, else 0.
RESANN	1 if the client announced a restatement in the current year.
NEWFIN	1 if the client issued new long-term debt or equity which exceeded 20% of total assets for the period, else 0.
NEGEQUITY	1 if the client has a negative equity balance (i.e. total liabilities are greater than total assets), else 0.
AGE	Client's age (natural logarithm of total years the client has been on the Compustat database).
IndustryControls	Indicator variables for client industry as defined in Frankel et al. (2002).
IAFIRSTMENTION	1 if the client mentions “internal audit” in a corporate disclosure (10-K, 10-Q, 8-K, DEF-14A) in the current year but not in the prior year, else 0. Data obtained using the SeekInf search engine and the SeekEdgar database.

APPENDIX 2
Audit Fee Regression Results for Estimation of Abnormal Audit Fees:

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers				Implementation of Second Acceleration to 60 Days for Large Accelerated Filers			
Dependent Variable: FEE		Time Pressure All Accel vs. Control				Time Pressure Large Accel vs. Control			
Residuals: AFEE		(1)		(2)		(3)		(4)	
Independent Variables	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
TIMEPRESSURE	?	0.060**	(2.48)	0.066***	(2.90)	0.041**	(2.46)	0.036**	(2.32)
OFFICESLACK	-	-0.001*	(-1.86)	-0.002**	(-2.33)	-0.001*	(-1.73)	-0.001*	(-1.69)
OFFICESIZE	+	0.001***	(4.16)	0.001***	(4.41)	0.000*	(1.71)	0.000*	(1.92)
OFFICESPEC	+	0.102***	(2.71)	0.101***	(2.87)	0.096***	(3.64)	0.097***	(4.10)
ASSETS	+	0.271***	(22.58)	0.275***	(22.98)	0.156***	(10.51)	0.153***	(11.38)
BTM	-	-0.072***	(-3.13)	-0.069***	(-3.19)	-0.032	(-0.69)	-0.042	(-0.98)
INVREC	+	0.400***	(6.47)	0.437***	(7.41)	0.257***	(3.47)	0.269***	(3.98)
BUSSEG	+	0.029***	(4.71)			0.017***	(3.15)		
FOREIGN	+	0.070***	(3.34)			0.053***	(3.25)		
SPECIAL	+	0.002	(0.09)	0.022	(1.09)	-0.019	(-1.02)	-0.014	(-0.84)
ACQ	+	0.071***	(3.79)	0.071***	(4.09)	0.070***	(4.17)	0.066***	(4.42)
CURRENTRATIO	-	-0.015***	(-4.34)	-0.017***	(-4.99)	-0.005	(-0.76)	-0.005	(-0.86)
LEV	+	0.057	(1.38)	0.028	(0.69)	0.060	(1.14)	0.041	(0.82)
ROA	-	-0.251***	(-4.85)	-0.257***	(-5.15)	-0.089	(-0.78)	-0.120	(-1.10)
LOSS	-	0.051**	(2.05)	0.041*	(1.73)	0.013	(0.32)	0.000	(0.00)
GCONCERN	+	-0.042	(-0.55)	-0.080	(-1.16)	0.032	(0.31)	-0.016	(-0.16)
MW302/MW404	+	-0.728***	(-12.80)	-0.702***	(-13.26)	0.100**	(2.18)	0.110***	(2.70)
BIG4	+	0.155***	(3.38)	0.149***	(3.48)	0.078	(1.26)	0.107*	(1.70)
BUSY	+	0.271***	(6.92)	0.270***	(7.26)	-0.021	(-1.16)	-0.025	(-1.54)
AUDITORCHG	-	-0.035**	(-1.99)	-0.038**	(-2.34)	-0.415***	(-5.22)	-0.368***	(-5.28)
ABSDA	?	0.002	(0.60)	0.002	(0.54)	0.002	(0.71)	0.002	(0.91)
LATE	+	-0.023	(-0.47)	-0.002	(-0.04)	-0.013	(-0.30)	-0.012	(-0.29)
LFEE	+	0.495***	(24.88)	0.513***	(26.56)	0.689***	(27.19)	0.712***	(32.78)
CONSTANT	?	3.980***	(9.94)	3.863***	(10.25)	3.499***	(13.32)	3.236***	(14.10)
Observations		4790		5277		2377		2732	
Adjusted R-squared		0.813		0.819		0.873		0.878	
Industry Controls Included		Yes		Yes		Yes		Yes	
Year Controls Included		Yes		Yes		Yes		Yes	
Sample Period		12/15/2002-12/14/2005				11/15/2004-12/14/2007			

Appendix 2 shows the results of fee regressions from Model (2) used to estimate abnormal audit fees (*AFEE*). Dependent variable *FEE* is equal to the natural logarithm of audit fees reported for the fiscal year audit. The residuals estimated from the models reflect abnormal audit fees (*AFEE*) or the difference between the actual audit fees charged and the expected audit fee based on the estimated regression coefficients. For each regression, all continuous independent variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

APPENDIX 3
Audit Fee Regression Results (Using Fee Change Model):

		Implementation of First Acceleration to 75 Days for All				Implementation of SOX 404 for All Accelerated Filers				Implementation of Second Acceleration to 60 Days for Large			
Dep. Variable: ΔFEE		Time Pressure All Accel vs. Control				Time Pressure All Accel vs. Control				Time Pressure Large Accel vs. Control			
	Pred.	(1)		(2)		(3)		(4)		(5)		(6)	
Indep. Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
TIMEPRESSURE	+	**-0.361***	**(-1.82)**	**-0.407****	**(-2.26)**	**-0.875*****	**(-7.27)**	**-0.756*****	**(-5.26)**	**-0.011**	**(-0.53)**	**-0.033***	**(-1.84)**
EARLYADOPT	+					0.119	(1.30)	0.118	(1.38)	-0.006	(-0.26)	-0.017	(-0.89)
OFFICESLACK	-	-0.010	(-1.38)	-0.008	(-1.28)	-0.007***	(-2.91)	-0.007***	(-3.23)	-0.001	(-0.81)	-0.001	(-1.04)
ΔOFFICESIZE	+	0.033	(1.52)	0.031	(1.57)	-0.005	(-1.04)	-0.000	(-0.02)	0.002	(1.05)	0.001	(0.65)
ΔOFFICESPEC	?	0.495	(0.86)	0.380	(0.72)	-0.042	(-0.22)	-0.013	(-0.08)	0.003	(0.10)	0.027	(0.74)
ΔASSETS	+	0.631**	(2.06)	0.652**	(2.27)	0.786***	(5.76)	0.780***	(5.99)	0.391***	(5.25)	0.387***	(5.86)
ΔBTM	-	0.334	(1.53)	0.304	(1.57)	0.258	(1.49)	0.179	(1.12)	0.188**	(2.03)	0.143*	(1.89)
ΔINVREC	+	-0.459	(-0.29)	-0.419	(-0.28)	1.289*	(1.88)	1.455**	(2.21)	0.236	(0.61)	0.222	(0.69)
ΔBUSSEG	+	0.301**	(2.05)			-0.037	(-0.55)			0.023	(0.78)		
FOREIGN	+	0.214	(1.10)			-0.107*	(-1.80)			-0.019	(-0.97)		
SPECNOSPEC	-	-0.044	(-0.20)	-0.094	(-0.50)	0.065	(0.90)	0.027	(0.41)	-0.004	(-0.12)	0.001	(0.03)
NOSPECSPEC	+	-0.583***	(-2.88)	-0.533***	(-2.99)	-0.046	(-0.49)	-0.038	(-0.43)	0.005	(0.15)	0.009	(0.31)
ACQNOACQ	-	-0.329*	(-1.81)	-0.373**	(-2.34)	-0.024	(-0.27)	-0.042	(-0.52)	-0.059**	(-2.12)	-0.051**	(-2.15)
NOACQACQ	+	0.209	(0.89)	0.186	(0.85)	0.098	(1.25)	0.101	(1.40)	0.024	(0.81)	0.016	(0.62)
ΔCURRENTRATIO	-	0.098*	(1.74)	0.104*	(1.81)	-0.021	(-0.85)	-0.019	(-0.76)	-0.016	(-1.04)	-0.018	(-1.60)
ΔLEV	+	2.043*	(1.92)	1.775*	(1.84)	0.129	(0.39)	0.064	(0.20)	0.105	(0.65)	0.052	(0.37)
ΔROA	+	-0.041	(-0.08)	-0.167	(-0.37)	-0.373	(-1.18)	-0.482	(-1.59)	-0.536***	(-2.60)	-0.514***	(-2.67)
LOSSNOLOSS	-	0.165	(0.74)	0.140	(0.72)	-0.027	(-0.31)	-0.064	(-0.81)	-0.009	(-0.23)	0.012	(0.32)
NOLOSSLOSS	+	0.694*	(1.75)	0.577	(1.62)	0.045	(0.40)	-0.019	(-0.18)	0.065	(1.01)	0.029	(0.52)
GCNOGC	-	0.966	(1.32)	0.838	(1.24)	-0.586**	(-2.37)	-0.540**	(-2.16)	-0.167**	(-2.00)	-0.035	(-0.28)
NOGCGC	+	-0.699*	(-1.65)	-0.231	(-0.39)	0.297	(1.03)	0.279	(0.96)	0.000	(.)	0.000	(.)
MWNOMW	-	-0.249	(-0.89)	-0.257	(-1.14)	0.259	(0.60)	0.222	(0.51)	-0.084	(-1.42)	-0.084	(-1.48)
NOMWMW	+	-0.550*	(-1.82)	-0.547**	(-2.05)	0.295***	(2.97)	0.330***	(3.59)	0.268***	(2.86)	0.180**	(2.54)
BIG4	+	0.100	(0.33)	0.143	(0.52)	0.565***	(5.55)	0.587***	(6.15)	-0.248***	(-4.66)	-0.229***	(-3.97)
BUSY	+	0.785***	(6.13)	0.721***	(6.00)	-0.035	(-0.59)	-0.037	(-0.67)	-0.000	(-0.00)	0.001	(0.29)
AUDITORCHG	-	-0.488	(-1.46)	-0.546**	(-2.14)	-0.469***	(-3.38)	-0.383***	(-3.17)	-0.132*	(-1.86)	-0.077	(-1.26)
ABSCHDA	+	-0.013	(-0.59)	-0.014	(-0.78)	-0.002	(-0.29)	0.004	(0.49)	0.054**	(2.49)	0.054***	(2.83)
LATE	+	0.553	(1.32)	0.620	(1.63)	0.123	(1.13)	0.133	(1.30)	0.014	(0.49)	0.004	(0.17)
CONSTANT	?	-0.288	(-0.57)	-0.206	(-0.46)	0.381	(1.03)	0.337	(0.89)	0.305***	(3.97)	0.266***	(4.13)
Observations		1642		1854		1504		1695		720		838	
Adjusted R-squared		0.029		0.024		0.108		0.108		0.199		0.177	
Industry Controls Included		Yes		Yes		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No		Yes		No	
Sample Period		12/15/2003 -11/14/2004				11/15/2004 - 12/14/2005				12/15/2006 - 12/14/2007			

Appendix 3 shows regressions results from Model (2) using a fee "changes" model and analyzes each implementation year separately (*IMP75*, *IMPSOX,* IMP60). Dependent variable Δ*FEE* is equal to the percentage change in audit fees from the prior fiscal-year audit. Independent variable of interest is a time-pressure engagement (*TIMEPRESSURE*). For each regression, all continuous variables are winsorized at the 3rd and 97th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

APPENDIX 4

Audit Fee Regression Results (Using Fee Change Model - Big4 Clients Only):

Dep. Variable: ΔFEE		**Implementation of First Acceleration to 75 Days for All Accelerated Filers**				**Implementation of SOX 404 for All Accelerated Filers**				**Implementation of Second Acceleration to 60 Days for Large**			
		Time Pressure All Accel vs. Control				**Time Pressure All Accel vs. Control**				**Time Pressure Large Accel vs. Control**			
	Pred.	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
Indep. Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
TIMEPRESSURE	+	**-0.463****	**(-2.37)**	**-0.494*****	**(-2.77)**	**-1.005*****	**(-7.19)**	**-0.829*****	**(-4.52)**	**-0.025**	**(-1.32)**	**-0.045****	**(-2.57)**
EARLYADOPT	+					0.091	(0.95)	0.098	(1.09)	0.001	(0.05)	-0.011	(-0.58)
OFFICESLACK	-	-0.013*	(-1.74)	-0.011	(-1.60)	-0.007***	(-3.10)	-0.008***	(-3.37)	-0.001	(-0.52)	-0.001	(-0.94)
ΔOFFICESIZE	+	0.045**	(1.98)	0.041*	(1.93)	-0.007	(-1.44)	-0.002	(-0.37)	-0.001	(-0.39)	-0.001	(-0.46)
ΔOFFICESPEC	+	0.457	(0.79)	0.353	(0.67)	-0.017	(-0.08)	0.007	(0.03)	-0.010	(-0.28)	0.016	(0.44)
ΔASSETS	+	0.674**	(1.99)	0.718**	(2.26)	0.801***	(5.22)	0.809***	(5.54)	0.476***	(6.66)	0.463***	(7.27)
ΔBTM	-	0.262	(1.12)	0.224	(1.07)	0.239	(1.30)	0.185	(1.10)	0.109	(1.26)	0.086	(1.20)
ΔINVREC	+	-0.161	(-0.10)	-0.220	(-0.15)	0.742	(1.02)	1.034	(1.47)	0.478	(1.31)	0.413	(1.32)
ΔBUSSEG	+	0.326**	(2.02)			-0.053	(-0.76)			0.008	(0.27)		
FOREIGN	+	0.168	(0.90)			-0.081	(-1.30)			-0.017	(-0.93)		
SPECNOSPEC	-	-0.021	(-0.09)	-0.079	(-0.40)	0.076	(1.04)	0.039	(0.57)	0.005	(0.20)	0.009	(0.36)
NOSPECSPEC	+	-0.670***	(-3.60)	-0.625***	(-3.80)	-0.071	(-0.73)	-0.062	(-0.69)	0.013	(0.41)	0.017	(0.56)
ACQNOACQ	-	-0.324*	(-1.75)	-0.386**	(-2.35)	-0.047	(-0.53)	-0.054	(-0.68)	-0.051**	(-1.98)	-0.044*	(-1.96)
NOACQACQ	+	0.262	(1.06)	0.246	(1.07)	0.077	(0.95)	0.087	(1.17)	0.042	(1.43)	0.032	(1.25)
ΔCURRENTRATIO	-	0.110*	(1.90)	0.123**	(2.05)	-0.029	(-1.05)	-0.031	(-1.15)	-0.016	(-1.03)	-0.019*	(-1.67)
ΔLEV	+	2.107**	(2.02)	1.831*	(1.93)	0.244	(0.69)	0.185	(0.54)	0.080	(0.51)	-0.007	(-0.05)
ΔROA	+	-0.202	(-0.53)	-0.348	(-0.99)	-0.266	(-0.74)	-0.349	(-1.03)	-0.667***	(-3.26)	-0.659***	(-3.49)
LOSSNOLOSS	-	0.148	(0.65)	0.119	(0.60)	-0.024	(-0.26)	-0.066	(-0.79)	0.013	(0.33)	0.030	(0.72)
NOLOSSLOSS	+	0.591	(1.49)	0.494	(1.39)	0.104	(0.86)	0.066	(0.55)	0.069	(1.04)	0.025	(0.42)
GCNOGC	-	0.530	(0.74)	0.420	(0.62)	-1.407***	(-11.17)	-1.411***	(-11.94)	-0.151**	(-1.99)	-0.030	(-0.24)
NOGCGC	+	-0.697*	(-1.68)	-0.213	(-0.36)	0.469	(1.49)	0.461	(1.46)	0.000	(.)	0.000	(.)
MWNOMW	-	-0.181	(-0.63)	-0.224	(-0.97)	0.242	(0.57)	0.205	(0.48)	-0.037	(-0.64)	-0.049	(-0.92)
NOMWMW	+	-0.409	(-1.33)	-0.447	(-1.61)	0.274***	(2.67)	0.306***	(3.16)	0.282***	(2.85)	0.205***	(2.72)
BUSY	+	0.828***	(6.44)	0.753***	(6.19)	-0.032	(-0.53)	-0.031	(-0.53)	-0.190***	(-3.47)	-0.188***	(-3.09)
AUDITORCHG	-	-0.933***	(-4.53)	-0.914***	(-5.42)	-0.281	(-1.47)	-0.207	(-1.29)	-0.006	(-1.47)	-0.003	(-0.76)
ABSCHDA	+	-0.023	(-1.18)	-0.023	(-1.39)	0.002	(0.25)	0.008	(0.97)	0.038*	(1.93)	0.043**	(2.35)
LATE	+	0.551	(1.21)	0.626	(1.50)	0.152	(1.28)	0.165	(1.47)	0.022	(0.82)	0.012	(0.48)
CONSTANT	?	0.233	(0.40)	0.257	(0.49)	1.323***	(4.72)	1.308***	(4.38)	0.176***	(6.08)	0.192***	(7.86)
Observations		1518		1718		1332		1510		679		793	
Adjusted R-squared		0.036		0.031		0.075		0.071		0.237		0.213	
Fee Model Controls Included		Yes		Yes		Yes		Yes		Yes		Yes	
Industry Controls Included		Yes		Yes		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No		Yes		No	
Sample Period		12/15/2003 -11/14/2004				11/15/2004 - 12/14/2005				12/15/2006 - 12/14/2007			

Appendix 4 shows regressions results from Model (2) using a fee "changes" model and analyzes each implementation year separately (*IMP75*, *IMPSOX,* IMP60). Sample include clients with Big 4 auditors only (approximately 91%-95% of the total sample). Dependent variable Δ*FEE* is equal to the percentage change in audit fees from the prior fiscal-year audit. Independent variable of interest is a time-pressure engagement (*TIMEPRESSURE*). For each regression, all continuous variables are winsorized at the 3rd and 97th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

APPENDIX 5

Audit Fee Regression Results (Using Fee Level Model - Probability Weighted - Constant Auditor Sample, No Former AA):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated				**Implementation of Second Acceleration to 60 Days for Large Accelerated Filers**			
Dependent Variable: FEE		**Time-Pressure All Accel vs. Control**				**Time-Pressure Large Accel vs. Control**			
	Pred.	**(1)**		**(2)**		**(3)**		**(4)**	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
IMP75	+	0.016	(0.91)	0.006	(0.33)				
IMPSOX	+	0.553***	(19.83)	0.538***	(20.42)				
PREIMP60	-					-0.454***	(-8.99)	-0.467***	(-9.97)
IMP60	-					-0.421***	(-10.62)	-0.420***	(-11.39)
TIMEPRESSURE	?	0.106***	(2.91)	0.096***	(2.85)	0.124***	(3.27)	0.135***	(3.63)
TIMEPRESSURE*IMP75	**+**	**-0.106****	**(-2.01)**	**-0.093***	**(-1.92)**				
TIMEPRESSURE*IMPSOX	**+**	**-0.393*****	**(-4.52)**	**-0.365*****	**(-4.38)**				
TIMEPRESSURE*PREIMP60	?					**-0.113****	**(-2.13)**	**-0.120****	**(-2.34)**
TIMEPRESSURE*IMP60	**+**					**-0.128*****	**(-2.86)**	**-0.149*****	**(-3.36)**
EARLYADOPT	?	0.005	(0.10)	0.004	(0.09)	0.040	(1.57)	0.028	(1.16)
OFFICESLACK	-	-0.001	(-0.46)	-0.001	(-0.75)	-0.000	(-0.08)	-0.000	(-0.21)
OFFICESIZE	+	0.000	(0.84)	0.001	(1.44)	-0.000	(-0.07)	0.000	(0.02)
OFFICESPEC	+	0.111**	(2.36)	0.104**	(2.41)	0.100***	(3.37)	0.104***	(3.83)
ASSETS	+	0.170***	(10.85)	0.166***	(10.99)	0.116***	(8.68)	0.111***	(9.26)
BTM	-	-0.071**	(-2.39)	-0.061**	(-2.18)	-0.006	(-0.11)	-0.011	(-0.23)
INVREC	+	0.328***	(3.97)	0.333***	(4.15)	0.169	(1.43)	0.174	(1.56)
BUSSEG	+	0.021***	(2.61)			0.012**	(2.33)		
FOREIGN	+	0.041	(1.38)			0.054***	(3.16)		
SPECIAL	+	-0.009	(-0.29)	0.001	(0.03)	-0.011	(-0.68)	-0.010	(-0.63)
ACQ	+	0.044*	(1.73)	0.038*	(1.67)	0.073***	(4.04)	0.066***	(3.94)
CURRENTRATIO	-	-0.009**	(-2.48)	-0.010***	(-2.66)	-0.010	(-1.13)	-0.010	(-1.19)
LEV	+	-0.032	(-0.58)	-0.030	(-0.56)	0.030	(0.56)	0.008	(0.16)
ROA	-	-0.056	(-0.97)	-0.055	(-0.98)	-0.183	(-1.53)	-0.225*	(-1.87)
LOSS	-	0.063*	(1.88)	0.051	(1.63)	-0.021	(-0.53)	-0.039	(-0.99)
GCONCERN	+	0.122	(1.29)	0.100	(1.13)	0.016	(0.20)	0.023	(0.29)
MW302/MW404	+	0.231***	(4.04)	0.245***	(4.46)	0.006	(0.05)	0.027	(0.23)
BIG4	+	0.267***	(5.45)	0.264***	(6.02)	0.132	(1.22)	0.134	(1.35)
BUSY	+	-0.024	(-1.00)	-0.040*	(-1.78)	-0.008	(-0.35)	-0.012	(-0.62)
ABSDA	?	0.000	(0.06)	0.001	(0.16)	0.006*	(1.69)	0.006*	(1.88)
LATE	+	0.011	(0.24)	0.005	(0.11)	0.037	(0.93)	0.035	(0.93)
LFEE	+	0.690***	(27.72)	0.711***	(29.47)	0.749***	(34.94)	0.773***	(40.08)
CONSTANT	?	2.278***	(5.39)	2.130***	(5.30)	2.899***	(12.18)	2.662***	(11.42)
Observations		3392		3724		1538		1757	
Adjusted R-squared		0.908		0.913		0.929		0.931	
Industry Controls Included		Yes		Yes		Yes		Yes	
Segment Controls Included		Yes		No		Yes		No	
Sample Period		12/15/2002-12/14/2005				11/15/2004-12/14/2007			

Appendix 5 shows regression results for Model (2) using probability weighting after excluding clients with auditor changes during the sample period as well as former Arthur Andersen (AA) clients. Sample observations are weighted using the inverse of the propensity score of from a first stage logistic regression of *TIMEPRESSURE* on *ASSETS*. First stage regression is estimated in the year immediately prior to implementation of *IMP75* for the first acceleration and *IMP60* for the second acceleration. Dependent variable *FEE* is equal to the natural logarithm of audit fees reported for the fiscal year audit. Independent variable of interest is the interaction between a time-pressure engagement (*TIMEPRESSURE*) and an implementation year (*IMP75, IMPSOX, IMP60*). For each regression, all continuous independent variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and firm-level clustering. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

APPENDIX 6
Restatement Regression Results (Using Fee Changes):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers								Implementation of Second Acceleration to 60 Days for Large Accelerated Filers							
Dep. Variable: RESTATE		Time-Pressure Engagements				Control Engagements				Time-Pressure Engagements				Control Engagements			
	Pred.	(1)		(2)		(1)		(2)		(3)		(4)		(3)		(4)	
Indep. Variables	Sign	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)	Coeff.	(z-stat)
Δ*FEENEG*	+	**-0.318**	**(-1.50)**	**-0.319***	**(-1.82)**	**0.068**	**(1.07)**	**0.060**	**(0.95)**	**6.003*****	**(3.81)**	**2.976****	**(2.33)**	**-16.453***	**(-1.88)**	**-5.525*****	**(-3.18)**
RESANN	+	1.781	(1.42)	1.636*	(1.96)	1.618***	(7.45)	1.622***	(7.57)	1.343	(1.12)	0.770	(0.92)	7.353**	(2.27)	4.817***	(3.56)
NEWFIN	+	-0.262	(-0.26)	-1.164	(-1.28)	0.416**	(2.43)	0.345**	(2.05)	2.972***	(4.70)	1.795***	(3.01)	0.242	(0.12)	1.183	(1.12)
NEGEQUITY	+	0.000	(.)	0.000	(.)	0.152	(0.32)	0.223	(0.50)	0.000	(.)	0.000	(.)	4.059*	(1.87)	1.152	(0.87)
AGE	-	-0.068	(-0.11)	0.337	(0.54)	0.058	(0.48)	0.075	(0.67)	-1.373	(-1.42)	-1.042**	(-1.97)	0.523	(0.27)	0.901	(1.07)
OFFICESLACK	-	0.052	(1.38)	0.053	(1.49)	-0.004	(-0.52)	-0.004	(-0.68)	-0.011	(-0.32)	-0.033	(-1.02)	-0.006	(-0.07)	-0.012	(-0.19)
Δ*OFFICESIZE*	+	-0.040	(-0.45)	0.021	(0.30)	0.002	(0.13)	0.002	(0.10)	0.260**	(2.51)	0.132*	(1.89)	-0.363**	(-2.19)	-0.230**	(-2.20)
Δ*OFFICESPEC*	+	4.367***	(2.62)	3.185**	(2.20)	0.150	(0.28)	0.148	(0.29)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
Δ*ASSETS*	+	-0.077	(-0.04)	-1.447	(-0.87)	0.408	(1.03)	0.330	(0.85)	-3.592	(-1.08)	-2.934*	(-1.93)	2.380	(0.49)	2.225	(0.92)
Δ*BTM*	+	-0.449	(-0.33)	-0.358	(-0.33)	-0.070	(-0.21)	-0.058	(-0.17)	1.307	(0.31)	1.245	(0.51)	-33.469	(-1.48)	-6.598*	(-1.89)
Δ*INVREC*	+	-4.763	(-0.61)	1.185	(0.19)	-0.928	(-0.47)	-1.112	(-0.58)	-1.046	(-0.05)	3.517	(0.21)	-7.016	(-0.20)	20.443*	(1.67)
Δ*BUSSEG*	+	2.529*	(1.69)	2.218**	(2.00)	0.275	(1.13)	0.303	(1.19)	1.042*	(1.76)	0.830	(1.16)	-10.487	(-1.61)	-3.505***	(-4.18)
FOREIGN	+	0.990	(0.95)	0.423	(0.51)	0.106	(0.56)	0.100	(0.55)	0.387	(0.57)	0.612	(1.20)	-4.811**	(-2.45)	-1.452	(-1.24)
SPECNOSPEC	-	0.515	(0.42)	0.979	(1.19)	-0.177	(-0.77)	-0.128	(-0.56)	0.000	(.)	0.000	(.)	-2.968	(-1.15)	-0.744	(-0.74)
NOSPECSPEC	+	3.260**	(2.31)	1.659	(1.55)	-0.065	(-0.23)	-0.112	(-0.41)	0.724	(0.57)	1.421	(1.58)	5.343*	(1.91)	1.978	(1.57)
ACQNOACQ	-	0.000	(.)	0.000	(.)	-0.289	(-1.05)	-0.301	(-1.10)	-1.478	(-0.91)	-0.694	(-0.50)	-0.657	(-0.45)	0.492	(0.51)
NOACQACQ	+	-1.209	(-0.86)	0.056	(0.05)	0.187	(0.84)	0.209	(0.95)	1.276*	(1.86)	1.132**	(2.01)	0.000	(.)	0.000	(.)
Δ*CURRENTRATIO*	-	-0.725*	(-1.73)	-0.046	(-0.18)	-0.158**	(-2.07)	-0.124*	(-1.91)	-0.786	(-1.03)	-0.379	(-1.00)	0.627	(1.37)	0.017	(0.02)
Δ*LEV*	+	-9.970**	(-2.36)	-8.454	(-1.52)	-1.275	(-1.41)	-1.275	(-1.46)	-0.064	(-0.01)	-0.885	(-0.19)	27.855	(1.51)	6.417	(1.05)
Δ*ROA*	-	-0.079	(-0.02)	-2.728	(-0.89)	0.482	(0.62)	0.471	(0.62)	3.164	(0.19)	-3.797	(-0.40)	-10.281	(-0.78)	11.135**	(2.02)
LOSSNOLOSS	-	1.572*	(1.87)	1.037	(1.55)	-0.320	(-1.21)	-0.279	(-1.07)	-1.907	(-0.69)	-0.230	(-0.16)	14.677	(1.47)	4.218***	(3.64)
NOLOSSLOSS	+	0.305	(0.23)	1.566	(1.51)	0.767***	(2.78)	0.729***	(2.65)	1.861	(0.68)	0.375	(0.35)	0.000	(.)	0.000	(.)
GCNOGC	-	2.628**	(2.50)	2.227***	(2.65)	1.557**	(2.54)	1.546***	(2.61)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
NOGCGC	+	0.000	(.)	0.000	(.)	0.411	(0.57)	0.407	(0.56)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
MWNOMW	-	0.000	(.)	0.000	(.)	-0.971	(-0.77)	-1.014	(-0.87)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
NOMWMW	+	3.890***	(3.23)	4.032***	(2.78)	0.828***	(2.88)	0.804***	(2.80)	2.716**	(2.07)	1.564*	(1.66)	0.000	(.)	0.000	(.)
BIG4	+	-2.919**	(-2.06)	-2.262	(-1.54)	0.221	(0.77)	0.284	(0.99)	2.461**	(2.02)	0.372	(0.35)	6.268*	(1.81)	1.318	(0.67)
BUSY	+	-2.726***	(-2.60)	-1.090*	(-1.80)	0.055	(0.30)	0.062	(0.35)	0.000	(.)	0.000	(.)	3.030*	(1.73)	1.867**	(2.03)
AUDITORCHG	?	-2.886	(-1.55)	-1.001	(-0.88)	0.390	(1.19)	0.399	(1.22)	4.070*	(1.80)	0.385	(0.27)	0.000	(.)	0.000	(.)
ABSCHDA	+	0.057	(0.47)	0.050	(0.49)	-0.012	(-0.47)	-0.017	(-0.77)	0.024	(0.16)	0.117	(1.52)	0.501**	(2.03)	0.091	(0.64)
LATE	+	0.390	(0.37)	0.591	(0.72)	0.575**	(2.17)	0.609**	(2.32)	1.710**	(2.27)	1.333**	(2.04)	9.779***	(3.32)	4.407***	(2.73)
CONSTANT	?	1.530	(0.40)	-4.840*	(-1.77)	-4.371***	(-3.54)	-3.350***	(-6.63)	-1.326	(-0.43)	-0.974	(-0.59)	-33.183**	(-2.02)	-14.113***	(-3.13)
Observations		171		223		2896		2904		207		256		262		295	
Pseudo- R-squared		0.4437		0.3524		0.0949		0.0838		0.4457		0.3154		0.6130		0.4494	
Wald p-value		0.0005		0.0153		0.0000		0.0000		0.0000		0.0000		0.0285		0.0000	
Industry Controls Included		YES		NO		YES		NO		YES		NO		YES		NO	
Segment Controls Included		YES		YES		YES		YES		YES		YES		YES		YES	
Year Controls Included		YES		YES		YES		YES		NO		NO		NO		NO	
Sample Period		12/15/2003-11/15/2005				12/15/2003-11/15/2005				12/15/2006-12/14/2007				12/15/2006-12/14/2007			

Appendix 6 shows regression results for Model (3) during the years of implementation (*IMP75 & IMPSOX; IMP60*) comparing time-pressure engagements to the control group. Dependent variable *RESTATE* is equal to 1 if there is a restatement originating in the current year's 10-K. Independent variable of interest is Δ*FEENEG,* equal to -1 multiplied by percentage change in audit fees from the prior fiscal-year audit. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. Z-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

APPENDIX 7
Restatement Regression Results (Using Fee Changes - No Segment Controls):

		Implementation of First Acceleration to 75 Days & SOX 404 for All Accelerated Filers								Implementation of Second Acceleration to 60 Days for Large Accelerated Filers							
Dep. Variable: RESTATE		Time-Pressure Engagements				Control Engagements				Time-Pressure Engagements				Control Engagements			
Indep. Variables	**Pred. Sign**	**(1)**		**(2)**		**(1)**		**(2)**		**(3)**		**(4)**		**(3)**		**(4)**	
		Coeff.	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**	**Coeff.**	**(z-stat)**
ΔFEENEG	+	**-0.262**	**(-1.35)**	**-0.301***	**(-1.66)**	**0.078**	**(1.17)**	**0.071**	**(1.06)**	**4.139*****	**(3.39)**	**2.509****	**(2.53)**	**-8.721*****	**(-4.03)**	**-5.148*****	**(-3.16)**
RESANN	+	1.584**	(1.96)	1.455**	(2.27)	1.605***	(7.83)	1.623***	(7.99)	1.479	(1.57)	1.008	(1.38)	3.572***	(3.26)	3.268***	(3.06)
NEWFIN	+	-0.813	(-1.04)	-1.192	(-1.45)	0.339**	(2.05)	0.274*	(1.68)	2.150***	(2.77)	1.629**	(2.48)	0.723	(0.64)	0.474	(0.60)
NEGEQUITY	+	0.000	(.)	0.000	(.)	0.115	(0.25)	0.152	(0.35)	0.000	(.)	0.000	(.)	0.371	(0.26)	0.013	(0.01)
AGE	-	-0.531	(-0.91)	-0.011	(-0.02)	0.077	(0.67)	0.070	(0.68)	-0.954*	(-1.69)	-0.827*	(-1.74)	-0.122	(-0.14)	0.257	(0.47)
OFFICESLACK	-	0.005	(0.13)	0.019	(0.67)	-0.005	(-0.79)	-0.006	(-0.96)	-0.073*	(-1.82)	-0.060*	(-1.86)	0.021	(0.56)	0.019	(0.34)
ΔOFFICESIZE	+	0.012	(0.18)	0.045	(0.81)	0.002	(0.11)	0.000	(0.03)	0.132	(1.53)	0.131*	(1.69)	-0.194*	(-1.76)	-0.151*	(-1.85)
ΔOFFICESPEC	+	3.155***	(2.81)	2.506**	(2.28)	-0.077	(-0.14)	-0.053	(-0.10)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
ΔASSETS	+	-0.266	(-0.19)	-1.190	(-0.92)	0.421	(1.08)	0.356	(0.93)	-1.698	(-0.99)	-1.725	(-1.28)	-2.404	(-0.91)	0.986	(0.43)
ΔBTM	+	-0.080	(-0.08)	-0.019	(-0.02)	-0.097	(-0.31)	-0.079	(-0.25)	-0.187	(-0.07)	-0.238	(-0.10)	-12.044*	(-1.90)	-8.101**	(-2.30)
ΔINVREC	+	-3.723	(-0.61)	-1.168	(-0.21)	-0.541	(-0.28)	-0.692	(-0.37)	4.462	(0.26)	4.405	(0.32)	12.635	(1.02)	18.207	(1.59)
SPECNOSPEC	-	0.735	(0.68)	0.532	(0.68)	-0.094	(-0.45)	-0.057	(-0.27)	0.000	(.)	0.000	(.)	-0.398	(-0.34)	-0.788	(-0.77)
NOSPECSPEC	+	2.371***	(2.88)	0.924	(1.09)	-0.170	(-0.62)	-0.206	(-0.75)	0.421	(0.51)	1.396*	(1.88)	2.458**	(2.40)	1.569	(1.49)
ACQNOACQ	-	0.000	(.)	0.000	(.)	-0.431	(-1.57)	-0.429	(-1.57)	-0.949	(-0.55)	-0.969	(-0.61)	-2.707	(-1.45)	0.107	(0.09)
NOACQACQ	+	-0.131	(-0.10)	0.208	(0.20)	0.095	(0.45)	0.123	(0.58)	1.039	(1.60)	1.008*	(1.90)	-1.840	(-1.00)	-1.621	(-1.07)
ΔCURRENTRATIC	-	-0.244	(-0.66)	0.088	(0.33)	-0.129	(-1.61)	-0.103	(-1.49)	-0.316	(-0.62)	-0.173	(-0.47)	-0.182	(-0.17)	-0.352	(-0.48)
ΔLEV	+	-4.970	(-1.02)	-5.325	(-1.17)	-1.381	(-1.54)	-1.395	(-1.60)	1.041	(0.24)	0.598	(0.16)	7.616	(1.21)	3.540	(0.79)
ΔROA	-	-1.348	(-0.47)	-2.754	(-1.01)	0.377	(0.50)	0.366	(0.49)	-6.307	(-0.60)	-9.200	(-1.21)	10.573	(1.36)	9.554*	(1.94)
LOSSNOLOSS	-	1.394*	(1.72)	0.991	(1.56)	-0.212	(-0.85)	-0.175	(-0.71)	0.521	(0.33)	1.055	(0.94)	4.723***	(3.08)	2.104**	(2.08)
NOLOSSLOSS	+	0.031	(0.04)	0.661	(0.76)	0.787***	(3.00)	0.739***	(2.82)	-0.434	(-0.26)	-0.518	(-0.46)	0.000	(.)	0.000	(.)
GCNOGC	-	2.259**	(2.38)	1.846**	(2.19)	1.463**	(2.37)	1.425**	(2.43)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
NOGCGC	+	0.000	(.)	0.000	(.)	0.448	(0.63)	0.441	(0.62)	0.000	(.)	0.000	(.)	0.000	(.)	0.000	(.)
MWNOMW	-	0.000	(.)	0.000	(.)	-0.857	(-0.70)	-0.869	(-0.79)	-2.224	(-1.43)	-1.155	(-0.88)	0.000	(.)	0.000	(.)
NOMWMW	+	2.940***	(3.06)	2.844***	(2.60)	0.760***	(2.76)	0.768***	(2.77)	0.651	(0.71)	1.050	(1.29)	0.000	(.)	0.000	(.)
BIG4	+	-2.622***	(-2.58)	-1.866*	(-1.95)	0.190	(0.70)	0.234	(0.86)	-0.170	(-0.13)	-0.189	(-0.21)	0.807	(0.35)	0.051	(0.03)
BUSY	+	-1.202	(-1.50)	-0.649	(-0.98)	0.059	(0.33)	0.046	(0.28)	0.000	(.)	0.000	(.)	2.002**	(2.06)	1.259	(1.51)
AUDITORCHG	?	-3.027***	(-2.77)	-1.616*	(-1.66)	0.315	(1.06)	0.324	(1.08)	-0.625	(-0.23)	0.134	(0.09)	0.000	(.)	0.000	(.)
ABSCHDA	+	0.016	(0.17)	0.008	(0.09)	-0.009	(-0.40)	-0.005	(-0.26)	-0.028	(-0.30)	0.022	(0.36)	0.068	(0.49)	-0.083	(-0.69)
LATE	+	-0.378	(-0.56)	0.028	(0.04)	0.585**	(2.33)	0.596**	(2.37)	1.350*	(1.83)	1.036	(1.54)	3.953*	(1.69)	1.795	(1.27)
CONSTANT	?	2.689	(0.93)	-2.091	(-0.87)	-4.270***	(-3.49)	-3.184***	(-6.66)	-0.248	(-0.13)	-0.801	(-0.52)	-8.526*	(-1.79)	-8.589***	(-3.01)
Observations		192		247		3230		3238		258		310		335		387	
Pseudo- R-squared		0.3410		0.2668		0.0851		0.0748		0.306		0.2782		0.4803		0.373	
Wald p-value		0.0000		0.0060		0.0000		0.0000		0.0008		0.0009		0.0009		0.0000	
Industry Controls Included		YES		NO		YES		NO		YES		NO		YES		NO	
Segment Controls Included		NO		NO		NO		NO		NO		NO		NO		NO	
Year Controls Included		YES		YES		YES		YES		NO		NO		NO		NO	
Sample Period		12/15/2003-11/15/2005				12/15/2003-11/15/2005				12/15/2006-12/14/2007				12/15/2006-12/14/2007			

Appendix 7 shows regression results for Model (3) during the years of implementation (*IMP75 & IMPSOX; IMP60*) comparing time-pressure engagements to the control group. Regressions excludes segments controls to increase sample size. Dependent variable *RESTATE* is equal to 1 if there is a restatement originating in the current year's 10-K. Independent variable of interest is Δ*FEENEG,* equal to -1 multiplied by percentage change in audit fees from the prior fiscal-year audit. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. Z-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

ESSAY 2: Borrowing from Peter to Give to Paul: The Unintended Consequences of Audit Workload and Time Pressures – Shifting of Auditor Effort

1. INTRODUCTION

This study investigates a possible unintended consequence of audit workload and time pressures, the shifting of auditor effort. I investigate this in the context of the accelerated filing regulation and Section 404(b) of the Sarbanes Oxley Act (SOX), implemented during the years 2003-2004.[1] These regulations shortened the filing deadlines and increased audit production requirements for accelerated filers, imposing time and resource pressures on auditors. Non-accelerated filers were not subject to reductions in filing deadlines and were granted exemption from SOX 404(b); therefore, in response to these pressures, auditors may reallocate effort (resources) away from non-accelerated clients and toward accelerated clients. Thus, an unintended "Peter-to-Paul" effect may occur in which a shifting of auditor effort has a negative impact on audit timeliness and quality of non-accelerated engagements.

To execute this study, I first examine the distribution of audit report lags of client-firms in the period before (fiscal year-end 2002) and immediately after (fiscal year-end 2003-2004) the two regulations were implemented. [2] I find evidence of a positive shift (increase) by ten days in the average audit report lags of non-accelerated filers that "by definition" should be unaffected by these two regulations.[3] To statistically test this finding, I use OLS regression to analyze the effects of varying levels of audit workload and time

[1] The accelerated filing regulation was part of the Amendment to the Exchange Act Rule 12b-2 (SEC 2002).

[2] Audit report lag is the number of days from the fiscal year-end date to the date the audit report is signed.

[3] Average audit report lags of non-accelerated filers for fiscal year-end 2002, 2003, and 2004 were 68, 71, and 78 days, respectively (Figure 1).

pressures (at the audit firm and office level) on changes in audit report lags of non-accelerated clients. I also investigate the effects of office and engagement-level resource availability and office-level resource transferability. Results show the increase in audit report lags is more pronounced for clients whose audit firms and offices have a greater proportion of accelerated filers in their portfolio (high-pressure auditors), clients with greater reporting slack (resource availability), and clients of audit offices with neighbor offices in proximity (resource transferability).

I then use OLS regression to analyze the effects of workload and time pressures, resource availability, and resource transferability on changes in audit quality. Overall, high-pressure auditors at the firm level maintain higher audit quality on non-accelerated engagements; however, high-pressure auditors at the office level are associated with greater absolute changes in discretionary accruals. Furthermore, resource availability and resource transferability play a role in reducing negative quality effects. Taken together, the findings of reduced audit timeliness and lower audit quality suggest a possible "Peter-to-Paul" effect.

This study makes several contributions to the literature. A large body of research investigates the impact of accelerated filing and SOX on audit timeliness and quality of accelerated filers (Boland, Bronson, and Hogan 2015; Bryant-Kutcher, Peng, and Weber 2013; Doyle and Magilke 2013; Ettredge, Sun, and Li 2006; Farag 2017; Impink, Lubberink, Praag, and Veenman 2012; Iliev 2010; Krishnan and Yang 2009; Lambert, Jones, Brazel, and Showalter 2017). This study extends the literature by investigating the impact of these two regulations on non-accelerated filers, a group often overlooked. In its request for comments during the proposal period, the SEC expressed interest in

understanding the effects of these regulations on non-target groups: "Would companies not subject to the accelerated deadlines find it more difficult to retain the necessary outside advisors to prepare their reports in the appropriate timeframe? Would the quality of their reports suffer?" (SEC 2002). Findings may provide an alternative explanation to the documented deterioration in reporting quality of non-accelerated filers during this period (Holder, Karim, and Robin 2013; Krishnan and Wei 2012; Yangyang, Chan, and Raghunandan 2017), with negative effects due to audit resource constraints rather than a lack of regulatory benefit. To my knowledge, this is the first study to investigate the quality implications of audit workload and time pressures on non-accelerated engagements during this period.

Findings may be of interest to practitioners and regulators currently seeking to expand the threshold for non-accelerated filers. In its June 28, 2018 press release regarding the amendment to the smaller reporting company definition, the SEC notes, "…the Chairman has directed the staff, and the staff has begun, to formulate recommendations to the Commission for possible additional changes to the 'accelerated filer' definition that, if adopted, would have the effect of reducing the number of companies that qualify as accelerated filers…" (SEC 2018). Changes to the accelerated filer definition would affect which companies must comply with the accelerated filing deadlines and SOX 404(b) auditor attestation requirement. Findings showing the negative quality effects on non-accelerated engagements were, at least in part, due to audit resource constraints would further support the recommendation for expanding the threshold.

This study also contributes to the broader audit workload and time pressure literature by investigating engagement-level responses to increased pressure and the

resulting implications for audit timeliness and quality. Most workload and time pressure studies focus on the individual auditor's behavior and rely on experimental or survey methodologies (Agoglia, Brazel, Hatfield, and Jackson 2010; Asare, Wright, and Trompeter 2000; Bennett, Hatfield, and Stefaniak 2015; Braun 2000; Coram, Ng, and Woodliff 2004; Gramling 1999, Kelley and Margheim 1990; Kelley, Margheim, and Pattison 1999, 2005; Houston 1999; Kin-Yew and Hun-Tong 2011; Margheim and Pany 1986). Other studies analyze the engagement-level timeliness and/or quality implications, but do not relate these to the underlying auditor behavior or strategies used on audit engagements (Czerney, Jang, and Omer 2017; López and Peters 2012). A few recent studies investigate engagement-level strategies utilized (Bills, Swanquist, and Whited 2016; Dong, Nash, and Xu 2018; Lambert et al. 2017). Relying on archival or survey methodologies, these studies suggest increasing audit hours, interim testing, rescheduling non-public audits, and intra-office resource reallocations as some of the strategies used. This study provides additional archival evidence of both intra-office and inter-office resource reallocations in response to increased audit workload and time pressures, and further, documents some of the negative unintended consequences.

Finally, this study extends the literature on the effects of audit office location by introducing a new variable for "neighbor" audit offices, or offices in close geographic proximity to other offices of the same audit firm. Prior studies focus on either geographic proximity between the audit office and the client (Choi, Kim, Qiu, and Zang 2012; Dong, Robinson, and Xu 2018; Jensen, Kim, and Yi 2015; Sarkar 2016) or between the audit office and SEC regional offices (Defond, Francis, and Hallman 2018). These studies suggest that audit office location plays a role in information transfer, and thus, has an

impact on audit timeliness and audit quality. I utilize the "neighbor" variable to measure audit resource transferability. From a production economics standpoint, closer audit offices may improve the ease of inter-office resource transfers in line with Sasser's (1976) theories of *sharing capacity* as a strategy for matching supply to demand. Thus, audit office proximity to other offices may also influence audit timeliness and/or quality in periods of increased demand.

2. REGULATORY BACKGROUND

In the early 2000's, there was a large overhaul in regulation over financial reporting of public companies. Two major changes targeting accelerated filers were Section 404 of the Sarbanes-Oxley Act (SOX) and the Securities and Exchange Commission's (SEC) amendment to the Exchange Act Rule 12b-2 (accelerated filing).[4] With a primary goal of improving the reliability of a company's financial disclosures, SOX was passed by Congress in July 2002. Sections 404 (a) & (b) of SOX require that managers of publicly traded companies assess the effectiveness of internal controls over financial reporting and that independent auditors attest to management's assessment. Section 404(c), however, provides exemption from the auditor attestation requirement for audits of non-accelerated filers.[5] Furthermore, non-accelerated filers were given an extension until fiscal-year end 11/15/2007 to begin implementation of Section 404(a), or manager's assessment of internal controls. Implementation of Sections 404 (a) & (b) for accelerated filers began fiscal year-

[4] Accelerated filers are defined as firms with market value of outstanding voting and non-voting common equity held by non-affiliates of $75 million or greater (SEC 2002).

[5]Section 989G of the Dodd-Frank Act (2010) approves Section 404(c) exemption for non-accelerated filers. Management is still required to report on internal controls as required under Section 404 (a) (SEC 2010).

ended 11/15/2004. Overall, SOX 404 vastly expanded both client and auditor responsibilities and workloads for audits of accelerated filers.

In addition to the workload pressures resulting from SOX, clients and their auditors faced tightened time constraints due to the accelerated filing regulation passed in July 2002. This regulation reduced the filing deadlines of annual reports for all accelerated filers from 90 to 75 days. Non-accelerated filers, however, were allowed to maintain the old 90-day deadline. Implementation of the new deadlines for accelerated filers began fiscal year-ended 12/15/2003 (SEC 2002). In 2005, the amendment was updated by expanding the filer status into three categories (large accelerated, accelerated, non-accelerated) which further reduced year-end filing deadlines to 60 days for large accelerated filers.[6] The second round of implementation for large accelerated filers began fiscal year-ended 12/15/2006 (SEC 2005). By reducing filing deadlines, the SEC intended to improve the timeliness of financial reporting in order to provide investors with more relevant and useful information (SEC 2002).

3. PRIOR RESEARCH AND HYPOTHESES

3.1 Accelerated Filing & SOX

3.1.1 Impact on Accelerated Filers

A large body of literature evaluates whether accelerated filing and SOX 404 achieved their intended goals of improving the timeliness and reliability of financial reporting for target firms, or accelerated filers (Boland et al. 2015; Bryant-Kutcher et al. 2013; Holder et al. 2013, Iliev 2010; Impink et al. 2012; Krishnan and Yang 2009; Lambert

[6] Large accelerated filers are defined as firms with market value of outstanding voting and non-voting common equity held by non-affiliates of $700 million or greater (SEC 2005).

et al. 2017). This question is of interest given these regulations simultaneously increased workload and time pressures on clients and their auditors over a relatively short time period. Due to this exogenous shock, either party may be faced with resource constraints, resulting in negative unintended consequences.

Looking at timeliness, Krishnan & Yang (2009) find a significant increase in the audit report lags of accelerated filers over the period of implementation, or 2003-2006. Despite the documented increase in audit report lags, Impink et al. (2012) does not find an increased incidence of late filing for accelerated filers (as a whole). However, looking at engagement-level characteristics, or an auditor's/client's past reporting/filing practices, Lambert et al. (2017) finds an increased incidence of late filing during the first year of acceleration for those required to report/file more quickly. Other client-specific factors associated with increased audit report lag and/or late filing include internal control weaknesses (Ettredge et al. 2006; Impink et al. 2012). Furthermore, a recent study, Dong et al. (2018) looks at the effect of audit office-level time pressure and finds accelerated clients of offices with greater time pressure are associated with greater increases in audit report lags and greater incidences of late filing in the first year of acceleration. Thus, despite meeting the shortened deadlines on average, timeliness may have decreased for certain accelerated filers given their audit office or engagement-level characteristics.

Looking at reliability, Boland et al. (2015), finds an increased likelihood of restatements originating in the period of acceleration for smaller accelerated filers. In line with these findings, Byant-Kutcher et al. (2013) and Lambert et al. (2017) find an increased likelihood of restatement and greater absolute changes in working capital accruals,

respectively, for accelerated filers who are required to file more quickly based on past reporting practices. Furthermore, Dong et al. (2018) document negative office-level effects of audit time pressure looking at restatements and changes in working capital accruals. Overall, findings are suggestive of negative quality effects due to time pressure. However, Boland et al. (2015) documents, a lower likelihood of restatement for accelerated filers after implementation of SOX 404, suggestive of regulatory benefits of testing internal controls. Holder et al. (2013) and Iliev (2010) also document quality-related benefits of SOX 404 compliance. Holder et al. (2013) finds increased reporting quality of accelerated filers in the post-SOX period (2004-2009) using earnings management and accrual quality measures. Iliev (2010) finds firms issuing auditor attestation reports had lower accruals and discretionary accruals in the first year of reporting.

3.1.2 Impact on Non-Accelerated Filers

A few studies also investigate the impact of these two regulations on non-target firms, or non-accelerated filers (Holder et al. 2013; Krishnan and Wei 2012; Yangyang et al. 2017). In particular, studies are interested in the opportunity costs to exempting non-accelerated filers from either regulation. For example, Holder et al. (2013) finds a significant deterioration in reporting quality of non-accelerated filers in the post-SOX period (2004-2009) using earnings management and accrual quality measures. Krishnan & Wei (2012) find similar results when comparing non-accelerated filers to small-accelerated filers looking at measures of revenue quality. However, Yangyang et al. (2017) suggests manager's assessment of internal controls may be a cost-effective substitute and documents a reduction in the likelihood of restatement, discretionary revenues, and discretionary accruals for non-accelerated filers in the first year of implementation of SOX 404(a)

requirements. These prior studies focus on the lack of regulatory benefit at the engagement-level. Resource constraints at the audit firm or office-level may also be a driver of the documented reductions in audit quality for non-accelerated filers during this period. More specifically, in response to resource constraints, auditors may reallocate resources from non-accelerated engagements to accelerated engagements to meet the new regulatory requirements for accelerated filers. As a result, audit timeliness and/or quality may suffer on these non-target engagements.

3.2 Auditor's Response to Pressure

Given the current audit environment, marked by ongoing regulatory changes which increase an auditor's responsibilities, understanding how auditors respond to changes in workload and time pressure remains an important empirical question. Most workload and time pressure studies focus on the individual auditor's behavior and rely on experimental or survey methodologies. For example, several studies investigate the effects of workload and/or time pressure on auditor-client financial reporting negotiations (Bennett et al. 2015), individual auditor task-time allocations (Agoglia et al. 2010; Asare et al. 2000; Braun 2000; Coram et al. 2004; Gramling 1999; Houston 1999; Kelley and Margheim 1990; Kin-Yew and Hun-Tong 2011), and premature signoffs or underreporting of time (Kelley and Margheim 1990; Kelley et al. 1999; Margheim and Pany 1986). Overall, these studies report findings consistent with dysfunctional auditor behavior and quality reducing acts.

Using archival methodologies, other studies analyze the engagement-level implications of workload and time pressure in settings outside of SOX and the accelerated filing regulations (Czerney et al. 2017; López and Peters 2012). These studies find negative

timeliness and/or quality effects for busy season audits and clients of offices where deadline concentration is high within the client portfolio; however, they do not relate findings to the underlying auditor behavior or strategies used on engagements. A few recent studies investigate engagement-level strategies utilized in response to increased pressure (Bills et al. 2016; Dong et al. 2018; Lambert et al. 2017). In conducting a survey of 32 retired audit partners, Lambert et al. (2017) finds increased hours, interim testing, and rescheduling non-public audits were among some of the more common methods used to combat accelerated deadline pressures. Using archival methodologies, Bills et al. (2016) and Dong et al. (2018) report findings consistent with intra-office resource transfers in response to increased workload and time pressures. Furthermore, these studies document negative implications for audit timeliness and/or quality. Overall, engagement-level responses to increased audit pressures and the resulting implications for audit timeliness and quality remains a relatively unexplored area in the literature.

3.3 Audit Office Location

Audit office location may play a role in engagement-level responses to audit workload and time pressures. In particular, offices in close geographic proximity to other offices of the same audit firm may provide for easier inter-office resource transfers. Relatively few studies investigate the role of audit office location. Furthermore, existing studies focus on either geographic proximity between the audit office and the client (Choi et al. 2012; Dong et al. 2018; Jensen et al. 2015; Sarkar 2016) or geographic proximity between the audit office and SEC regional offices (Defond et al. 2018). Choi et al. (2012) and Jensen et al. (2015) find that local auditors (or those within close geographic proximity to the client) provide higher quality than non-local auditors. In addition, Dong et al. (2018)

finds auditors in geographic proximity to their clients are associated with more timely audit reports. Findings are suggestive of information advantages of local auditors that improves both audit efficiency and effectiveness. Finally, Defond et al. (2018) finds non-Big 4 audit offices in proximity to SEC regional offices are more likely to issue going concern opinions to distressed clients who do not subsequently fail. Findings suggest a conservative bias due to SEC "awareness." Overall, these prior studies suggest that audit office location plays a role in information transfer. From a production economics standpoint, audit office location may also influence resource transfers, in line with Sasser's (1976) theories of *sharing capacity*.

3.4 Hypothesis Development

Production economics literature suggests that service firms face different challenges in matching supply to demand (Lovelock 1984; Sasser 1976). To address these challenges, Sasser (1976) proposes several strategies to either alter demand or control supply. In the case of the accelerated filing and SOX**,** there is little control over altering demand for audit services given these regulations imposed an overall increase in demand during this period. However, auditors can employ strategies to control supply. One strategy proposed by Sasser (1976) is *sharing capacity*, "The service manager might consider sharing capacity with another business to use required, expensive, but underused resources jointly." In the case of audit services, this can be achieved through either intra-office or inter-office resource sharing of audit labor.[7] Given non-accelerated filers were not subject

[7] Intra-office resource sharing may occur where staff assigned to one client engagement are reassigned to another client engagement of the same audit office. Inter-office resource sharing may occur where staff assigned to client engagements of one audit office are reassigned to client engagements of another audit office of the same audit firm.

to either regulation, these clients may be a source of resource slack for auditors to pull from. In a "Peter-to-Paul" scenario, auditors may take resources from non-accelerated engagements and reassign them to accelerated engagements where workload and time pressures are presumably higher. Audit firms and/or offices may behave differently depending on their portfolio of clients. Firms and offices with a greater proportion of clients subject to these regulations (or a greater proportion of accelerated filers) may experience greater resource strains and be more likely to engage in *sharing capacity*. In this study, I will refer to these firms and offices as "high-pressure" auditors. Resource transfers away from non-accelerated clients may result in reduced timeliness (or a positive change in audit report lag) on these engagements. Thus, I make the following hypothesis (alternative form):

H1: There is a positive association between audit firm-level and/or office-level pressure and change in audit report lag of non-accelerated engagements.

Office/engagement-level resource availability and resource transferability are two factors that may contribute to the extent to which an engagement is utilized for *sharing capacity*. Audit engagements with greater levels of reporting slack may have more resources available to give (time and/or staff) to other engagements, since they are already meeting the required deadlines with ample time to spare.[8] On the other hand, audit offices with greater average reporting slack across all engagements, may help lessen the impact of resource sharing on any one engagement (e.g. Dong et al. 2018). In other words, allocations can be spread more evenly. Furthermore, audit offices in close geographic proximity to other firm offices may have greater ease of inter-office resource transfer (e.g. shorter

[8] Reporting slack is the difference in days between the audit report deadline and the audit report date.

commute time to a neighbor office's clients); and therefore, a more likely source from which to take available resources. Thus, I make the following hypotheses (alternative form):

H2a: There is a positive association between audit engagement-level resource availability and change in audit report lag of non-accelerated engagements.

H2b: There is a negative association between audit office-level resource availability and change in audit report lag of non-accelerated engagements.

H2c: There is a positive association between audit office-level resource transferability and change in audit report lag of non-accelerated engagements.

If resources of non-target engagements are being transferred away due to *sharing capacity,* how does this impact audit quality on these engagements? For example, if staff is decreased, is this equally compensated by the increased overall time it takes the smaller team to complete the audit? Or, is certain client-specific knowledge or individual skill-levels of audit team members being lost due to the resource reallocations? Prior literature finds characteristics of the audit team (namely experience with the client, industry expertise, responsiveness to client needs, and compliance with general audit standards) to be associated with perceived audit quality (Carcello, Hermanson, and McGrath 1992). Furthermore, looking at other settings, studies documents a negative relationship between audit firm and office-level resource stresses and audit quality at the engagement level (Bills et al. 2016; López and Peters 2012). On the other hand, audit firms and offices with a greater proportion of accelerated clients are generally larger in size. For example, Big 4

auditors are among the group of firms with the highest proportion of accelerated clients; therefore, they may have adequate resource capacity to handle these additional pressures. Overall, audit firm and office-level size has been found to be associated with higher audit quality (Choi, Kim, Kim, and Zang 2010; DeAngelo 1981; Francis and Yu 2009; Francis, Michas, and Yu 2013). Thus, I make the following hypothesis (null form):

H3: There is no association between audit firm-level and/or office-level pressure and changes in audit quality of non-accelerated engagements.

Quality implications may differ depending on whether an audit office/engagement has available resources to give and whether resource transfers to and from different offices can be made with relative ease. Looking at resource availability, prior studies document a positive relationship between office/engagement-level reporting slack and measures of audit quality on target engagements of the two regulations (Dong et al. 2018; Lambert et al. 2017). Presumably, office/engagement-level reporting slack should have a similar effect on audit quality of non-target engagements. With greater slack, resources can be more evenly transferred across engagements, reducing the negative effects on any single engagement. Furthermore, if the audit office is close to other firm offices, *sharing capacity* can be achieved more efficiently and effectively. For example, it may be easier to transfer resources back and forth between two audit engagements, rather than permanently take away resources from non-target engagements. Thus, I make the following hypotheses (alternative form):

H4a: There is a positive association between audit engagement-level resource availability and changes in audit quality of non-accelerated engagements.

H4b: There is a positive association between audit office-level resource availability and changes in audit quality of non-accelerated engagements.

H4c: There is a positive association between audit office-level resource transferability and changes in audit quality of non-accelerated engagements.

4. RESEARCH METHODS AND SAMPLE SELECTION

4.1 Research Design

I first examine the distribution of audit report lags around the 90-day deadline for non-accelerated filers in the period before and immediately after each regulation was implemented (Figure 1). I find evidence of period-over-period increases in the audit report lags of non-accelerated filers that "by definition" should be unaffected by these two regulations.[9] Looking at the first years of implementation (engagements with fiscal year-end 12/15/2003-11/14/2005), the average annual increase in audit report lag of non-accelerated filers was approximately five days, resulting in an average overall increase of ten days during the two-year period (Table 2). This finding provides preliminary evidence of resource reallocations away from non-target firms. To statistically test this finding, I use OLS regression, to analyze the effects of varying levels of audit workload and time-pressures (at the audit firm and office-level) on changes in audit report lags of non-accelerated clients. In addition, I investigate the effects of office and engagement-level resource availability and office-level resource transferability. The first two regression models are as follows:

[9] Audit report lag is the number of days from the fiscal year-end date to the date the audit report is signed.

$$CHARL = \alpha + \beta_1 PCTACCEL + \beta_2 PCTACCELOFFICE + \beta_3 ENGAGESLACK + \beta_4 OFFICESLACK + \beta_5 NEIGHBOR + CONTROLS + \varepsilon \quad (1)$$

$$CHARL = \alpha + \beta_1 PCTACCEL + \beta_2 PCTACCELOFFICE + \beta_3 PCTACCEL * PCTACCELOFFICE + \beta_4 ENGAGESLACK + \beta_5 OFFICESLACK + \beta_6 NEIGHBOR + CONTROLS + \varepsilon \quad (2)$$

Model (1) tests the independent effects of each workload and time-pressure variable *PCTACCEL* and *PCTACCELOFFICE*, whereas Model (2) tests the interaction effect of firm and office-level pressures *PCTACCEL*PCTACCELOFFICE*.

To gain further understanding of the unintended consequences faced by non-target clients, I analyze the effects of audit workload and time pressures and the role of resource availability and resource transferability on changes in audit quality. As a measure of audit quality, I use a client's discretionary accruals (DeFond and Zhang 2014). The second two regression models are as follows:

$$ABSCHDA = \alpha + \beta_1 PCTACCEL + \beta_2 PCTACCELOFFICE + \beta_3 ENGAGESLACK + \beta_4 OFFICESLACK + \beta_5 NEIGHBOR + CONTROLS + \varepsilon \quad (3)$$

$$ABSCHDA = \alpha + \beta_1 PCTACCEL + \beta_2 PCTACCELOFFICE + \beta_3 PCTACCEL * PCTACCELOFFICE + \beta_4 ENGAGESLACK + \beta_5 OFFICESLACK + \beta_6 NEIGHBOR + CONTROLS + \varepsilon \quad (4)$$

Model (3) tests the independent effects of each workload and time pressure variable *PCTACCEL* and *PCTACCELOFFICE*, whereas Model (4) tests the interaction effect of firm and office-level pressures *PCTACCEL*PCTACCELOFFICE*.

I focus on the first years of implementation of the accelerated filing and SOX 404(b) regulations, or engagements with fiscal year-end 12/15/2003-11/14/2005.[10] This period is reflective of an overall increase in workload and time pressures for auditors with accelerated filer clients. I utilize a changes model as in Lambert et. al (2017). A benefit of using a changes model, is that it reduces the bias of omitted correlated variables in cross-sectional regressions that are client-specific and time invariant.

The dependent variable in Models (1-2) *CHARL* is equal to the year-over-year change in a client's audit report lag. Audit report lag is defined as the number of days from the fiscal year-end date to the date the audit report was signed. The dependent variable in Models (3-4) *ABSCHDA* is equal to the absolute value of change in a client's discretionary accruals estimated using the Modified Jones Model (Dechow and Sloan 1995; Jones 1991). The independent variable *PCTACCEL* is used as a continuous measure of audit firm-level pressure and is equal to the total percentage of accelerated filer clients in the audit firm's portfolio.[11] *PCTACCELOFFICE* is used as a continuous measure of audit office-level

[10] Following Boland et al. (2015), this period includes the first year of implementation of the accelerated filing (12/15/2003-11/14/2004) and SOX 404(b) (11/15/2004-11/14/2005) regulations for accelerated filer clients.

[11] Total accruals (*TA*) are measured as income before extraordinary items minus operating cash flows, scaled by total assets in year t-1. Discretionary accruals (*DA*) are equal to total accruals (*TA*) minus estimated accruals using parameter estimates, or the residual from the following model: $TA = \beta_1 1/ASSETS_{t-1} + \beta_2 (\Delta REV_t - \Delta REC_t) + \beta_3 PPE_t + \varepsilon_t$; where $ASSETS_{t-1}$ is the natural logarithm of total assets in year t-1; ΔREV_t is equal to revenues in year t minus revenues in year t-l, scaled by total assets in year t-1; ΔREC_t is equal to receivables in year t minus receivables in year t-1, scaled by total assets in year t-1; PPE_t is equal to gross property plant and equipment in year t, scaled by total assets in year t-1 (Dechow & Sloan,1995). Coefficients are estimated cross-sectionally for 2-digit SIC industry group-years. All available companies on the Compustat database with complete data for regression model variables were used.

pressure and is equal to the total percentage of accelerated filers clients in the audit office's portfolio. I hypothesize that audit firms and offices with a greater proportion of accelerated filer clients in their portfolio face greater workload and time pressures during this period. This is because such firms/offices must implement the two regulations across a larger portion of their clients. These firms/offices may experience greater resource shifting away from non-target clients which may result in negative quality implications on those engagements.

To gain further insight on which offices and engagements may be most likely to transfer resources, I develop and test measures for resource availability and resource transferability. Having greater resource availability and/or transferability may reduce negative quality implications from resource transfers. I utilize audit office and engagement-level reporting slack and audit office proximity to neighbor offices, respectively. Audit offices or individual engagements with greater reporting slack may have more resources to give (time and/or staff). Audit offices in proximity to a neighbor office may be more easily able to transfer resources (e.g. shorter commute time to a neighbor office's clients). *ENGAGESLACK*, or engagement slack, is measured in days and equal to the prior year's audit report deadline minus the client's prior year audit report date. *OFFICESLACK*, or office slack, is equal to the average *ENGAGESLACK* for all clients of a given audit office. *NEIGHBOR* is an indicator variable for neighbor auditor offices and equal to 1 if the closest neighboring audit office by the same audit firm is within 50 miles, else 0.

I include several control variables *CONTROLS. VOLUNTARYSOX404* is an indicator variable equal to 1 for non-accelerated filers and/or their audit firms who voluntarily apply/adopt SOX 404 during this period, else 0. Prior studies document an

increase in audit report lag of clients subject to SOX 404 (i.e. accelerated filers) during the period of implementation (Krishnan and Yang 2009). This increase is attributed to the increased reporting and disclosure requirements. Therefore, I predict a positive association between *VOLUNTARYSOX404* and changes in audit report lag for non-accelerated filers. Looking at audit quality, firms issuing auditor attestation reports had lower accruals and discretionary accruals in the first year of reporting (Iliev 2010). Furthermore, Yangyang et al. (2017) documents a reduction in the likelihood of restatement, discretionary revenues, and discretionary accruals for non-accelerated filers in the first year of implementation of SOX 404(a) requirements (management's assessment of internal controls). Thus, I predict a negative association between *VOLUNTARYSOX404* and changes in audit quality.

The remaining control variables are based on prior literature which investigates the determinants of audit report lag and/or audit quality. I utilize several variables to control for changes in office-level characteristics. *CHOFFICESIZE* is a measure for change in audit office size and is equal to the year-over-year change in the number of audit office clients. I include this variable to control for resource reallocations due to changes in office composition. If an office is taking on new clients, this may result in additional workload and time pressures unrelated to the implementation of the two regulations. Furthermore, prior studies document a short-term negative relationship between audit office growth and measures of audit quality (Bills et al. 2016). *OFFICESPECNOSPEC* is an indicator variable equal to 1 if the audit office was an industry specialist (the audit office billing the largest total fees for an industry group) in the prior year but not the current year, else 0. *NOSPECOFFICESPEC* is an indicator variable equal to 1 if the audit office was an industry specialist in the current year but not the prior year, else 0. Prior literature finds a

negative relationship between firm and/or office-level industry specialists and audit report lags (Habib and Bhuiyan 2011; Whitworth and Lambert 2014).

I control for change in client size using *CHASSETS*, equal to the year-over-year change in the natural logarithm of total client assets. An increase in client size may pose more effort and/or risk for auditors. Thus, there is an expected positive (negative) relationship between *CHASSETS* and changes in audit report lag (audit quality). I also control for changes in client valuation using *CHBTM*, or the change in book-to-market ratio, equal to the year-over-year change in the ratio of book value of common equity divided by total market value of common equity. A positive *CHBTM,* suggests a decrease in the market's perception of future client growth and may influence earnings management. Prior literature finds a negative association between book-to-market ratio and measures of audit quality (Blankley, Hurtt, and MacGregor 2014).

I utilize several variables to control for the complexity of a client's operations or accounting. *CHINVREC,* or change in inventory receivables ratio, is equal to the year-over-year change in the sum of client's inventory plus receivables divided by total assets. *CHBUSSEG* is equal to the year-over-year change in the client's number of business segments. *CHFOREIGN* is equal to the year-over-year change in the client's foreign sales as a percentage of total sales. *SPECNOSPEC,* or special items to no special items, is an indicator variable equal to 1 if the client reported either an extraordinary item or discontinued operations in the prior year but not in the current year, else 0. *NOSPECSPEC* is an indicator variable equal to 1 if the client reported either an extraordinary item or discontinued operations in the current year but not in the prior year, else 0. *ACQNOACQ* is an indicator variable equal to 1 if the client reported an acquisition in the prior year but

not in the current year, else 0. *NOACQACQ* is an indicator variable equal to 1 if the client reported an acquisition in the current year but not in the prior year, else 0. Clients with complex operations or accounting may be more difficult to audit and therefore may require increased audit effort. Prior literature finds a positive relationship between measures of complexity and audit report lag (Ashton, Graul, and Newton 1989; Ashton, Willingham, and Elliott 1987; Bamber, Bamber, and Schoderbek 1993; Knechel and Payne 2001). Furthermore, complex clients may pose additional audit risks. Prior literature documents a negative relationship between measures of complexity and audit quality (Ashbaugh, LaFond, and Mayhew 2003).

I utilize several variables to control for changes in a client's profitability, liquidity, or solvency which may pose certain audit risks and therefore impact audit effort and/or audit quality (Blankley, Hurtt, and MacGregor 2013; Hay, Knechel, and Wong 2006; Simunic 1980). *CHROA* is equal to the year-over-year change in the client's return on assets (net income divided by total assets). *LOSSNOLOSS* is an indicator variable equal to 1 if the client reported a net loss for the prior year but not in the current year, else 0. *NOLOSSLOSS* is an indicator variable equal to 1 if the client reported a net loss for the current year but not in the prior year, else 0. *GCNOGC* is an indicator variable equal to 1 if the client's audit opinion includes a going concern qualification in the prior year but not in the current year, else 0. *NOGCGC* is an indicator variable equal to 1 if the client's audit opinion includes a going concern qualification in the current year but not in the prior year, else 0. *CHCURRENTRATIO* is equal to the year-over-year change in the client's current year current ratio, or total current assets divided by total current liabilities. *CHLEV* is equal to the year-over-year change in the client's leverage, or total liabilities divided by total

assets. Prior studies find a negative relationship between measures of profitability and/or liquidity and audit report lag (Ashton et al. 1987; Ashton et al. 1989; Bamber et al. 1993; Blankley et al. 2014; Krishnan and Yang 2009). Prior literature documents a positive relationship between measures of profitability and/or liquidity and audit quality (Ashbaugh et al. 2003; Dechow and Dichev 2002). I also control for changes in capital structure. *NEWFIN* is an indicator variable equal to 1 if the client issued new long-term debt or equity which exceeded 20% of total assets for the period, else 0. Prior literature documents a negative relationship between new financing and audit quality (Ashbaugh et al. 2003).

I also control for other engagement-specific characteristics that may influence the timing of the audit and/or measures of earnings quality. *RESTATE* is an indicator variable equal to 1 if there is a restatement announced during the current year under audit, else 0. Restatement years may result in a significant increase in the amount of work required of the auditor and thus an increase in audit report lag (Blankley et al. 2014). Furthermore, depending on the accounting corrections made, restatement years may result in changes in discretionary accruals unrelated to earnings management. I include several controls for changes in a client's internal control quality. *MW3NOMW3* is an indicator variable equal to 1 if a SOX 302 material weakness is reported in the prior year but not in the current year, else 0. *NOMW3MW3* (*NOMW4MW4*) is an indicator variable equal to 1 if a SOX 302 (SOX 404) material weakness is reported in the current year but not in the prior year, else 0. Prior literature finds a negative relationship between internal control quality and audit report lag (Ashton et al. 1987; Ettredge et al. 2006). Furthermore, prior literature finds internal control weaknesses are associated with lower accruals quality (Doyle, Weili, and McVay 2007). *AUDITORCHG* is an indicator variable equal to 1 if there was a change in auditor from the

prior year, else 0. Prior literature finds a negative relationship between years of experience with a client and audit report lag (Ashton et al. 1987). Furthermore, prior literature shows a negative relationship between auditor changes and discretionary accruals (Becker et al. 1998).

Additionally, I use *CHFEE t*o control for unobserved changes in client-specific factors that may influence audit effort and/or perceived audit risk (Blankley et al. 2014; Knechel and Sharma 2012; Lambert et al. 2017; Simunic 1980). *CHFEE* is equal to the year-over-year change in the natural logarithm of audit fees charged to the client. Increased auditor effort may result in increased audit hours, which has been found to be positively associated with audit report lag (Knechel and Payne 2001). Furthermore, studies find a positive association between changes in audit fees and changes in discretionary accruals (Lambert et al. 2017). Finally, *IndustryControls* are indicator variables for client industry using 2-digit SIC codes. Prior literature has found that certain industries have longer audit report lags than others (Ashton et al. 1987; Ashton et al. 1989).

4.2 Sample Selection

Table 1 shows the sample selection for the regression analysis. The sample includes client-year observations for fiscal years-ended 12/15/2003-11/14/2005 from the Audit Analytics database. Following Boland et al. (2015), this period includes the first year of implementation of the accelerated filing (12/15/2003-11/14/2004) and SOX 404(b) (11/15/2004-11/14/2005) regulations for accelerated filer clients. The sample is merged with the Compustat database to obtain client-specific financial data. Accelerated filer clients are dropped from the sample, as the focus of this study is non-target clients of the regulation (or non-accelerated filers). Foreign issuers are excluded as these firms were

subject to different reporting regulations. Consistent with prior audit studies, financial companies (6000-6999) are excluded. These companies have significantly different reporting formats which makes comparison of Compustat financial variables difficult. Observations where the client's current or prior year audit report lag falls outside the window 0-365 days are also excluded. Such observations may be due to missing prior year reports, mismatched years, or more serious client-specific reporting issues. Finally, missing variables from the regression models are dropped. The final regression sample consists of 2,163 unique client-years, 165 unique audit firms, and 474 unique audit offices.

[INSERT TABLE 1 HERE]

5. RESULTS & DISCUSSION

5.1 Distribution of Audit Report Lags

Figure 1 shows the distribution of audit report lags around the 90-day deadline for non-accelerated filers over the period 12/15/2002-11/14/2005. There is a documented year-over-year increase in the audit report lags of nonaccelerated filers. Average audit report lags for engagements with fiscal year-end 12/15/2002-12/14/2003, 12/15/2003-11/14/2004, and 11/15/2004-11/14/2005 were 68, 71, and 78 days, respectively. In the year prior to regulatory implementation (12/15/2002-2/14/2003), approximately 44% of client engagements had audit report lags of 60 days or less, suggestive of ample resource slack on these engagements. In the first year of accelerated filing implementation (12/15/2003-11/14/2004), approximately 38% of client engagements had audit report lags of 60 days or less. By the first year of SOX 404(b) implementation (11/15/2004-11/14/2005), only approximately 26% of client engagements had audit report lags of 60 days or less. Overall, findings suggest reduced audit timeliness for non-target engagements during the years of

regulatory implementation in line with theories of resource shifting away from these clients.

[INSERT FIGURE 1 HERE]

5.2 Descriptive Statistics

Tables 2.1-2.3 show the descriptive statistics for all variables used in Regressions (1-4). All continuous variables are winsorized at the 1st and 99th percentiles. Looking at Table 2.1, during the implementation period (12/15/2003-11/14/2005), the average year-over-year increase in audit report lag *CHARL* of non-accelerated filers was 5 days. The average year-over-year absolute value of change in discretionary accruals *ABSCHDA* is positive and statistically different from zero. Results suggest overall reduced audit timeliness and quality on non-accelerated engagements during this period. Tables 2.2-2.3 break out the means for all regression variables by quartiles of *PCTACCEL* and *PCTACCELOFFICE,* respectively. As *PCTACCEL* and *PCTACCELOFFICE* increase from Q1 to Q4, *CHARL* increases, suggestive of greater resource shifting for audit firms and/or offices with greater regulatory pressures based on their portfolio of clients. From Q1 to Q4, as *PCTACCEL* and *PCTACCELOFFICE* increase, *ABSCHDA* decreases, providing initial univariate evidence that quality premiums (Choi et al. 2010; DeAngelo 1981; Francis and Yu 2009; Francis et al. 2013) may overtake any negative effects due to firm/office-level workload and time pressures during this period.

Table 3 shows the Pearson correlations for all variables used in Regressions (1-4). All continuous variables are winsorized at the 1st and 99th percentiles. Some of the independent variables investigated have high and statistically significant correlations with one another. Correlations between *PCTACCEL* and (*PCTACCELOFFICE,*

ENGAGESLACK, OFFICESLACK) are equal to (0.65, 0.25, 0.42), respectively. There is also a high and statistically significant correlation between *PCTACCELOFFICE* and (*ENGAGESLACK, OFFICESLACK)* equal to (0.18, 0.29), respectively. Finally, there is a high and statistically significant correlation between *ENGAGEMENTSLACK* and *OFFICESLACK* of 0.37. Despite the high correlations, the variance inflation factors are less than 2.5 for all regression variables, alleviating concerns of severe multicollinearity.

[INSERT TABLES 2-3 HERE]

5.3 Multivariate Regression Analysis

5.3.1 Audit Timeliness

Table 4 reports the multivariate regression results for Models (1-2), which analyze the effects workload and time pressures, resource availability and resource transferability on changes in audit report lag of non-target clients (non-accelerated filers). Here, positive changes in audit report lag are used as a proxy for resource transfers away from non-target engagements. Looking at Regression (1) the coefficient on *PCTACCEL* is positive and statistically significant at the 1% level. Results are in line with H1 and suggest resource reallocations away from non-accelerated engagements whose audit firms have greater workload and time pressures given their client portfolio. In the same regression, the coefficient on *PCTACCELOFFICE* is negative and not statistically significant which counters H1 for office-level pressures. Findings suggest responses to workload and time pressures during this period are primarily driven by audit firm-level rather than office-level characteristics. Looking at Regression (2), however, the coefficient on the interaction term *PCTACCEL*PCTACCELOFFICE* is positive and statistically significant at the 1% level in line with H1. Results suggest that within larger audit firms, office-level pressures have

an incremental effect on changes in audit report lag. Overall, findings indicate *sharing capacity* may have been a solution for larger audit firms to handle increased workload and time pressures during this period. Furthermore, within these larger audit firms there were office-level effects, where those offices with greater pressures experienced greater resource shifting away from non-target engagements.

Looking at Regressions (1-2) for resource availability, the coefficient on *ENGAGESLACK* is positive and statistically significant at the 1% level in line with H2a. This suggests non-target engagements with greater reporting slack are more likely to transfer resources (time and/or labor) to other engagements during this period. The coefficient on *OFFICESLACK* is negative and statistically significant at the 1% level in line with H2b. This suggests office-level slack alleviates excessive resource transfers from any one engagement. Overall, results suggest resource availability at both the office and engagement levels is related to the amount of resource transfers. Looking at Regressions (1-2) for resource transferability, the coefficient on *NEIGHBOR* is positive and statistically significant at the 5% and 10% levels, respectively, in line with H2c. This suggests geographic proximity of an audit office to other offices of the same audit firm influences whether resource transfers are made. Results indicate the ease of resource transfer (e.g. shorter commute times) to be a driver of *sharing capacity*.

[INSERT TABLE 4 HERE]

5.3.2 Audit Quality

Table 5 reports the regression results for Models (3-4), which analyze the effects workload and time pressures, resource availability and resource transferability on absolute value of change in discretionary accruals of non-target clients (non-accelerated filers).

Here, higher absolute changes in discretionary accruals are used as a proxy for lower audit quality. Looking at Regression (3), the coefficient on *PCTACCEL* is negative and statistically significant at the 1% level. At the audit firm-level, results suggest the size effect (DeAngelo 1981) overtakes any negative quality effects of workload and time pressures during this period. In the same regression, the coefficient on *PCTACCELOFFICE* is positive but not statistically significant. Looking at Regression (4), however, the interaction between *PCTACCEL* and *PCTACCELOFFICE* is positive and statistically significant at the 5% level. Results suggest that within larger audit firms, office-level pressures have a negative unintended consequence of lower audit quality for non-accelerated engagements. Thus, looking at results of Regression (4) in conjunction with those from Regression (2), suggests resource reallocations away from non-accelerated engagements of high-pressure offices with a downside of lower audit quality at the audit office-level.

Looking at Regressions (3-4) for resource availability, the coefficient on *ENGAGESLACK* is negative and statistically significant at the 1% level in line with H4a. Furthermore, the coefficient on *OFFICESLACK* is negative and statistically significant at the 5% and 10% levels, respectively, in line with H4b. Overall, findings suggest greater reporting slack at the engagement/office-level reduces any negative quality effects to non-target engagements during this period. Looking at Regressions (3-4) for resource transferability, the coefficient on *NEIGHBOR* is negative and statistically significant at the 1% level in line with H4c. This suggests geographic proximity of an audit office to other offices of the same audit firm provides for more efficient and effective resource transfers to and from engagements, thus reducing any negative quality effects during this period.

[INSERT TABLE 5 HERE]

6. ROBUSTNESS TESTS

I perform several robustness tests. Auditor changes were prevalent during this period (Ettredge, Chan, and Scholz 2007). Furthermore, the collapse of Arthur Andersen (AA) in 2002 resulted in a de facto change in auditor for all AA clients. To address the confounding factors of auditor changes and former AA clients, I re-run Regressions (1-4), excluding clients with one or more auditor changes during the period 12/15/2002-11/14/2005 as well as prior AA clients (Tables 6-7). I also analyze results using alternative definitions for the *NEIGHBOR* variable. Un-tabulated results show the coefficient on *NEIGHBOR* maintains statistical significance in Regressions (1-2) using distances within a range of 50-80 miles to define a "close neighbor."[12] Outside of this range, results are not statistically significant. Findings support the use of *NEIGHBOR* to measure inter-office audit resource transferability; 50 to 80 miles reflects a reasonable commute times of about 1-1.5 hours by car between audit offices. Furthermore, in out-of-period tests, looking at the years immediately before regulatory implementation, the coefficient on *NEIGHBOR* is not statistically significant, which suggests the audit pressures resulting from the regulations influence the need for inter-office resource transfers.

I also perform additional regression analyses for Models (1-4) to analyze more blatant measures for audit timeliness and audit quality, using late filings and restatements as dependent variables, respectively. In un-tabulated results, I find a negative and statistically significant relationship between *PCTACCEL* and incidence of late filing.[13]

[12] Un-tabulated results can be provided at request.

[13] Un-tabulated results can be provided at request.

This finding is consistent with the audit firm size effect (DeAngelo 1981) overtaking more blatant negative timeliness effects of workload and time pressures during this period. I do not find a statistically significant relationship between *PCTACCEL* and restatement likelihood. Furthermore, I find no significant interaction effect of firm/office-level pressures *PCTACCEL*PCTACCELOFFICE* on either the incidence of late filing or restatement likelihood. Overall, these additional findings suggest the negative timeliness and quality effects of resource shifting are subtle and do not permeate firm-level quality control systems in place.

[INSERT TABLES 6-7 HERE]

7. CONCLUSION

This study investigates a possible unintended consequence of audit workload and time pressures, the shifting of auditor effort. I investigate this in the context of the accelerated filing regulation and Section 404(b) of the Sarbanes Oxley Act (SOX), implemented during the years 2003-2004. These regulations shortened the filing deadlines and increased audit production requirements for accelerated filers, imposing time and resource pressures on auditors. Non-accelerated filers were not subject to reductions in filing deadlines and were granted exemption from SOX 404(b); therefore, in response to these pressures, auditors may reallocate effort (resources) away from non-accelerated clients and toward accelerated clients. Thus, an unintended "Peter-to-Paul" effect may occur in which a shifting of auditor effort has a negative impact on audit timeliness and quality of non-accelerated engagements.

Results show a significant increase in the audit report lags of non-accelerated filers during this period. The increase is more pronounced for clients whose audit firms and

offices have a greater proportion of accelerated filers in their portfolio (high-pressure auditors), clients with greater reporting slack (resource availability), and clients of audit offices with neighbor offices in proximity (resource transferability). Overall, high-pressure auditors at the firm level maintain higher audit quality on non-accelerated engagements; however, high-pressure auditors at the office level are associated with greater absolute changes in discretionary accruals. Furthermore, resource availability and resource transferability play a role in reducing negative quality effects. Findings are suggestive of audit resource reallocations away from non-accelerated clients with a downside of reduced audit timeliness and quality.

This study responds to the SEC's expressed interest in understanding the effects of these regulations on non-target groups: "Would companies not subject to the accelerated deadlines find it more difficult to retain the necessary outside advisors to prepare their reports in the appropriate timeframe? Would the quality of their reports suffer?" (SEC 2002). Findings may provide an alternative explanation to the documented deterioration in reporting quality of non-accelerated filers during this period (Holder et al. 2013; Krishnan and Wei 2012; Yangyang et al. 2017), negative effects due to audit resource constraints rather than a lack of regulatory benefit.

Findings are particularly relevant given recent regulatory changes to the definition of smaller reporting companies and further discussions which consider updating the accelerated filer definition, "…the Chairman has directed the staff, and the staff has begun, to formulate recommendations to the Commission for possible additional changes to the 'accelerated filer' definition that, if adopted, would have the effect of reducing the number of companies that qualify as accelerated filers…" (SEC 2018). Findings that the negative

quality effects on non-accelerated engagements were, at least in part, due to audit resource constraints would further support the recommendation for increasing the threshold.

Finally, this study contributes to the broader workload and time pressure literature by providing additional archival evidence in support of office resource reallocations as a response to increased audit pressure (Bills et al. 2016; Dong et al. 2018), and further, documenting some of the negative unintended consequences. Findings from this study may be of interest to academics, regulators, and practitioners seeking to understand the effects of firm and office-level resource pressures on engagement-level timeliness and quality.

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9. FIGURES AND TABLES

FIGURE 1

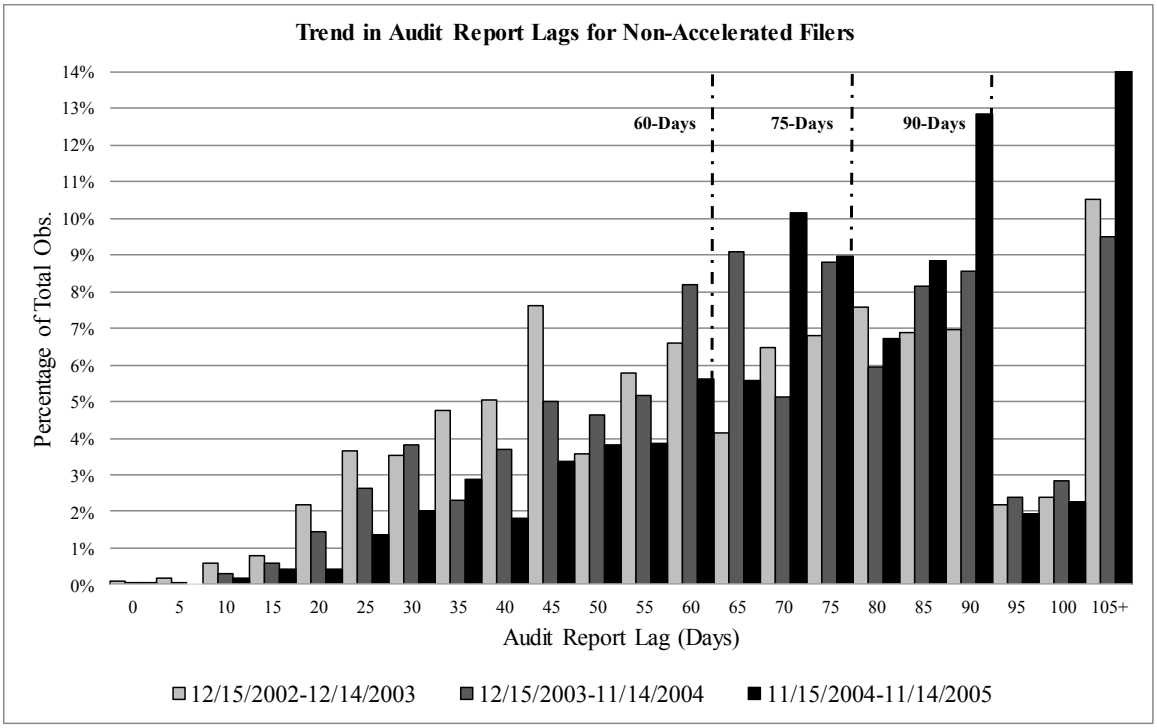

Figure 1 shows the distribution of audit report lags around the 90-day deadline for non-accelerated filers over the period 12/15/2002-11/14/2005. Audit report lag is the number of days from the fiscal year-end date to the date the audit report was signed. Observations with fiscal year-end 12/15/2002-12/14/2003 represent the year immediately prior to implementation of the accelerated filing regulation. Fiscal year-end 12/15/2003-11/14/2004 represents the first year of implementation of the accelerated filing regulation. Fiscal year-end 11/15/2004-11/14/2005 represents the first year of implementation of SOX 404(b). Audit report lag is shown on the x-axis beginning at 0 days (or fiscal-year end date) and increasing in 5-day increments with the following buckets 1-5 days, 6-10 days, 11-15 days, etc. Observations with report lags greater than 100 days are shown in the bucket 105+. The y-axis measures the percentage of total period observations in each bucket for each of the three periods. Sample observations are obtained from the Audit Opinions database in Audit Analytics. Accelerated filers and observations whose audit report lag falls outside the window 0-365 days are excluded. No other exclusions made.

TABLE 1
Sample Selection

	12/15/2003-11/14/2005
	Client-Years
1. Merged Compustat and Audit Analytics data	11,630
2. Less: Accelerated filers	(6,189)
Foreign issuers	(86)
Financial companies (6000-6999)	(1,015)
Obs. where current or prior year audit report or file lag falls outside the window: 0-365 days	(386)
Missing variables from regression model	(1,791)
3. Final regression sample	***2,163***

TABLE 2.1
Descriptive Statistics
N=2,163

Panel A: Continuous Variables

Variable	Mean	Median	Std. Dev.
CHARL	5.013	3.000	25.419
ABSCHDA	4.943	0.641	11.027
PCTACCEL	0.360	0.363	0.222
PCTACCELOFFICE	0.204	0.200	0.150
ENGAGESLACK	26.066	26.000	25.073
OFFICESLACK	22.699	25.462	21.941
CHOFFICESIZE	-1.620	0.000	11.618
CHASSETS	0.039	0.021	0.477
CHBTM	-0.051	-0.066	2.370
CHINVREC	0.003	0.003	0.098
CHBUSSEG	0.013	0.000	0.383
CHFOREIGN	-0.013	0.000	0.178
CHROA	-0.030	0.008	1.356
CHCURRENTRATIO	0.038	0.015	2.162
CHLEV	0.063	0.000	1.042
CHFEE	0.198	0.139	0.799

Panel B: Indicator Variables

Variable	Rate of Occurrence
NEIGHBOR	0.476
VOLUNTARYSOX404	0.105
OFFICESPECNOSPEC	0.006
NOSPECOFFICESPEC	0.004
SPECNOSPEC	0.112
NOSPECSPEC	0.072
ACQNOACQ	0.091
NOACQACQ	0.099
LOSSNOLOSS	0.126
NOLOSSLOSS	0.091
GCNOGC	0.039
NOGCGC	0.049
NEWFIN	0.362
RESTATE	0.098
MW3NOMW3	0.012
NOMW3MW3	0.069
NOMW4MW4	0.022
AUDITORCHG	0.153

Table 2.1 reports the descriptive statistics for regression variables. Sample period includes engagements with fiscal year-end 12/15/2003 – 11/14/2005. See Appendix 1 for variable definitions. Continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 2.2
Descriptive Statistics By Quartiles of *PCTACCEL*
N=2,163

Panel A: Continuous Variables - Means by Quartiles of *PCTACCEL*

Variable	Q1	Q2	Q3	Q4
CHARL	1.415	-0.688	7.044	11.055
ABSCHDA	8.272	5.713	3.757	3.715
PCTACCELOFFICE	0.010	0.150	0.264	0.294
ENGAGESLACK	14.824	22.854	28.477	32.681
OFFICESLACK	5.897	17.146	30.115	29.211
CHOFFICESIZE	0.720	-2.000	-2.297	-1.610
CHASSETS	0.072	0.051	0.002	0.050
CHBTM	-0.093	-0.044	0.018	-0.116
CHINVREC	0.000	0.002	0.004	0.003
CHBUSSEG	0.028	0.012	-0.002	0.024
CHFOREIGN	-0.009	-0.023	-0.002	-0.014
CHROA	-0.119	-0.050	-0.031	0.037
CHCURRENTRATIO	0.234	0.041	-0.007	-0.016
CHLEV	0.140	0.097	0.055	-0.004
CHFEE	0.047	0.036	0.188	0.469

Panel B: Indicator Variables - Rates by Quartiles of *PCTACCEL*

Variable	Q1	Q2	Q3	Q4
NEIGHBOR	0.343	0.487	0.477	0.530
VOLUNTARYSOX404	0.003	0.020	0.039	0.328
OFFICESPECNOSPEC	0.000	0.005	0.003	0.012
NOSPECOFFICESPEC	0.000	0.000	0.008	0.005
SPECNOSPEC	0.128	0.111	0.113	0.104
NOSPECSPEC	0.069	0.068	0.080	0.069
ACQNOACQ	0.066	0.084	0.100	0.102
NOACQACQ	0.066	0.096	0.108	0.109
LOSSNOLOSS	0.093	0.126	0.156	0.109
NOLOSSLOSS	0.097	0.090	0.078	0.102
GCNOGC	0.066	0.065	0.017	0.021
NOGCGC	0.073	0.059	0.030	0.049
NEWFIN	0.495	0.385	0.311	0.324
RESTATE	0.100	0.093	0.095	0.106
MW3NOMW3	0.003	0.018	0.013	0.007
NOMW3MW3	0.021	0.059	0.072	0.101
NOMW4MW4	0.000	0.005	0.014	0.062
AUDITORCHG	0.249	0.268	0.103	0.029

Table 2.2 reports the descriptive statistics for regression variables by quartiles of *PCTACCEL*. Sample period includes engagements with fiscal year-end 12/15/2003 – 11/14/2005. See Appendix 1 for variable definitions. Continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 2.3
Descriptive Statistics By Quartiles of *PCTACCELOFFICE*
N=2,163

Panel A: Continuous Variables - Means by Quartiles of *PCTACCELOFFICE*

Variable	Q1	Q2	Q3	Q4
CHARL	3.384	1.715	4.235	9.068
ABSCHDA	6.058	6.245	4.235	3.855
PCTACCEL	0.149	0.244	0.430	0.519
ENGAGESLACK	21.825	21.041	26.548	32.004
OFFICESLACK	16.971	14.465	25.022	30.466
CHOFFICESIZE	-2.874	1.216	-1.706	-2.882
CHASSETS	0.034	0.051	0.059	0.018
CHBTM	-0.302	0.116	-0.004	-0.059
CHINVREC	-0.002	0.008	-0.002	0.005
CHBUSSEG	-0.007	0.024	0.035	0.001
CHFOREIGN	-0.016	-0.013	-0.009	-0.013
CHROA	-0.133	-0.054	-0.004	0.030
CHFEE	0.095	0.105	0.240	0.296

Panel B: Indicator Variables - Rates by Quartiles of *PCTACCELOFFICE*

Variable	Q1	Q2	Q3	Q4
NEIGHBOR	0.398	0.525	0.403	0.547
VOLUNTARYSOX404	0.033	0.077	0.105	0.172
OFFICESPECNOSPEC	0.002	0.004	0.004	0.010
NOSPECOFFICESPEC	0.000	0.000	0.007	0.006
SPECNOSPEC	0.121	0.114	0.134	0.087
NOSPECSPEC	0.069	0.061	0.079	0.077
ACQNOACQ	0.073	0.073	0.096	0.112
NOACQACQ	0.081	0.108	0.096	0.106
LOSSNOLOSS	0.097	0.136	0.145	0.122
NOLOSSLOSS	0.104	0.077	0.088	0.094
GCNOGC	0.066	0.033	0.037	0.029
NOGCGC	0.076	0.047	0.040	0.042
MW3NOMW3	0.005	0.022	0.007	0.012
NOMW3MW3	0.040	0.071	0.063	0.090
NOMW4MW4	0.007	0.014	0.022	0.038
AUDITORCHG	0.244	0.210	0.107	0.092

Table 2.3 reports the descriptive statistics for regression variables by quartiles of *PCTACCELOFFICE*. Sample period includes engagements with fiscal year-end 12/15/2003 – 11/14/2005. See Appendix 1 for variable definitions. Continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 3
Correlation Matrix

	1	2	3	4	5	6	7	8	9
1 *CHARL*	1								
2 *ABSCHDA*	-0.0447*	1							
3 *PCTACCEL*	0.1776*	-0.1422*	1						
4 *PCTACCELOFFICE*	0.0993*	-0.0954*	0.6449*	1					
5 *ENGAGESLACK*	0.4977*	-0.0785*	0.2452*	0.1755*	1				
6 *OFFICESLACK*	0.1053*	-0.1108*	0.4243*	0.2906*	0.3691*	1			
7 *NEIGHBOR*	0.0684*	-0.0334	0.0719*	0.0622*	0.0293	0.0038	1		
8 *VOLUNTARYSOX404*	0.1990*	-0.0603*	0.3170*	0.1530*	0.1152*	0.0045	0.0345	1	
9 *CHOFFICESIZE*	0.0106	0.02	-0.0535*	-0.0635*	-0.0257	-0.1014*	-0.0559*	-0.0307	1
10 *OFFICESPECNOSPEC*	-0.0027	-0.0273	0.0441*	0.0502*	0.009	0.0114	0.016	0.0352	-0.1343*
11 *NOSPECOFFICESPEC*	0.0206	-0.0244	0.0533*	0.0430*	0.0336	0.0292	-0.0123	0.0039	0.0078
12 *CHASSETS*	-0.0237	0.0824*	-0.0268	-0.0185	0.0480*	-0.0189	-0.0221	0.0117	0.0854*
13 *CHBTM*	-0.0430*	0.0483*	-0.0249	0.0109	-0.0363	-0.0599*	0.0463*	0.0144	0.0178
14 *CHINVREC*	0.0271	-0.0134	0.0141	0.0102	-0.0257	-0.0286	0.0374	0.001	-0.0094
15 *CHBUSSEG*	-0.0082	0.0169	-0.0074	-0.003	-0.0089	-0.0590*	-0.0044	0.0076	0.0157
16 *CHFOREIGN*	0.0065	0	0.0171	0.0226	0.031	0.0216	0.0013	0.0297	0.0355
17 *SPECNOSPEC*	-0.0595*	-0.0357	-0.0107	-0.037	-0.0519*	0.0105	-0.0301	-0.012	-0.0112
18 *NOSPECSPEC*	0.0302	0.0237	0.0119	0.0161	-0.0324	-0.0013	0.0026	0.0091	-0.0274
19 *ACQNOACQ*	-0.0231	0.0102	0.0395	0.0674*	-0.0395	0.0022	0.0199	0.0065	-0.0192
20 *NOACQACQ*	0.0638*	-0.0088	0.0314	0.0229	0.0519*	-0.0014	0.0127	0.0174	-0.0183
21 *CHROA*	-0.0573*	0.0185	0.0454*	0.0389	0.025	0.0227	0.0258	-0.0042	-0.018
22 *LOSSNOLOSS*	-0.1035*	0.0097	0.0222	0.018	-0.0325	0.0426*	-0.0028	-0.0715*	0.011
23 *NOLOSSLOSS*	0.1020*	-0.0234	0.0084	0.0069	0.0416	0.0184	-0.0172	0.028	-0.0233
24 *GCNOGC*	-0.0605*	0.0334	-0.0982*	-0.0557*	-0.0511*	-0.036	-0.0118	-0.0617*	-0.0156
25 *NOGCGC*	0.0938*	0.0086	-0.0517*	-0.0544*	-0.0486*	-0.0137	0.0258	-0.0158	0.0008
26 *CHCURRENTRATIO*	-0.1033*	0.0336	-0.0276	-0.0215	-0.0378	-0.0137	-0.0116	-0.0372	0.0285
27 *CHLEV*	0.0356	-0.0134	-0.0488*	-0.0357	-0.0479*	-0.0556*	-0.0011	-0.0145	0.0077
28 *NEWFIN*	-0.0664*	0.1305*	-0.1186*	-0.0742*	-0.0987*	-0.1053*	0.0359	0.0206	0.0940*
29 *RESTATE*	-0.0196	-0.0429*	-0.0002	-0.0490*	-0.1548*	-0.0485*	-0.0092	0.0489*	-0.0074
30 *MW3NOMW3*	-0.1073*	-0.0104	-0.0225	0.0119	-0.1238*	-0.0555*	0.0008	0.0051	0.0132
31 *NOMW3MW3*	0.2554*	-0.0125	0.0750*	0.0536*	-0.0095	-0.017	0.0404	0.1741*	-0.0691*
32 *NOMW4MW4*	0.2050*	-0.0156	0.1269*	0.0783*	0.0404	0.0079	0.0512*	0.4389*	-0.0560*
33 *AUDITORCHG*	-0.1075*	0.0395	-0.2813*	-0.1734*	-0.1883*	-0.1377*	-0.0530*	-0.0539*	-0.3207*
34 *CHFEE*	0.1209*	-0.0164	0.2033*	0.1049*	0.1029*	0.0605*	0.0206	0.2297*	0.1853*

	10	11	12	13	14	15	16	17	18
10 *OFFICESPECNOSPEC*	1								
11 *NOSPECOFFICESPEC*	-0.0046	1							
12 *CHASSETS*	-0.0246	0.0107	1						
13 *CHBTM*	0.0001	-0.0118	0.0482*	1					
14 *CHINVREC*	-0.0057	0.0164	-0.1918*	-0.0394	1				
15 *CHBUSSEG*	-0.0026	-0.0021	0.0540*	-0.0086	-0.0225	1			
16 *CHFOREIGN*	-0.0429*	0.031	0.0607*	-0.0199	0.0024	0.0364	1		
17 *SPECNOSPEC*	0.013	0.0267	-0.029	0.0277	0.0142	0.0336	0.0011	1	
18 *NOSPECSPEC*	-0.0208	-0.017	-0.0389	-0.0181	-0.0232	-0.0331	-0.0066	-0.0990*	1
19 *ACQNOACQ*	0.0196	-0.0193	-0.0894*	-0.0227	0.0188	-0.0237	0.0064	0.0406	0.0422*
20 *NOACQACQ*	-0.0039	0.0053	0.1837*	-0.0012	-0.0314	0.0572*	0.0361	0.0052	0.0333
21 *CHROA*	-0.0098	0.0086	0.4767*	0.0541*	-0.0811*	-0.0169	0.0172	-0.0007	0.0037
22 *LOSSNOLOSS*	-0.0096	0.0915*	0.0811*	0.1070*	0.0254	-0.0097	-0.0112	0.0683*	0.0124
23 *NOLOSSLOSS*	-0.0019	0.0073	-0.0244	-0.0011	0.0077	0.0395	0.0298	-0.0201	-0.0133
24 *GCNOGC*	-0.0151	0.0269	0.0694*	0.0451*	0	0.024	-0.0157	-0.0038	0.0172
25 *NOGCGC*	-0.017	-0.0139	-0.1086*	-0.0533*	0.0268	0.0032	-0.0985*	0.0137	0.0023
26 *CHCURRENTRATIO*	-0.0014	0.0157	0.2330*	0.0289	-0.1381*	0.01	0.0103	0.0116	0.0118
27 *CHLEV*	0.0057	-0.0048	-0.5215*	-0.0807*	0.0868*	-0.0147	-0.0272	0.0048	0.0225
28 *NEWFIN*	-0.0173	0.0334	0.1347*	0.0112	-0.0683*	0.0164	0.0006	-0.0229	0.032
29 *RESTATE*	-0.0037	0.0055	0.0009	-0.003	0.0052	-0.0359	-0.035	-0.0085	0.0163
30 *MW3NOMW3*	-0.0081	-0.0066	-0.0133	0.0293	-0.0226	-0.0038	-0.0531*	0.0028	-0.0134
31 *NOMW3MW3*	0.0288	0.0135	0.0238	-0.0027	0.0177	-0.0191	-0.0041	-0.0560*	0.0018
32 *NOMW4MW4*	0.031	-0.0092	-0.0135	-0.0044	0.0093	0.0029	0.0193	0.0063	-0.0177
33 *AUDITORCHG*	0.0547*	-0.0047	-0.0116	0.0085	0.0226	-0.025	-0.0188	0.0202	0.0056
34 *CHFEE*	0.0048	0.0583*	0.1240*	0.0079	-0.0608*	0.0838*	0.02	-0.0212	-0.0016

TABLE 3 Continued
Correlation Matrix

	19	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**
19 *ACQNOACQ*	1								
20 *NOACQACQ*	-0.1049*	1							
21 *CHROA*	-0.0066	0.0442*	1						
22 *LOSSNOLOSS*	-0.0042	0.0093	0.1217*	1					
23 *NOLOSSLOSS*	0.0064	0.0141	-0.0781*	-0.1200*	1				
24 *GCNOGC*	-0.0227	-0.0033	0.0798*	0.0521*	-0.0307	1			
25 *NOGCGC*	0.0167	-0.0256	-0.0790*	-0.0674*	0.0245	-0.0461*	1		
26 *CHCURRENTRATIO*	0.0046	-0.0652*	0.1335*	0.0868*	-0.0599*	0.0312	-0.0896*	1	
27 *CHLEV*	0.0051	-0.0454*	-0.5858*	-0.0785*	0.011	-0.0577*	0.0526*	-0.1430*	1
28 *NEWFIN*	-0.0342	0.0181	-0.0501*	-0.1092*	-0.0465*	0.0707*	0.0591*	0.1384*	0.0347
29 *RESTATE*	0.0091	0.0001	-0.0313	-0.0316	-0.0011	-0.0187	0.0395	0.0172	0.0177
30 *MW3NOMW3*	0.0109	0.0076	0.0089	0.0371	-0.0341	0.0004	-0.0047	-0.0081	-0.0007
31 *NOMW3MW3*	-0.01	0.0566*	0.0024	-0.0154	0.0731*	-0.008	0.0726*	-0.025	-0.0199
32 *NOMW4MW4*	-0.0041	0.0447*	-0.0069	-0.0195	0.0836*	-0.0305	0.0235	-0.0237	-0.0045
33 *AUDITORCHG*	0.0395	-0.0204	-0.0063	0.0163	0.0179	0.0727*	-0.0022	-0.0326	0.0168
34 *CHFEE*	-0.0334	0.0857*	0.0174	0.0219	0.0008	-0.0352	-0.002	0.012	-0.0362

	28	**29**	**30**	**31**	**32**	**33**	**34**
28 *NEWFIN*	1						
29 *RESTATE*	0.0497*	1					
30 *MW3NOMW3*	-0.0093	0.0807*	1				
31 *NOMW3MW3*	0.0271	0.1928*	-0.0294	1			
32 *NOMW4MW4*	0.0304	0.1192*	-0.0163	0.4795*	1		
33 *AUDITORCHG*	-0.0098	0.0888*	0.0622*	0.0517*	-0.003	1	
34 *CHFEE*	0.0405	-0.0033	0.0123	0.0911*	0.1560*	-0.3177*	1

Table 3 reports the Pearson correlations for all regression variables. Continuous variables are winsorized at the 1st and 99th percentiles. * denotes significance at the 5% level or less. See Appendix 1 for variable definitions.

TABLE 4
Regression Results - Analyzing the Effects of Workload & Time Pressures, Resource Availability, and Resource Transferability on Change in Audit Report Lag of Non-Target Clients (Non-Accelerated Filers)

Dependent Variable: CHARL

	Pred.	(1)		(2)	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
PCTACCEL	+	**8.185*** **	**(2.80)**	**0.202**	**(0.05)**
PCTACCELOFFICE	+	**-3.435**	**(-0.94)**	**-25.055*** **	**(-3.31)**
PCTACCEL*PCTACCELOFFICE	+			**54.761*** **	**(3.37)**
ENGAGESLACK	+	**0.524*** **	**(21.37)**	**0.523*** **	**(21.33)**
OFFICESLACK	-	**-0.113*** **	**(-4.16)**	**-0.109*** **	**(-4.00)**
NEIGHBOR	+	**1.921** **	**(2.08)**	**1.770***	**(1.92)**
VOLUNTARYSOX404	+	4.775***	(3.56)	4.440***	(3.32)
CHOFFICESIZE	+	0.085*	(1.81)	0.079*	(1.70)
OFFICESPECNOSPEC	+	-5.801	(-1.22)	-7.003	(-1.49)
NOSPECOFFICESPEC	-	5.557	(1.20)	5.058	(1.03)
CHASSETS	+	0.087	(0.07)	0.180	(0.14)
CHBTM	?	-0.150	(-0.73)	-0.123	(-0.60)
CHINVREC	+	4.920	(1.05)	4.807	(1.03)
CHBUSSEG	+	-0.537	(-0.49)	-0.554	(-0.51)
CHFOREIGN	+	-1.074	(-0.40)	-1.130	(-0.43)
SPECNOSPEC	-	-0.743	(-0.50)	-0.711	(-0.48)
NOSPECSPEC	+	4.284**	(2.11)	4.220**	(2.09)
ACQNOACQ	-	-0.374	(-0.23)	-0.351	(-0.21)
NOACQACQ	+	1.848	(1.26)	1.931	(1.33)
CHROA	-	-0.608	(-1.18)	-0.614	(-1.20)
LOSSNOLOSS	-	-4.657***	(-3.49)	-4.551***	(-3.42)
NOLOSSLOSS	+	3.780**	(2.21)	3.655**	(2.12)
GCNOGC	-	-0.830	(-0.34)	-0.850	(-0.34)
NOGCGC	+	10.645***	(4.39)	10.468***	(4.31)
CHCURRENTRATIO	-	-0.461**	(-2.16)	-0.467**	(-2.18)
CHLEV	+	0.753	(1.20)	0.802	(1.28)
NEWFIN	+	-2.320**	(-2.29)	-2.466**	(-2.44)
RESTATE	+	0.300	(0.19)	0.339	(0.21)
MW3NOMW3	-	-8.581**	(-2.37)	-8.579**	(-2.37)
NOMW3MW3	+	21.225***	(8.14)	21.508***	(8.28)
NOMW4MW4	+	7.729*	(1.70)	7.642*	(1.68)
AUDITORCHG	+	0.596	(0.35)	0.729	(0.44)
CHFEE	+	0.858	(1.38)	0.791	(1.29)
Constant	?	-14.881***	(-3.51)	-13.048***	(-3.03)
Observations		2163		2163	
Adjusted R-squared		0.359		0.362	
Industry Controls Included		YES		YES	
Sample Period: 12/15/2003-11/14/2005					

Table 4 shows regression results for Models (1) & (2). For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 5
Regression Results - Analyzing the Effects of Workload & Time Pressures, Resource Availability, and Resource Transferability on Absolute Value of Change in Discretionary Accruals of Non-Target Clients (Non-Accelerated Filers)

Dependent Variable: ABSCHDA

	Pred.	(3)		(4)	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
PCTACCEL	***?***	**-4.858*** **	**(-3.70)**	**-7.307*** **	**(-3.91)**
PCTACCELOFFICE	***?***	**0.227**	**(0.16)**	**-6.404***	**(-1.78)**
PCTACCEL*PCTACCELOFFICE	***?***			**16.796** **	**(2.15)**
ENGAGESLACK	**-**	**-0.029*** **	**(-2.81)**	**-0.029*** **	**(-2.84)**
OFFICESLACK	**-**	**-0.026** **	**(-2.05)**	**-0.025***	**(-1.95)**
NEIGHBOR	**-**	**-1.409*** **	**(-3.45)**	**-1.456*** **	**(-3.55)**
VOLUNTARYSOX404	-	-0.435	(-0.69)	-0.538	(-0.85)
CHOFFICESIZE	+	0.002	(0.13)	0.001	(0.04)
OFFICESPECNOSPEC	+	0.927	-1.43	0.558	(0.84)
NOSPECOFFICESPEC	-	-0.429	(-0.46)	-0.582	(-0.63)
CHASSETS	+	2.195***	(2.93)	2.223***	(2.97)
CHBTM	+	0.203	(1.57)	0.212	(1.64)
CHINVREC	+	1.635	(0.53)	1.601	(0.52)
CHBUSSEG	+	-0.044	(-0.08)	-0.049	(-0.10)
CHFOREIGN	+	0.949	(1.14)	0.931	(1.13)
SPECNOSPEC	-	-0.929*	(-1.76)	-0.919*	(-1.74)
NOSPECSPEC	+	1.441	(1.61)	1.422	(1.60)
ACQNOACQ	-	0.274	(0.38)	0.280	(0.39)
NOACQACQ	+	-1.469**	(-2.22)	-1.444**	(-2.18)
CHROA	-	0.020	(0.05)	0.019	(0.04)
LOSSNOLOSS	-	-0.126	(-0.20)	-0.093	(-0.15)
NOLOSSLOSS	+	-0.655	(-1.11)	-0.693	(-1.16)
GCNOGC	-	-0.242	(-0.20)	-0.248	(-0.21)
NOGCGC	+	0.084	(0.10)	0.030	(0.03)
CHCURRENTRATIO	-	-0.047	(-0.56)	-0.049	(-0.58)
CHLEV	+	0.025	(0.05)	0.041	(0.07)
NEWFIN	+	1.312***	(2.72)	1.267***	(2.63)
RESTATE	+	-1.227**	(-1.98)	-1.215*	(-1.96)
MW3NOMW3	-	-3.136***	(-2.80)	-3.135***	(-2.82)
NOMW3MW3	+	-0.599	(-0.68)	-0.512	(-0.58)
NOMW4MW4	+	0.922	(0.78)	0.895	(0.76)
AUDITORCHG	-	-0.467	(-0.55)	-0.426	(-0.51)
CHFEE	+	0.194	(0.69)	0.174	(0.62)
Constant	?	10.011***	(2.74)	10.573***	(2.87)
Observations		2163		2163	
Adjusted R-squared		0.310		0.311	
Industry Controls Included		YES		YES	
Sample Period: 12/15/2003-11/14/2005					

Table 5 shows regression results for Models (3) & (4). For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 6
Robustness Regression Results - Analyzing the Effects of Workload & Time Pressures, Resource Availability, and Resource Transferability on Change in Audit Report Lag of Non-Target Clients (Non-Accelerated Filers)

Dependent Variable: CHARL		***Constant Auditor & No Former AA***			
	Pred.	**(1)**		**(2)**	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
PCTACCEL	+	**7.948****	**(2.12)**	**1.596**	**(0.34)**
PCTACCELOFFICE	+	**-5.104**	**(-1.11)**	**-27.150*****	**(-2.64)**
PCTACCEL*PCTACCELOFFICE	+			**49.475****	**(2.39)**
ENGAGESLACK	+	**0.529*****	**(16.89)**	**0.530*****	**(16.88)**
OFFICESLACK	-	**-0.160*****	**(-4.40)**	**-0.154*****	**(-4.25)**
NEIGHBOR	+	**2.522****	**(2.26)**	**2.300****	**(2.06)**
VOLUNTARYSOX404	+	5.587***	(3.26)	5.223***	(3.06)
CHOFFICESIZE	+	-0.060	(-0.58)	-0.039	(-0.38)
OFFICESPECNOSPEC	+	-9.847	(-1.39)	-10.784	(-1.53)
NOSPECOFFICESPEC	-	9.333**	(2.07)	9.088*	(1.90)
CHASSETS	+	0.107	(0.06)	0.035	(0.02)
CHBTM	?	-0.111	(-0.40)	-0.097	(-0.35)
CHINVREC	+	4.550	(0.70)	4.455	(0.69)
CHBUSSEG	+	1.602	(0.91)	1.788	(1.01)
CHFOREIGN	+	-3.556	(-1.00)	-3.496	(-0.99)
SPECNOSPEC	-	-1.198	(-0.59)	-1.198	(-0.59)
NOSPECSPEC	+	5.939**	(2.56)	5.884**	(2.54)
ACQNOACQ	-	-0.302	(-0.16)	-0.226	(-0.12)
NOACQACQ	+	2.268	(1.26)	2.350	(1.31)
CHROA	-	-1.757*	(-1.91)	-1.733*	(-1.88)
LOSSNOLOSS	-	-4.961***	(-2.88)	-4.849***	(-2.82)
NOLOSSLOSS	+	3.831*	(1.76)	3.592	(1.64)
GCNOGC	-	0.823	(0.23)	0.497	(0.14)
NOGCGC	+	7.928**	(2.14)	7.473**	(2.03)
CHCURRENTRATIO	-	-0.630***	(-2.62)	-0.640***	(-2.66)
CHLEV	+	-0.263	(-0.20)	-0.252	(-0.19)
NEWFIN	+	-2.047*	(-1.68)	-2.244*	(-1.83)
RESTATE	+	2.790	(1.57)	2.729	(1.53)
MW3NOMW3	-	-8.086	(-1.39)	-7.909	(-1.36)
NOMW3MW3	+	17.886***	(5.44)	17.951***	(5.43)
NOMW4MW4	+	5.841	(1.39)	5.447	(1.30)
CHFEE	+	0.871	(0.62)	0.997	(0.71)
Constant	?	-14.238***	(-3.16)	-12.707***	(-2.68)
Observations		1204		1204	
Adjusted R-squared		0.351		0.353	
Industry Controls Included		YES		YES	
Sample Period: 12/15/2003-11/14/2005					

Table 6 shows regression results for Models (1) & (2) after excluding clients with one or more auditor changes during the period 12/15/2002-11/14/2005 as well as firms who were prior Arthur Andersen clients. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 7
Robustness Regression Results - Analyzing the Effects of Workload & Time Pressures, Resource Availability, and Resource Transferability on Absolute Value of Change in Discretionary Accruals of Non-Target Clients (Non-Accelerated Filers)

Dependent Variable: ABSCHDA		***Constant Auditor & No Former AA***			
	Pred.	**(3)**		**(4)**	
Independent Variables	**Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
PCTACCEL	***?***	**-5.740*** **	**(-3.08)**	**-8.871*** **	**(-3.34)**
PCTACCELOFFICE	***?***	**2.069**	**(1.10)**	**-8.800**	**(-1.47)**
PCTACCEL*PCTACCELOFFICE	***?***			**24.392****	**(2.04)**
ENGAGESLACK	**-**	**-0.029***	**(-1.92)**	**-0.029***	**(-1.90)**
OFFICESLACK	**-**	**-0.035***	**(-1.72)**	**-0.032**	**(-1.60)**
NEIGHBOR	**-**	**-1.400*** **	**(-2.63)**	**-1.509*** **	**(-2.82)**
VOLUNTARYSOX404	-	-0.512	(-0.71)	-0.692	(-0.95)
CHOFFICESIZE	+	-0.033	(-0.65)	-0.022	(-0.46)
OFFICESPECNOSPEC	+	0.954	(1.28)	0.492	(0.59)
NOSPECOFFICESPEC	-	0.665	(0.56)	0.544	(0.44)
CHASSETS	+	1.742	(1.64)	1.706	(1.61)
CHBTM	+	0.040	(0.27)	0.047	(0.33)
CHINVREC	+	-0.567	(-0.13)	-0.613	(-0.14)
CHBUSSEG	+	-0.051	(-0.05)	0.040	(0.04)
CHFOREIGN	+	2.236**	(1.97)	2.266**	(2.05)
SPECNOSPEC	-	-1.199	(-1.56)	-1.200	(-1.55)
NOSPECSPEC	+	1.313	(1.07)	1.286	(1.06)
ACQNOACQ	-	-0.175	(-0.19)	-0.138	(-0.15)
NOACQACQ	+	-1.179	(-1.27)	-1.138	(-1.23)
CHROA	-	0.503	(0.60)	0.515	(0.62)
LOSSNOLOSS	-	-0.591	(-0.72)	-0.535	(-0.65)
NOLOSSLOSS	+	-0.810	(-0.98)	-0.928	(-1.11)
GCNOGC	-	0.129	(0.06)	-0.032	(-0.01)
NOGCGC	+	2.195	(1.44)	1.971	(1.31)
CHCURRENTRATIO	-	0.012	(0.11)	0.007	(0.06)
CHLEV	+	0.481	(0.45)	0.487	(0.45)
NEWFIN	+	1.220*	(1.88)	1.123*	(1.72)
RESTATE	+	-0.493	(-0.58)	-0.523	(-0.62)
MW3NOMW3	-	-4.265***	(-2.99)	-4.177***	(-2.88)
NOMW3MW3	+	-1.276	(-0.98)	-1.244	(-0.96)
NOMW4MW4	+	2.267	(1.36)	2.072	(1.23)
CHFEE	+	-0.018	(-0.03)	0.044	(0.07)
Constant	?	9.846**	(2.06)	10.601**	(2.20)
Observations		1204		1204	
Adjusted R-squared		0.321		0.323	
Industry Controls Included		YES		YES	
Sample Period: 12/15/2003-11/14/2005					

Table 7 shows regression results for Models (3) & (4) after excluding clients with one or more auditor changes during the period 12/15/2002-11/14/2005 as well as firms who were prior Arthur Andersen clients. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors. See Appendix 1 for variable definitions. * p<0.10, ** p<0.05, *** p<0.01

10. APPENDICES

APPENDIX 1

Regression Variable Definitions

Variable	Description
Dependent Variables:	
CHARL	Change in audit report lag - equal to the audit report lag of the current year minus the audit report lag of the prior year. Audit report lag is the number of days from the fiscal year-end date to the date the audit report was signed.
ABSCHDA	Absolute value of change in client's discretionary accruals estimated using the Modified Jones Model (current minus prior year).
Independent Variables:	
PCTACCEL	Audit firm-level pressure - equal to the total percentage of accelerated filer clients in the audit firm's portfolio.
PCTACCELOFFICE	Audit office-level pressure - equal to the total percentage of accelerated filer clients in the audit office's portfolio.
ENGAGESLACK	Engagement slack (in days) - equal to the prior year's audit report deadline minus the client's prior year audit report date.
OFFICESLACK	Office slack (in days) - equal to the average *ENGAGESLACK* for all clients of a given audit office.
NEIGHBOR	Neighbor audit office - equal to 1 if the closest neighboring audit office by the same audit firm is within 50 miles, else 0.
Control Variables:	
VOLUNTARY_SOX404	Voluntary SOX 404 - equal to 1 if the client/audit firm voluntarily applies/adopts SOX 404(a)/ SOX404(b) during the period, else 0.
CHOFFICESIZE	Change in office size - equal to the total number of current year audit office clients minus total number of prior year audit office clients
OFFICESPECNOSPEC	1 if the audit office was an industry specialist (the audit office billing the largest total fees for an industry group) in the prior year but not the current year, else 0.
NOSPECOFFICESPEC	1 if the audit office was an industry specialist (the audit office billing the largest total fees for an industry group) in the current year but not the prior year, else 0.
CHASSETS	Natural logarithm of total client assets in the current year minus the natural logarithm of total client assets in the prior year.
CHBTM	Change in book-to-market ratio, or total book value of common equity divided by total market value of common equity (current minus prior year).

CHINVREC	Change in inventory receivables ratio, or sum of client's inventory plus receivables divided by total assets (current minus prior year).
CHBUSSEG	Change in the client's number of business segments (current minus prior year).
CHFOREIGN	Change in the client's foreign sales as a percentage of total sales (current minus prior year).
SPECNOSPEC	1 if the client reported either an extraordinary item or discontinued operations in the prior year but not in the current year, else 0.
NOSPECSPEC	1 if the client reported either an extraordinary item or discontinued operations in the current year but not in the prior year, else 0.

Control Variables:

ACQNOACQ	1 if the client reported an acquisition in the prior year but not in the current year, else 0.
NOACQACQ	1 if the client reported an acquisition in the current year but not in the prior year, else 0.
CHROA	Client's return on assets (net income divided by total assets) minus prior year return on assets.
LOSSNOLOSS	1 if the client reported a net loss for the prior year but not in the current year, else 0.
NOLOSSLOSS	1 if the client reported a net loss for the current year but not in the prior year, else 0.
GCNOGC	1 if the client's audit opinion includes a going concern qualification in the prior year but not in the current year, else 0.
NOGCGC	1 if the client's audit opinion includes a going concern qualification in the current year but not in the prior year, else 0.
CHCURRENTRATIO	Change in client's current year current ratio, or total current assets divided by total current liabilities (current minus prior year).
CHLEV	Client's leverage (total liabilities divided by total assets) minus prior year leverage.
NEWFIN	1 if the client issued new long-term debt or equity which exceeded 20% of total assets for the period, else 0.
RESTATE	1 if there is a restatement announced during the fiscal year under audit, else 0.
MW3NOMW3	1 if the client's audit reports a SOX 302 material weakness in the prior year but not in the current year, else 0.
NOMW3MW3	1 if the client's audit reports a SOX 302 material weakness in the current year but not in the prior year, else 0.
NOMW4MW4	1 if the client's audit reports a SOX 404 material weakness in the current year but not in the prior year, else 0.
AUDITORCHG	1 if there was a change in auditor from the prior year, else 0.
CHFEE	Change in audit fees - natural logarithm of current year audit fees minus the natural logarithm of prior year audit fees charged to the client.

IndustryControls	Indicator variables for client industry using 2-digit SIC codes.

ESSAY 3: Analyst Recommendation Revisions and Conflicting Market Reaction

1. INTRODUCTION

A large body of literature looks at analyst stock recommendations. Of major concern to researchers is whether revisions to recommendations are informative to investors (Altınkılıç and Hansen 2009; Altınkılıç, Hansen, and Ye 2016; Barber, Lehavy, McNichols, and Trueman 2001; Barber, Lehavy, and Trueman 2010; Bradley, Clarke, Lee, and Ornthanalai 2014; Feldman, Livnat, and Yuan 2012; Francis and Soffer 1997; Jegadeesh, Kim, Krische, and Lee 2004; Jiang and Kim 2016; Loh and Stulz 2011; Palmon and Yezegel 2011; Stickel 1995; Womack 1996). Studies tend to focus on aggregate results, or the means/medians of the sample of all revisions. On average, there is a positive (negative) market reaction to a recommendation upgrade (downgrade) providing evidence of information value (Barber et al. 2010; Stickel 1995; Womack 1996).[1] Looking at disaggregated results, however, I find approximately 32% of recommendation revisions are associated with three-day (-1,+1) cumulative abnormal returns in the *opposite* direction, or a negative (positive) market reaction to a recommendation upgrade (downgrade). This proportion corresponds to a significant amount of revisions for which investors react in a manner inconsistent with the analyst's advice, which is overlooked in the literature. For the remainder of this paper, I will refer to these observations as revisions with a "conflicting reaction."

[1] An upgrade is defined as a positive change in recommendation level from the analyst's most recent prior recommendation for the same stock (e.g. "sell" to "buy"). A downgrade is defined as a negative change in recommendation level from the analyst's most recent prior recommendation for the same stock (e.g. "buy" to "hold").

Measurement error in determining either the direction of the revision or the market reaction to the revision may explain the occurrence of a conflicting reaction. It is also possible that investors are responding to another information source that is weighed more heavily than the analyst's revision. Alternatively, the conflicting reaction could be due to information leakage, whereby investors have already incorporated the information from the analyst's revision into price prior to the revision date. Finally, it is possible that investors are ignoring the information provided within the revision altogether. This would counter theories of market efficiency. Looking at the sample of revisions with "conflicting reactions" I investigate the following research questions:

RQ1: What are the determinants of a conflicting reaction to an analyst's recommendation revision?

RQ2: Are recommendation revisions with conflicting reactions related to future earnings surprises?

To answer RQ1, I first analyze the incidence of a conflicting reaction under various measurement specifications for both the analyst's signal and the market reaction. The percentage of conflicting reactions ranges from 20% to 35% when using these alternative measurements. Using logistic regression, I then estimate a model that examines whether certain characteristics are associated with the incidence of a conflicting reaction. The independent variables consist of the following test categories: the information environment surrounding the revision date, the strength of the analyst's signal, investor characteristics, firm/stock characteristics, and analyst/brokerage characteristics. Results indicate that low firm-relevant news media attention or opposing news media sentiment are positively associated with a conflicting reaction. Investor inattention, changes in investor sentiment,

information redundancy, information leakage, and weak analyst signals are also positively associated with a conflicting reaction. Further, revisions for stocks with larger analyst following, higher volatility, and greater analyst disagreement are positively associated with a conflicting reaction. Finally, revisions made by less experienced/reputable analysts and smaller brokerages are positively associated with a conflicting reaction.

To answer RQ2, I use OLS regression to estimate a model that examines whether revisions with conflicting reactions are related to future earnings surprises. Consistent with prior studies, results suggest that analyst recommendations are useful in identifying future earnings surprise in the direction of the revision (i.e. upgrades associated with positive earnings surprise and downgrades associated with negative earnings surprise). Furthermore, results suggest that analyst recommendations are *equally helpful* in identifying earnings surprises in the conflicting and non-conflicting subsamples (coefficients on recommendation change are in the same direction, of similar magnitude, and statistically significant across the two subsample regressions).

Finally, given the finding that revisions with conflicting reactions are related to earnings surprise, I measure the profitability of several trading strategies that exploit this information. To implement these strategies, I construct a hedge portfolio that goes long (short) on upgraded (downgraded) stocks with conflicting reactions. I find these strategies earn an average monthly abnormal return ranging from approximately 0.597% (7.164% per annum) to 1.197% (14.364% per annum). Strategies are more profitable for revisions in the opposite direction of firm-specific news sentiment as well as single-step revisions. Findings suggest that revisions with conflicting reactions are reflective of analysts' private information and that the market fails to immediately incorporate this information into price.

This study makes several contributions to the literature. It contributes to the recommendation literature by being the first comprehensive study to investigate the incidence, determinants, and usefulness of recommendation revisions with conflicting market reactions. Findings may add to our understanding of how information in analyst reports gets incorporated into share prices and under what conditions prices move in a direction inconsistent from these reports. I find only one prior study that looks at opposite market reactions to analyst recommendation revisions (Kudryavtsev 2018).

Using an opposite reaction as an empirical proxy for investor inattention, Kudryavtsev (2018) analyzes its effect on post-revision date price drifts; however, the study does not provide a strong theoretical explanation for why an opposite reaction is necessarily due to investor inattention. Nor does it empirically test the relationship between opposite market reactions and other proxies for inattention used in the literature. My study investigates several hypotheses (along with investor inattention) that may explain the opposite market reactions and subsequent price reversals. Findings may be of interest to researchers who have used the sample of all revisions when conducting their study. In some cases, analyzing the two distributions (conflicting vs. non-conflicting) separately may be more appropriate. Furthermore, findings that revisions with conflicting reactions are useful in identifying earnings surprises may be of interest to investors seeking to develop a profitable trading strategy.

This study also extends recent literature on the determinants of opposite reactions to disclosures in capital markets (Chen and Tiras 2015; Johnson and Zhao 2012). Both Chen and Tiras (2015) and Johnson and Zhao (2012) focus on opposite market reactions

to measured earnings surprise. By extending the setting to analyst recommendation revisions, I may uncover common drivers of these occurrences.

2. PRIOR RESEARCH AND HYPOTHESES

Sell-side financial analysts serve as information intermediaries in capital markets; they obtain and analyze financial information and provide this information to investors in the form of research reports. These reports typically contain a stock recommendation (e.g. "buy", "hold", or "sell"), earnings forecast, and target price as well as other quantitative and qualitative analyses. A large body of literature investigates whether analyst stock recommendations are informative (Barber et al. 2001; Barber et al. 2010; Bradley et al. 2014; Feldman et al. 2012; Francis and Soffer 1997; Jegadeesh, Kim, Krische, and Lee 2004; Jiang and Kim 2016; Loh and Stulz 2011; Palmon and Yezegel 2011; Stickel 1995; Womack 1996). Several methods are used to measure information value. Some studies look at the market reaction around the analyst report date, typically measured as the short window cumulative abnormal returns (Barber et al. 2010; Bradley et al. 2014; Feldman et al. 2012; Francis and Soffer 1997; Stickel 1995; Womack 1996). Studies find, on average, a significant market reaction in the direction of the analyst's signal looking at both recommendations levels (i.e. "strong buy", "buy", "hold", "sell", "strong sell") and recommendation changes (i.e. upgrade or downgrade).

Other studies look at the relationship between the recommendation signal and long-window returns. For example, Jegadeesh et al. (2004) reports a significant positive association between the consensus recommendation level/change and future returns in the following six-months. Additionally, there are studies that look at the predictive capability of analyst recommendations by analyzing the relationship between the analyst's signal and

future earnings surprise or price reaction to future earnings surprise (Barber et al. 2010; Palmon and Yezegel 2011). Barber et al. (2010) finds that both recommendation levels and changes are predictive of future earnings surprise and the price reaction to earnings surprise. Furthermore, Palmon and Yezegel (2011) find the predictive ability of analyst recommendations has declined in the post-Regulation FD period. Finally, some studies investigate the profitability of a trading strategy that follows the signals of analyst recommendations. For example, Barber et al. (2001) finds that using a strategy of buying (selling short) stocks with the most (least) favorable consensus recommendations yields significant market adjusted returns.

Although on average, findings support the argument that analyst recommendations are informative and add value to capital markets, little is known about the subset of recommendations revisions with conflicting market reactions. In approximately 32% of the cases, analyst recommendation revisions are associated with returns in the opposite direction of the analyst's advice (i.e. a negative reaction to an upgrade or a positive reaction to a downgrade). There may be a measurement issue of either the direction of the revision or the market reaction to the revision. Or, perhaps investors are responding to some other information source with an opposing signal. This would suggest that the other information is weighed more heavily by investors than the analyst's recommendation. Information leakage is also possible, whereby investors have already incorporated the information from the analyst's revision into share prices prior to the actual revision date. Alternatively, it is possible that investors are ignoring the information provided within the revision altogether. This would counter theories of market efficiency.

2.1 Incidence of a Conflicting Reaction

To address measurement concerns, I first analyze the incidence of a conflicting reaction under various measurement specifications for both the analyst's signal and the market reaction. Looking at the analyst's signal, the direction of the revision (upgrade or downgrade) may be more accurately determined using a three-category rating system ("sell", "hold", "buy"), or even a two-category rating system ("sell", "buy"), instead of the five-category system used in I/B/E/S ("strong sell", "sell", "hold", "buy", "strong buy"). Barber et al. (2010) finds significantly higher cumulative returns for a hedge strategy that goes long on all double upgrades to "buy" or "strong buy" and short on all double downgrades to "sell" or "strong sell" when compared to a strategy that goes long on all upgrades and short on all downgrades. This provides some indirect evidence that investors may rely on a two-category ratings system when reacting to recommendation revisions. To refine the analyst's signal, I first consider a three-category rating system "sell", "hold", "buy" and exclude those downgrades/ upgrades for which there is no change in three-category level (e.g. "strong sell" to "sell", "strong buy" to "buy", or vice versa). I then consider a two-category rating system "sell" and "buy" and exclude all "hold" recommendations.

Looking at the measurement of the market reaction, I analyze incidences of conflicting reactions using three-day (-1,+1) size-adjusted returns, market-adjusted returns, and market model returns surrounding the revision date.[2] I further analyze the incidence of a conflicting reaction after considering a larger return threshold. I initially define a conflicting reaction as a recommendation upgrade (downgrade) with returns less (greater)

[2] For robustness, I also analyze other returns windows: (-1, 0), (0, +1), (-2, +2), (-2, 0), (0, +2). I find no significant change in the incidence of conflicting reactions under these alternative specifications.

than 0%. I refine this definition to a recommendation upgrade (downgrade) with returns less (greater) than -1% (1%).

2.2 Determinants of a Conflicting Reaction

To gain a better understanding of the determinants of a conflicting reaction, I analyze the following characteristics related to the recommendation revision: the information environment, strength of the analyst's signal, investor characteristics, firm/stock characteristics, and analyst/brokerage characteristics.

2.2.1 Information Environment

I consider the following factors related to the information environment around the revision: information (timing/overload/redundancy/leakage/dissemination/sentiment). Looking at information timing, I am interested in whether the revision is made during a day/time on/at which investors are paying attention. It is possible that investors simply pay less attention on certain days or times of day and therefore miss, or are late to respond to, the information provided in the revision. Prior literature has examined several proxies for investor inattention including: low event-day trading volumes (Barber and Odean 2008), Friday news events (Dellavigna and Pollet 2009), and after-hours news events. Investor inattention may explain a conflicting market reaction on the revision date followed by subsequent price reversals (Kudryavtsev 2018).

Information overload may be another cause for investor inattention/distraction. To proxy for information overload, I consider multiple same-day earnings announcements made by other firms on the recommendation revision date. An event-date with a high level of other firm disclosures may be distracting to investors. It is possible that investors will miss the information provided in the analyst's recommendation due the excess noise in the

market and limited attention capacity. Prior studies find same-day earnings announcements by other firms are associated with a weaker immediate price and volume reaction to analyst stock recommendations and stronger post-recommendation drift (Hirshleifer, Lim, and Teoh 2009; Loh 2010). Thus, simultaneous earnings announcements may contribute to the occurrence of a conflicting reaction.

As an additional proxy for information overload, I consider multiple same-day analyst reports on other firms in the same industry. These other simultaneous recommendations may add excess noise to the market, in line with the information overload hypotheses. Due to limited attention capacity, investors may lump together the average industry signal and respond accordingly. Prior studies have found limited investor attention results in category-learning behavior and that investors will process market and/or sector-wide information over firm-specific information (Peng and Wei 2006). This averaging effect may result in a conflicting reaction to the singular analyst-firm signal. Alternatively, reporting on multiple firms on the same day could be due to the occurrence of a significant news event impacting the industry. This may send a stronger signal, and thus, a lower likelihood of a conflicting reaction. The high frequency of same-day industry reporting (approximately 81% of all sample observations), however, supports the argument that this is a more of a common practice, rather than due to a special event.

To proxy for information redundancy, I look at firm disclosures made for the same firm for which the analyst is reporting. More specifically, I investigate the timing of the earnings announcement. Prior literature suggests that analysts may "piggyback" on the information found in the earnings announcement and provide no new information to the market (Altınkılıç and Hansen 2009; Altınkılıç, Balashov, and Hansen 2013; Yongtae and

Minsup 2015). In other words, the analyst recommendation is providing redundant information. If this is the case, revisions made close to a firm's earnings announcement may contribute to the occurrence of a conflicting reaction.

I also investigate the possibility of information leakage, in which news related to the revision is revealed or uncovered prior to the analyst's report date. In this case, the window for which the market reaction is measured may not match the window in which the information was received. Furthermore, if investors are trading with a short-term focus, in which they "buy on the rumor, sell on the news", an opposite market reaction may result as positions are closed on the revision date. Information leakage can be measured by looking at preannouncement stock returns. Johnson and Zhao (2012) find preannouncement stock returns to be a driver of a share price response in the opposite direction of the measured earnings surprise. I expect a similar result when looking at recommendation revisions.

Finally, I consider the effect of information dissemination and sentiment of firm-relevant news. To measure information dissemination, I look for business news publications around the revision date using data obtained from RavenPack News Analytics – Equities – Dow Jones Edition.[3] This database also provides measures for news sentiment. Several prior studies investigate the informational role of the business press (Bushee et al. 2010; Cervellati, Ferretti, and Pattitoni 2014; Kräussl and Mirgorodskaya 2017; Mitchell and Mulherin 1994; Peress 2014). Bushee et al. (2010) describes its three important functions: 1) disseminating earning's related news to investors; 2) compiling information

[3]RavenPack News Analytics – Equities – Dow Jones Edition contains business news from Dow Jones Newswires, Wall Street Journal, Barron's, and MarketWatch.

from multiple sources (e.g. management/analysts) with varying levels of coverage (firm/industry-specific); and 3) creating new information by incorporating quotes from interviews with management or analysts. Bushee et al. (2010) finds that greater business press coverage around the earnings announcement reduces information asymmetry (e.g. lower bid-ask spreads), suggesting that news media plays a role as an information intermediary. Furthermore, Cervellati et al. (2014) documents a positive association between the number of analysts quoted in a news column and the price (volume) increase for positive analyst recommendations in line with attention grabbing hypotheses. Thus, there should be a lower incidence of conflicting reactions on recommendation days where firm-relevant news is reported in the business press, assuming this news is alerting investors to the information provided in the recommendation. Alternatively, there may be a higher incidence of conflicting reactions if the business news compiles information from multiple sources that differs from the information in the individual analyst's report. In this case, the average informational effect disseminated to investors in the business news may outshine the individual informational effect of the analyst's revision. To capture this, I analyze the average sentiment of news publications surrounding the revision date and compare this to the direction of the analyst's revision. For cases where the average news sentiment conflicts with the analyst, I predict a higher likelihood of a conflicting reaction. Thus, I make the following hypotheses regarding the information environment surrounding the revision:

H1a: There is a positive association between information (timing / overload / redundancy / leakage) and the incidence of a conflicting market reaction.

H1b: There is a positive association between low firm-relevant news media attention or opposing news media sentiment and the incidence of a conflicting market reaction.

2.2.2 Strength of Analyst's Signal

I consider the strength of the analyst's signal as another possible explanatory factor for a conflicting market reaction. I consider the following proxies for the strength of the analyst's signal: recommendation level, magnitude of recommendation change, deviation from the consensus recommendation, and confirmatory metrics in the analyst's report.

Prior studies find recommendation levels and changes provide incremental information to the market (Barber et al. 2010; Stickel 1995; Womack 1996). Studies find a significant positive (negative) market reaction to higher (lower) recommendations levels (i.e. "strong buy", "buy" vs. "hold", "sell", "strong sell") and to recommendation upgrades (downgrades). Holding the magnitude of the revision constant, revisions to more extreme levels may provide a stronger signal. For example, an upgrade of one level from "buy" to "strong buy" may be viewed more favorably than an upgrade of one level from "strong sell" to "sell". It is possible that the market may even view the second upgrade from "strong sell" to "sell" as a negative signal. Conversely, a downgrade of one level from "sell" to "strong sell" may be viewed more negatively than a downgrade of one level from "strong buy" to "buy". Again, it is possible the market may view the second downgrade from "strong buy" to "buy" as a positive signal. Given the possible ambiguity in the signal resulting from the recommendation level, I suspect that upgrades (downgrades) to lower (higher) recommendations levels will increase the likelihood of a conflicting reaction.

Looking at recommendation changes and holding recommendation level constant, revisions of larger magnitude may send a stronger signal to investors. For example, a four-

level upgrade from “strong sell” to “strong buy” may be viewed more favorably than a one-level upgrade from a “buy” to “strong buy”. Conversely, a four-level downgrade from “strong buy” to “strong sell” may be viewed more negatively than a one-level downgrade from “sell” to “strong sell”. Such theories are supported by findings from Stickel (1995) and Barber et al. (2010). Ambiguity may come into play, when revisions of smaller magnitude do not cross over the threshold of positive/negative recommendation levels as would be the case for a one-level upgrade from a “buy” to “strong buy” or a one-level downgrade from “sell” to “strong sell”. Investors may view these revisions to be non-events, thereby inducing no reaction or possibly a conflicting reaction.

Another measure for the strength of the analyst’s signal is the deviation of the analyst’s recommendation level from the consensus recommendation, or the average recommendation of all analysts following the firm at a given point in time. Bold analysts, or those whose recommendations deviate greatly from the consensus, may not be trusted by investors and such recommendations may have a higher likelihood of a conflicting reaction. Prior studies show that individual analyst recommendation levels tend to herd around the consensus recommendation (Woojin and Jegadeesh 2010). However, Woojin and Jegadeesh (2010) find that market reaction around the revision date is stronger and in the direction of the upgrade/downgrade for recommendation levels that are farther away from the consensus. Thus, herding around the consensus forecast may hinder the market to attribute new information to the analyst’s revision. Given these findings, I suspect that revisions which deviate farther from the consensus are more likely to result in a market reaction in the same direction.

I also look to confirmatory metrics in the analyst report, such as the inclusion of an earnings forecast or target price. Prior studies analyze the relative information content found in analysts' stock recommendations, earnings forecasts, and target prices (Bradshaw 2002; Feldman et al. 2012; Francis and Soffer 1997; Stickel 1995). These studies find each measure to have incremental information content; however, I find approximately 41% (43%) of analyst recommendations in the sample *do not* include an earnings forecast (target price) in the report. My findings are similar to those reported by Bradshaw (2002), who finds approximately 35% of all analyst recommendations *do not* include a target price in the report. Furthermore, Bradshaw (2002) shows the non-inclusion of a target price is more prevalent amongst lower level recommendation: 73% (19%) of hold (buy) recommendations. Finally, when estimating the values of the missing target prices, Bradshaw (2002) finds that these estimates would have either reported bad news or contradicted the recommendation level reported. Presumably, a sophisticated investor does not solely rely on the buy-sell figure in an analyst's report and should be able to see through this misrepresentation. Therefore, to the extent non-inclusion of earnings forecasts or target prices reflects the intent to mask unsupported buy/sell recommendations, there may be a market reaction in the opposite direction of the recommendation revision. In a less extreme sense, given the incremental information content found in earnings forecasts and target prices (Bradshaw 2002; Feldman et al. 2012; Francis and Soffer 1997), unsupported buy/sell recommendations may not provide for full information discovery, and therefore, there should be at least a *weaker* market reaction. Thus, I make the following hypothesis regarding the strength of the analyst's signal:

H2: There is a positive association between weak analyst signals and the incidence of a conflicting market reaction.

2.2.3 Investor Characteristics

Next, I look to investor characteristics that may contribute to a conflicting market reaction. I consider overall investor sentiment and investor-type. I measure overall investor sentiment by looking at the implied volatility index (VIX) published by the Chicago Board Options Exchange (CBOE). The VIX is a continuous measure of the market's expectation of future volatility implied by S&P 500 index options (Whaley 1993). Referred to as the "fear index," higher (lower) levels of the VIX represent greater (lesser) "fear" in the market (Whaley 2000, 2009). Prior studies find decreases (increases) in the daily value of the VIX are associated with stronger positive (negative) abnormal returns to recommendation upgrades (downgrades) in line with this theory (Kliger and Kudryavtsev 2013). Therefore, a positive (negative) change in sentiment on the revision date may result in increased investor confidence (hesitance), and in turn, a higher likelihood of a conflicting reaction to a recommendation downgrade (upgrade). I also consider the type of investors holding the stock. Sophisticated investors with greater knowledge and/or resources available for investment decisions may be better able to interpret analyst signals or may even anticipate upcoming news prior to announcement thus inducing a higher likelihood of conflicting reaction (Park, Yi, and Song 2014). To proxy for sophisticated investors I use the percentage ownership of a stock by institutional investors as measured in the Thomson Reuters Institutional (13f) Holdings database. Thus, I make the following hypothesis regarding investor characteristics:

H3: There is a positive association between (changes in investor sentiment / investor sophistication) and the incidence of a conflicting market reaction.

2.2.4 Firm/Stock Characteristics

Next, I look to firm/stock characteristics that may induce a conflicting market reaction. First, I consider a firm's information transparency and utilize the following two proxies: firm size and analyst following. Looking at firm size, Stickel (1995) argues that larger firms tend to provide more disclosures and thus have a more transparent information environment than smaller firms; therefore, the impact of any single analyst report may be less meaningful. In contrast, with fewer information sources available for investors of smaller firms, any single report may prove to have information value. In line with this theory, Stickel (1995) finds a larger short-term price reaction to recommendations for smaller firms compared to larger firms. I also consider analyst following. In line with disclosure theories of Stickel (1995), stocks with a larger analyst following should have a more transparent information environment due to increased analyst reporting. Therefore, the value of any single analyst's report becomes less meaningful.

Another factor that may contribute to a conflicting reaction is a stock's normal return volatility. Stocks with a higher deviation of returns when compared to the market benchmark return may be more difficult to predict. Johnson and Zhao (2012) find that firms with higher return volatility have a greater likelihood of returns in the opposite direction of the earnings surprise. I expect a similar relationship when looking at the setting of recommendation revisions.

I also consider the level of disagreement or "contrariness" amongst all analysts following a stock. If the outstanding recommendations by other analysts for the same stock

contradict one another, this suggests the stock may be difficult to predict. For example, when there are ten analysts following a stock and the last ten recommendations by these analysts surmount to five "buys" and five "sells", this indicates a high level of contrariness. I suspect the more contrariness about the stock as of the revision date, the higher the likelihood of conflicting results.

Finally, I consider whether conflicting reactions reflect a recurrent problem for certain stocks. Here, I look at whether there was a conflicting reaction to the most recent prior recommendation made by any analyst for the same stock. Certain stock may be more difficult to predict overall or during a particular time period, thereby resulting in a string of conflicting reactions. Thus, I make the following hypothesis regarding firm/stock characteristics:

H4: There is a positive association between (information transparency / return volatility / analyst contrariness / prior conflicting reaction) and the incidence of a conflicting market reaction.

2.2.5 Analyst/Brokerage Characteristics

Additionally, perceived analyst/brokerage quality factors may influence the likelihood of a conflicting reaction. To proxy analyst quality, I consider analyst experience, reputation, and attention. I measure experience as the number of years the analyst has been issuing research reports. More seasoned analysts may have better reporting accuracy and therefore greater price impact. Sorescu and Subrahmanyam (2006) find that revisions by analysts with more years of experience outperform those by analysts with less years of experience. To measure analyst reputation, I use the rankings of Wall Street's best equity

research analysts from the October 2018 issue of Institutional Investor.[4] These rankings are determined by more than 3,900 investor votes. Research has found analyst reputation to be positively associated with market reaction (Stickel 1995). I also consider the size of the analyst's portfolio as a proxy for analyst inattention. If the analyst is following multiple firms, it is possible that they are spread too thin and cannot invest the necessary time and energy into any one firm to provide an accurate prediction. Therefore, the market may weigh more heavily those recommendations made by analysts specializing in only one or two firms. Finally, to proxy brokerage quality I consider brokerage size. Larger brokerage firms have access to more resources and may produce more accurate reports, or at least more convincing reports. Stickel (1995) finds brokerage size to be positively associated with short-term price reaction. Thus, I make the following hypothesis:

H5: There is a negative association between perceived (analyst / brokerage) quality and the incidence of a conflicting market reaction.

2.3 Relation to Future Earnings Surprise

Finally, after analyzing the determinants of conflicting reactions, I test whether revisions with conflicting reactions are related to future earnings surprises. Given these revisions result in returns in the opposite direction, it appears the market does not consider the reported recommendation change to be informative. However, it is possible that the market is missing important information in these revisions. Such findings would go against theories of market efficiency. Given the significant proportion of revisions with conflicting reactions (approximately 32%), it is important to understand their predictive value. As I

[4] Rankings are by industry sector and include a first-place, second-place, third-place and runner-up category with 2,038 individual analysts named.

am unsure of the existence or direction of the relationship, I state my hypothesis in the null form:

H6: There is no association between recommendation change (for revisions with conflicting reactions) and future earnings surprise.

3. RESEARCH METHODS AND SAMPLE SELECTION

3.1 Determinants Analysis

After analyzing alternative measurement specifications, I find that the fraction of recommendation revisions with conflicting reactions ranges between approximately 20% and 35%. Most of this difference is driven by opposite reactions that are small in magnitude (i.e. between -1% and 1%). When I refine the definition for a conflicting reaction as three-day (-1, +1) cumulative abnormal returns less (greater) than -1% (1%) surrounding a recommendation upgrade (downgrade),[5] the incidence of conflicting reactions is approximately 23%. Applying this definition, I investigate the first research question. I use logistic regression to estimate a model which examines whether certain characteristics are associated with the incidence of a conflicting reaction. The dependent variable *CONREACT* is a binary (1, 0) variable to represent a conflicting vs. non-conflicting reaction, respectively. The independent variables consist of the following test categories: the information environment ($INFO\_ENVIRONMENT$), strength of the analyst's signal ($SIGNAL\_STRENGTH$), investor characteristics ($INVESTOR\_CHAR$), firm/stock characteristics ($FIRM\_STOCK\_CHAR$), and analyst/brokerage characteristics ($ANALYST\_BROKER\_CHAR$). The model is defined as follows:

[5] Using most recent prior recommendation made by the same analyst (i.e. analyst-firm pair) and using the 5-category rating system as defined in I/B/E/S.

$$CONREACT = \alpha + \sum_{j=1}^{J} \beta_j INFO\_ENVIRONMENT_j +$$
$$\sum_{k=1}^{K} \beta_k SIGNAL\_STRENGTH_k + \sum_{l=1}^{L} \beta_l INVESTOR\_CHAR_l +$$
$$\sum_{m=1}^{M} \beta_m FIRM\_STOCK\_CHAR_m +$$
$$\sum_{n=1}^{N} \beta_n ANALYST\_BROKER\_CHAR_n + YearControls + \varepsilon \quad (1)$$

The variables included in each of the test categories are summarized below. I also include *YearControls* to control for time-series differences in the market response to analyst recommendation revisions.

3.1.1 Information Environment

VOLUME, FRIDAY, and *AFTERHOURS* are measures of information timing and are used to proxy for investor attention/inattention. *VOLUME* is a proxy for investor attention on the revision date and is measured as the natural logarithm of the total number of shares of the firm's stock sold on that day. I predict a negative relationship between *VOLUME* and the incidence of a conflicting reaction. *FRIDAY* is used to proxy investor inattention due to day of the week and is equal to 1 if the recommendation revision was made on a Friday, else 0. *AFTERHOURS* is used to proxy investor inattention due to time of day and is equal to 1 if the recommendation revision was made after the market close, or 4:00pm E.T., else 0. I predict a positive association between, *FRIDAY* and *AFTERHOURS* and the incidence of a conflicting reaction.

NUMEA and *INDNEWS* are measures of information overload and are used to proxy for investor distraction or inattention. *NUMEA* is equal to the natural logarithm of the total number of earnings announcements made by any firm on the recommendation revision date. *INDNEWS* is equal to 1 if there are multiple recommendation revisions on

the same day for firms in the same industry (2-digit SIC), else 0. I predict a positive association between *NUMEA* and *INDNEWS* and the incidence of a conflicting reaction.

EACLOSE and *PRECAR* are measures for information redundancy and information leakage, respectively. *EACLOSE* is equal to 1 if the firm makes an earnings announcement within the window (-2, +2) surrounding the recommendation revision date, else 0. *PRECAR* is equal to the cumulative abnormal returns over the 9-day period (-10, -2) prior to the event window (-1, +1). A higher *PRECAR* surrounding a recommendation downgrade (upgrade) suggests lower (higher) likelihood of information leakage. Thus, I predict a negative (positive) association between *PRECAR* for recommendation downgrades (upgrades) and the incidence of a conflicting reaction.

NEWSDAY, OPPSENT, NEUTRALSENT, and *ACSS* are measures for information dissemination and information sentiment. *NEWSDAY* is equal to 1 if the firm appears in the headlines of a news story on the revision date or the previous trading day, else 0. I predict a negative association between *NEWSDAY* and the incidence of a conflicting reaction. *OPPSENT* is equal to 1 if the average news sentiment of stories published on the revision date or the previous trading day conflicts with the direction of the analyst's revision, else 0. *NEUTRALSENT* is equal to 1 if the average news sentiment of stories published on the revision date or the previous trading day is designated as neutral, or an average CSS score of 50 in RavenPack. I predict a positive association between *OPPSENT* and *NEUTRALSENT* and the incidence of a conflicting reaction. *ACSS* is the average composite sentiment score (CSS) of stories published on the revision date or the previous trading day from RavenPack. Score is between 0 and 100 with values above 50 representing average positive sentiment and values below 50 representing average negative sentiment.

I predict a positive (negative) association between higher (lower) *ACSS* surrounding recommendation downgrades (upgrades) and the incidence of a conflicting reaction.

3.1.2 Strength of Analyst's Signal

RECLEVEL, ABSCHREC, DEVCONSENSUS, INCLEPS and *INCLTARGET* measure the strength of the analyst's signal. *RECLEVEL* is equal to the recommendation level reported by the analyst where highest to lowest values are assigned as follows: "Strong Buy", "Buy", "Hold", "Sell", "Strong Sell". *ABSCHREC* is equal to the magnitude of recommendation revision from most recent prior recommendation by the same analyst for the same firm. I predict a positive (negative) association between *RECLEVEL* of downgrades (upgrades) and the incidence of a conflicting reaction. Furthermore, I predict a negative association between *ABSCHREC* and the likelihood of a conflicting reaction. *DEVCONSENSUS* is equal to the percentage deviation of recommendation level from the most recent prior consensus recommendation level (using mean consensus). I predict a negative association between *DEVCONSENSUS* and the incidence of a conflicting reaction. *INCLEPS* and *INCLTARGET* are equal to 1 if the analyst report includes an earnings forecast or target price revision respectively, else 0. I predict a negative association between the *INCLEPS* and *INCLTARGET* and the incidence of a conflicting reaction.

3.1.3 Investor Characteristics

CHVIX and *INSTOWN* are measures for investor sentiment and investor type, respectively. *CHVIX* measures overall change in investor sentiment and is equal to the daily change in the closing value of the Chicago Board Options Exchange (CBOE) Volatility Index (VIX). A positive (negative) *CHVIX* reflects an increase (decrease) in investor

"fear." Thus, I predict a negative (positive) association between *CHVIX* for recommendation downgrades (upgrades) and the incidence of a conflicting reaction. *INSTOWN* is a stock's percentage of institutional owners and is used as a proxy for investor sophistication. I predict a positive association between *INSTOWN* and the incidence of a conflicting reaction.

3.1.4 Firm/Stock Characteristics

ASSETS, ANFOLLOW, VOLATILITY, CONTRARINESS, and *LCONREACTREC* measure firm/stock characteristics. *ASSETS,* or firm size, is measured as the natural log of total firm assets from the most recent prior quarter. *ANFOLLOW,* or analyst following, is measured as the natural logarithm of the total number of recommendations made for a particular stock (by any analyst) in a given year. *VOLATILITY* is measured as the standard deviation of size-adjusted abnormal returns for the 60 trading days before the pre-event window of (-10, -2). *CONTRARINESS* is a ratio between 0 and 1 for lowest to highest level of contrariness, or disagreement amongst analysts regarding a particular stock. Looking at all analyst recommendation revisions made for a particular stock in the (-30, 0) window surrounding the event date, the ratio is calculated as #Sell/#Buy if total number of "buy" recommendations (#Buy) is greater than total number of "sell" recommendations (#Sell), and #Buy/#Sell if total number of "sell" recommendations is greater than total number of "buy" recommendations. *LCONREACTREC* is equal to 1 if there was a conflicting reaction to the most recent prior recommendation revision made by any analyst for a particular stock, else 0. I predict a positive association between *ASSETS, ANFOLLOW, VOLATILITY, CONTRARINESS* and *LCONREACTREC* and the incidence of a conflicting reaction.

3.1.5 Analyst/Brokerage Characteristics

ANTENURE, ALLSTAR, ANPORFOLIO, and *BRSIZE* measure analyst/brokerage characteristics. *ANTENURE* is used to proxy for analyst experience and is equal to the natural logarithm of the number of years since the analyst first appeared in the I/B/E/S recommendations database. *ALLSTAR* is used to proxy for analyst reputation and is equal to equal to 1 if the analyst is included in the October 2018 issue of Institutional Investor as one of Wall Street's best equity research analysts (1st-place, 2nd-place, 3rd-place, and runner-up designations all included), else 0. I predict a negative association between *ANTENURE* and *ALLSTAR* and the incidence of a conflicting reaction. *ANPORTFOLIO*, or the size of the analyst's portfolio, is used to proxy for analyst inattention and is calculated as the natural logarithm of the total number of stocks an analyst is following during the year. I predict a positive association between *ANPORTFOLIO* and the incidence of a conflicting reaction. *BRSIZE,* or brokerage size, is used to proxy for brokerage quality and is equal to the natural logarithm of the total number of individual firms covered by a brokerage in a given year. I predict a negative association between *BRSIZE* and the incidence of a conflicting reaction.

3.2 Earnings Surprise Analysis

To answer the second question, I use OLS regression to estimate a model which examines whether revisions with conflicting reactions are related to future earnings surprises. The model is defined as follows:

$$ES = \alpha + \beta_1 CHREC + \beta_2 PMOM + \beta_3 LES\_PRC + \varepsilon \quad (2)$$

Following a similar model to Barber et al. (2010) and Palmon and Yezegel (2011), the dependent variable ES is a measure of earnings surprise, either unexpected earnings

(*ES_CON* or *ES_TS)* or the price reaction to unexpected earnings (*ES_PRC*). I use both the consensus analyst forecast and prior quarter earnings as the benchmark for expected earnings. Using the consensus analyst forecast, I calculate *ES_CON* as the difference between earnings per share reported in the earnings announcement and the most recent consensus analyst forecast prior to this announcement. I scale this measure by the share price *P* of firm *i* at the end of the month preceding the earnings announcement. Using prior quarter earnings, as in Palmon and Yezegel (2011), I calculate *ES_TS* as the difference between earnings for firm *i* in quarter *q* minus earning for firm *i* in quarter *q-4*. I scale this measure by the standard deviation of unexpected earnings for the prior eight quarters. I calculate the price reaction to the earnings announcement as the three-day (-1,+1) size-adjusted returns for firm *i* surrounding announcement date. The independent variable of interest, *CHREC,* is the most recent recommendation change for the firm-analyst pair. As I am unsure of the relationship, I do not make a directional prediction for *CHREC*. I also control for price and earnings momentum (*PMOM* and *UE*) as in Barber et al. (2010). *PMOM* is calculated as the cumulative abnormal returns (size-adjusted) for firm *i* from *t-127* to *t-2* with respect to the most recent subsequent earnings announcement date. There is an expected positive association between *PMOM* and earnings surprise *ES. LES_PRC* is calculated at the 3-day cumulative abnormal returns (size-adjusted) surrounding the most recent prior earnings announcement date. There is an expected positive association between *LES_PRC* and earnings surprise *ES.*

3.3 Trading Strategy Analysis

I also perform a trading strategy analysis to gain further insight on the predictive value of revisions with conflicting reactions. I analyze six different trading strategies in

which I construct a hedge portfolio that goes long (short) on upgraded (downgraded) stocks with conflicting reactions: 1) a strategy that opens positions two trading days after the revision date and closes them two trading days after the next earnings announcement date; 2) a strategy that opens positions two trading days after the revision date and closes them after a 20-day holding period; 3) a strategy that only trades on multistep revisions; 4) a strategy that only trades on single-step revisions; 5) a strategy that only trades on news-days where news sentiment is in the same-direction as the analyst's revision; and 6) a strategy that only trades on news-days where news sentiment is in the opposite direction as the analyst's revision. These strategies seek to earn abnormal returns by following the analyst's advice, despite a conflicting market reaction.

I use the following methodology for constructing the portfolios: each firm that is upgraded or downgraded enters the respective "upgrades" or "downgrades" portfolio two trading days after the revision date and remains in the portfolio for the designated time interval (either until two trading days after the next earnings announcement date or a set interval of twenty days). I first estimate the daily value-weighted portfolio returns (weighted by lagged market value) as follows:

$$R_{pt} = \sum_{i=1}^{n_{pt}} X_{it-1} R_{it} \tag{3}$$

where R_{it} is the day t return on security i, n_{pt} is the number of firms in the portfolio on day t, and $X_{i\,t-1}$ is the day $t-1$ market capitalization of firm i divided by the sum of day $t-1$ market capitalization of all the firms in the portfolio. I then compound the daily portfolio returns into monthly returns:

$$R_{pm} = \left[\prod_{t=1}^{nt}\left(1 + R_{pt}\right)\right] - 1 \quad (4)$$

where R_{pt} is the daily value-weighted portfolio return on day *t* and *nt* is the number of trading days in month *m.* I analyze monthly returns for the "upgrades" and "downgrades" portfolios separately as well as construct a "hedge" portfolio equal to the return of the "upgrades" portfolio minus the return of the "downgrades" portfolio.

I estimate the average monthly abnormal return for each portfolio using the below six-factor asset pricing model:

$$\begin{aligned} \text{PRETX}_{pt} = \alpha_p + \beta_p\text{MKTRF}_{pt} + \theta_p\text{SMB}_{pt} + \gamma_p\text{HML}_{pt} + \lambda_p\text{RMW}_{pt} + \eta_p\text{CMA}_{pt} \\ + \delta_p\text{UMD}_{pt} + \varepsilon_{pt}. \end{aligned} \quad (5)$$

where *p* indexes the portfolio type and *t* is the time index. The dependent variable, $PRETX_{pt,}$ equals the excess monthly return on portfolio *p* during month *t*, or the monthly portfolio return minus the risk-free rate. The independent variables include excess market returns (*MKTRF*), size (*SMB*), book-to-market (*HML*), profitability (*RMW*), investment (*CMA*) and momentum (*UMD*) factor returns. The intercept α_p is my estimate for average monthly abnormal return.

3.4 Sample Selection

Table 1 shows the sample derivation process and identifies each database used. Sample data is collected over the period 2000-2016.[6] I start with the I/B/E/S Recommendations database to obtain all individual analyst recommendations for U.S. firms. I am interested in recommendation *revisions* of analyst-firm pairs; therefore, I drop

[6] 2000 is the earliest year for which data is available in RavenPack News Analytics - Equities - Down Jones Edition.

observations that are first-time recommendations by an individual analyst for a specific firm. I merge the sample of I/B/E/S recommendation revisions with both the CRSP and Compustat databases to obtain prices/returns data and firm financial data, respectively. I drop same-day recommendations for the same stock by one or more analysts as these other recommendations add noise when determining the direction of the analyst signal for that day. I also drop recommendations that are affirmations, or those for which the analyst makes no change to the recommendation level from the most recent prior report. Finally, I drop missing variables from Regression Model (1). In subsequent iterations of the regression model I analyze a firm's institutional ownership percentage and firm-specific news media attention. To obtain these variables, I merge the sample of revisions with the Thomson Reuters Institutional (13f) Holdings database and RavenPack News Analytics - Equities - Down Jones Edition, respectively. The final regression samples used for the determinants analysis consists of 212,790 and 109,040 analyst-firm observations when excluding and including the additional databases.

To investigate the predictive value of revisions with conflicting reactions, I further refine the sample. I drop recommendations for which the firm's subsequent/prior earnings announcement is more than 120 days after/before the recommendation date. Such observations may be reflective of mismatched quarters or more serious reporting issues within the firm. I also drop recommendations within 2 days of the firm's most recent subsequent or prior earnings announcement. For these observations, the return window (-1, +1) used to measure market reaction to the recommendation overlaps the return window (-1, +1) used to measure earnings surprise. I also drop recommendations for which the firm's subsequent earnings announcement is more than 120 days after the closest quarterly

consensus forecast. Such observations may be reflective of either mismatched quarters or stale (outdated) consensus recommendations. Finally, I drop missing variables from Regression Model (2). The final regression sample used for the predictive value analysis consists of 158,885 analyst-firm observations.

[INSERT TABLE 1 HERE]

4. RESULTS & DISCUSSION

4.1 Measurement of a Conflicting Reaction

Table 2 shows the frequency of conflicting reactions under various measurement specifications for both the direction of the revision and the market reaction to the revision. The difference in frequencies is driven primarily by opposite reactions that are small in magnitude (i.e. between -1% and 1%). When including (excluding) small magnitude reactions, the incidence of a conflicting reaction is between 28%-32% (20%-23%), respectively. Taking the ratings system into consideration, the frequency of conflicting reactions from highest to lowest when including (excluding) small magnitude reactions is approximately 32%, 30%, and 28% (23%, 22%, and 20%) under a 5-category, 3-category, and 2-category ratings system, respectively. The slightly lower frequencies for 3 and 2-category ratings systems provides some evidence that investors may not follow the 5-category system presented in I/B/E/S. Finally, the frequencies are consistent when measuring cumulative abnormal returns using size-adjusted returns, market-adjusted returns, or market model returns. Given these findings, I use the following definition for a conflicting reaction for the remainder of the analysis: three-day (-1, +1) cumulative abnormal returns (size-adjusted) less (greater) than -1% (1%) surrounding a recommendation upgrade (downgrade). The direction of the revision is measured using the

most recent prior recommendation by the analyst-firm pair as the benchmark and the 5-category rating system as defined in I/B/E/S.

[INSERT TABLE 2 HERE]

Table 3 shows the mean cumulative abnormal returns (size-adjusted) for revisions with non-conflicting vs. conflicting reactions over the period (-60, +60) in ten-day intervals. A firm's cumulative abnormal return is calculated as the buy-and-hold return for the firm over the given window minus the buy-and-hold return for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile. The overall return trend for upgrades and downgrades is the same regardless of a conflicting vs. non-conflicting reaction; cumulative abnormal returns are relatively flat in the window (-60, -11). There is a significant price jump in the window (-10, +10) surrounding the revisions, with the bulk of the reaction concentrated in the window (-1,+1). Returns continue to drift in the direction of the initial price reaction through day +60 for Non-Conflict – Upgrade and remain relatively flat for Non-Conflict – Downgrade. From day +11 to +60 returns show some evidence of price reversal for conflicting reactions (in particular for upgrades).

The mean cumulative abnormal return for downgrades with conflicting reactions peaks earlier than the mean cumulative abnormal return for upgrades with non-conflicting reactions. Returns for downgrades with conflicting reactions in the (-10,-1) and (0,+10) windows are equal to 3.23% and 2.89%, respectively. Returns for upgrades with non-conflicting reactions in the (-10,-1) and (0,+10) windows are equal to 0.57% and 4.43%, respectively. Similarly, the mean cumulative abnormal return for upgrades with conflicting

reactions peaks earlier than the mean for downgrades with non-conflicting reactions. Returns for upgrades with conflicting reactions in the (-10,-1) and (0,+10) windows are equal to -3.24 % and -1.76%, respectively. Returns for downgrades with non-conflicting reactions in the (-10,-1) and (0,+10) windows are equal to -0.87% and -4.50%, respectively. This may be suggestive of other information in the pre-event period inducing a conflicting market reaction.

[INSERT TABLE 3 HERE]

4.2 Determinants Analysis

4.2.1 Univariate Analysis

Table 4 summarizes the descriptive statistics for regression variables used in Model (1) before merging the sample with RavenPack NewsAnalytics and Thomson Reuters Institutional (13f) Holdings databases. Looking at the information environment, on average, revisions with conflicting reactions have a greater percentage of after-hours announcement times (*AFTERHOURS)* and Friday announcement dates (*FRIDAY*). Revisions with conflicting reactions are also more likely to be made on the same date as other firms' earnings announcements (*NUMEA*) or revisions for other stocks in the same industry (*INDNEWS)*. Findings provide preliminary evidence of investor inattention/distraction surrounding these revisions. Furthermore, on average, revisions with conflicting reactions are made closer to the firm's earnings announcement date (*EACLOSE*). This provides preliminary evidence that information redundancy on the revision date may influence an opposite market reaction. In addition, revisions with conflicting reactions have greater pre-revision date absolute cumulative abnormal returns (*ABSPRECAR)* suggestive of information leakage.

Looking at the analyst's signal, on average, revisions with conflicting reactions have a smaller absolute change in recommendation level *(ABSCHREC)* and a smaller deviation from the consensus recommendation (*DEVCONSENSUS)*, suggestive of weaker signals. These revisions are also less likely to include accompanying earnings forecasts (*INCLEPS)* and target prices (*INCLTARGET)* in the analyst's report. Looking at investor sentiment, on average recommendation revisions with conflicting reactions are made when there is a decrease in the daily VIX or "fear index;" however, for upgrades with conflicting reactions the average decrease is smaller in magnitude than for upgrades with non-conflicting reactions. This suggests greater (less) investor confidence surrounding downgrades (upgrades) with conflicting reactions in comparison to downgrades (upgrades) with same direction reactions.

Looking at firm/stock characteristics, on average, stocks for revisions with conflicting reactions have higher analyst following (*ANFOLLOW)*, higher volatility (*VOLATILITY)*, and greater contrariness (*CONTRARINESS)*. These stocks are also more likely to have a conflicting reaction to a prior analyst's recommendation revision (*LCONREACTREC)*. Finally, looking at analyst/brokerage characteristics, on average, revisions with conflicting reactions are made by analysts with shorter tenure (*ANTENURE)*, lower reputation (*ALLSTAR),* and larger portfolios (*ANPORTFOLIO)* as well as by smaller brokerage firms (*BRIZE)*, suggesting analyst/brokerage experience, reputation, time allocation, and resources play a contributing role.

[INSERT TABLE 4 HERE]

4.2.2 Multivariate Analysis

Tables 5-7 summarize the regression results for Model (1). Table 5 shows the results on the full sample of revisions. Table 6 shows the results when analyzing downgrades and upgrades separately. Table 7 shows the results when analyzing the subsample of revisions on news-days only (*NEWSDAY=1)* equal to approximately 76% of all sample observations.

Looking at the information environment, overall, findings support hypotheses H1a-H1b. The proxies for investor inattention due to information timing and/or overload (*FRIDAY, AFTERHOURS*, *NUMEA, INDNEWS*) have positive and statistically significant coefficients, at the 1% level, in the full sample regressions (Table 5). *VOLUME* is the only variable whose coefficient does not load; however, *VOLUME* is highly correlated with the other information timing variables. When these variables are excluded from the regression, the coefficient on *VOLUME* is negative and statistically significant in line with hypothesis H1a. Some of the inattention variables (*FRIDAY, NUMEA, INDNEWS*) lose their significance in the analysis of downgrades vs. upgrades separately (Table 6); however, overall, coefficients maintain the same direction and similar magnitude as in the full sample regressions. The proxies for information redundancy (*EACLOSE*) and information leakage (*ABSPRECAR*) have positive and statistically significant coefficients, at the 1% level, in the full sample regressions (Table 5). Looking at downgrades (upgrades) separately, there is a negative (positive) coefficient on *PRECAR*, further supporting hypotheses of information leakage (Table 6).

Looking at information dissemination, the coefficient on *NEWSDAY* is negative and statistically significant at the 1% level (Tables 5-6). Findings are in line with

hypothesis H1b and suggest news media plays a role as an information intermediary, drawing investor attention to the information in the analyst's report. Looking at information sentiment on news-days, the coefficients on *OPPSENT* and *NEUTRALSENT* are positive and statistically significant at the 1% level in the full sample regression (Table 7). Further, when analyzing downgrades vs. upgrades separately, the coefficient on *ACSS* is positive (negative) for downgrades (upgrades) with statistical significance at the 1% level (Table 7). The t-statistics on the news sentiment variables *OPPSENT* and *ACSS* are approximately two to three times larger than the t-statistics of all other determinants in the model. Furthermore, in additional analyses (using nested OLS regression), I find *OPPSENT* to have the highest incremental r-squared when compared to all other determinant variables. Findings are in line with hypothesis H1b and suggest news media sentiment around the revision date is a large contributory factor to a conflicting reaction.

Looking at the strength of the analyst's signal, overall, findings support hypothesis H2. The proxies for strong analyst signals (*ABSCHREC*, *DEVCONSENSUS*, *INCLEPS*, *INCLTARGET*) have negative and statistically significant coefficients, at the 1% level, in the full sample regressions (Table 5). Looking at downgrades (upgrades) separately, the coefficient on *RECLEVEL* is positive (negative) and statistically significant at the 1% level (Table 6). Overall, findings suggest, investors are more responsive to stronger analyst signals.

Looking at investor characteristics, overall, results are in line with hypothesis H3. The proxies for change in investor sentiment (*ABSCHVIX*) and investor sophistication (*INSTOWN*) have positive and statistically significant coefficients, at the 1% and 5% levels, in the full sample regressions (Table 5). Looking at downgrades and upgrades

separately (Table 6), the coefficient on signed changes in the daily VIX (*CHVIX*) is negative (positive) for recommendation downgrades (upgrades). Results suggest increases in investor "fear" decrease (increase) the likelihood of a conflicting reaction to a recommendation downgrade (upgrade). Furthermore, looking at investor sophistication, the coefficient on *INSTOWN* is positive and statistically significant for upgrades only (Table 6). Findings suggest institutional investors may anticipate the news in the analyst's recommendation prior to its release. For example, if trading with a short-term focus, in which they "buy on the rumor, sell on the news", an opposite market reaction may result as positions are closed on the revision date. Furthermore, the stronger findings for upgrades are suggestive of short sale constraints.

Looking at firm/stock characteristics, overall, results are in line with hypothesis H4. The proxies for information transparency (*ANFOLLOW*), return volatility (*VOLATILITY*), analyst contrariness (*CONTRARINESS*), and prior conflicting reactions (*LCONREACT*) have positive and statistically significant coefficients, at the 1% level, in the full and subsample regressions (Table 5). The coefficient on *ASSETS* is positive but not statistically significant in all regression (Tables 5-6).

Finally, looking at analyst/brokerage characteristics, results are in line with hypothesis H5. The proxies for high analyst/brokerage quality (*ANTENURE, ALLSTAR, BRSIZE)* have negative and statistically significant coefficients, at the 1% level, in the full and subsample regressions (Tables 5-6). Further, the coefficient on *ANPORTFOLIO,* a proxy for lower analyst quality due to being overextended, is positive and statistically significant at the 1% level (Tables 5-6).

[INSERT TABLES 5-7 HERE]

4.3 Earnings Surprise Analysis

4.3.1 Univariate Analysis

Table 8 summarizes the descriptive statistics and correlations for variables used in Regression Model (2). On average, future earnings surprise is lower for revisions with conflicting reactions than revisions with non-conflicting reactions when using both the analyst consensus forecast (*ES_CON)* and time series expectations (*ES_TS)* as the benchmark. The lower measures for future earnings surprise are in line with the weaker analyst signals for revisions with conflicting reactions: the average change in recommendation level (*CHREC*) is 0.04 units higher (lower) for conflicting downgrades (upgrades), respectively (Table 4). There is no significant difference, however, between the average price reaction to future earnings surprise (*ES_PRC)* across the two groups. Furthermore, on average, the change in recommendation level (*CHREC)* is negative and lower for revisions with conflicting reactions compared to revisions with non-conflicting reactions. Findings are reflective of the greater overall percentage of recommendation downgrades in the sample as well as a greater percentage of conflicting downgrades.

[INSERT TABLE 8 HERE]

4.3.2 Multivariate Analysis

Table 9 summarizes the regression results for Model (2). Looking at the full sample regressions (includes both conflicting and non-conflicting observations) the coefficients on *CHREC* when earnings surprise is measured using analyst expectations (*ES_CON),* time-series expectations *(ES_TS),* and price reaction (*ES_PRC)* are positive and statistically

significant at the 1% level, in line with prior studies. Furthermore, looking at the subsample regressions (*CONREACT*=0 vs. *CONREACT*=1), the coefficients on *CHREC* are positive, statistically significant at the 1% level, and of similar magnitudes across the two subsamples when using *ES_TS* and *ES_PRC* as measures of earnings surprise. Looking at *ES_CON,* the coefficient on *CHREC* is positive and statistically significant at the 1% level for *CONREACT*=1; however, it loses some of its significance for *CONREACT*= 0. Overall, findings suggest that revisions with conflicting reactions are equally useful in identifying future earnings surprises as revisions with a same direction reaction.

[INSERT TABLE 9 HERE]

4.4 Trading Strategy Analysis

Table 10 reports the results of six different trading strategies that go long (short) on upgraded (downgraded) stocks with conflicting reactions: 1) a strategy that opens positions two trading days after the revision date and closes them two trading days after the next earnings announcement date (Panel A); 2) a strategy that opens positions two trading days after the revision date and closes them after a 20-day holding (Panel B); 3) a strategy that only trades on multistep revisions (Panel C); 4) a strategy that only trades on single-step revisions (Panel D); 5) a strategy that only trades on news-days where news sentiment is in the same-direction as the analyst's revision (Panel E); and 6) a strategy that only trades on news-days where news sentiment is in the opposite direction as the analyst's revision (Panel F). These hedge strategies seek to earn abnormal returns by following the analyst's advice, despite a conflicting market reaction. Each strategy is applied to the sample of revisions with conflicting reactions (i.e. *CONREACT*=1). Results are compared to those

obtained when applying the same strategies on the control group, or the sample of revisions with non-conflicting reactions (i.e. *CONREACT*=0).

Looking at Panels A and B (for *CONREACT*=1), results indicate average abnormal monthly returns of 0.597% (7.164% per annum) and 0.645% (7.740% per annum), respectively, with statistical significance at the 1% level or less. Findings are suggestive of price reversals in the direction of the revision. When applying these strategies to the sample of same directions reactions (i.e. *CONREACT*=0) returns are not statistically significant, suggesting price reversals only occur in the conflicting subsample, and further, any post-revision date price drifts are insignificant. Results from Panels A-B suggest that some of the contradictory reaction is reversed during the subsequent period. A trading strategy that exploits this reversal is profitable before transaction costs. In addition, findings from Panel A suggest revisions with conflicting reactions have predictive value with respect to future earnings-related news, in line with findings from the regression analysis in Table 9.

Panels C and D analyze strategies that trade only on multistep and single-step revisions, respectively. Here, a multistep revision is defined as a recommendation change by more than one level (e.g. "Hold" to "Strong Buy"), whereas a single-step revision is a one-level change (e.g. "Hold" to "Buy"). Looking at Panel C for multistep (for *CONREACT*=1), returns are not statistically significant. Looking at Panel D for single-step (for *CONREACT*=1), results indicate average abnormal monthly returns of 0.651% (7.812% per annum) with statistical significance at the 5% level or less. For both panels, returns are not statistically significant for the control group (i.e. *CONREACT*=0).

Panels E and F analyze strategies that trade only on news-days with same-direction news sentiment and opposite direction news sentiment, respectively. Here, opposite

direction news sentiment would occur when the average news-sentiment surrounding the revision (positive/negative) conflicts with the analyst's signal (downgrade/upgrade). Looking at Panel E for same direction news sentiment (for *CONREACT*=1), returns are not statistically significant. Looking at Panel F for opposite direction news sentiment (for *CONREACT*=1), results indicate average abnormal monthly returns of 1.197% (14.364% per annum) with statistical significance at the 5% level or less. For both panels, returns are not statistically significant for the control group (i.e. *CONREACT*=0). Overall, results from Panels A-D suggest some of the contradictory reaction is reversed, and this reversal is stronger for single-step revisions and revisions on days with opposing news sentiment. Findings suggest that revisions with conflicting reactions are reflective of analysts' private information not already known to the market.

[INSERT TABLE 10 HERE]

5. ADDITIONAL ANALYSES

In Appendix 3 I break down the two measures *RECLEVEL* and *ABSCHREC* into more specific ambiguities that can occur with weaker analyst signals. For example, *HOLD* is an indicator variable equal to 1 if the recommendation level is a "hold" (i.e. level 3), else 0. *HOLD* is used to control for the possibility that investors rely on a two-category rating system "buy" or "sell", whereby ending on a recommendation level of "hold" provides a weak or ambiguous signal. The coefficient on *HOLD* is positive and statistically significant (at the 1% level) in support of this argument. *STS* is an indicator variable equal to 1 if the recommendation upgrade or downgrade is from a "sell" recommendation level to another "sell" level (e.g. level 5 to 4 or level 4 to 5), else 0. *BTB* is an indicator variable equal to 1 if the recommendation upgrade or downgrade is from a "buy" recommendation level to

another "buy" level (e.g. level 2 to 1 or level 1 to 2), else 0. These variables are used to control for the possibility that investors rely on a two or three-category rating system, whereby a within category change provides a weak or ambiguous signal. The coefficients of *STS* and *BTB* are positive and statistically significant (at the 1% level) in support of this argument. Finally, *UPSELL* is an indicator variable equal to 1 if the recommendation change is an upgrade to a "sell" recommendation level, else 0. *DOWNBUY* is an indicator variable equal to 1 if the recommendation change is a downgrade to a "buy" recommendation level, else 0. *UPSELL* and *DOWNBUY* are used to identify discordant signals within the recommendation level and change which may increase the likelihood of a conflicting reaction. The coefficients on *UPSELL* and *DOWNBUY* are positive and statistically significant (at the 1% level) in support of this argument.

6. CONCLUSION

This study investigates the incidence, determinants, and usefulness of recommendation revisions with "conflicting reactions," or a market reaction in the opposite direction of the measured upgrade or downgrade. Overall, I find approximately 32% of recommendation revisions are associated with three-day (-1,+1) cumulative abnormal returns in the *opposite* direction, or a negative (positive) market reaction to a recommendation upgrade (downgrade). Depending on the measurement specifications, the incidence of conflicting reactions ranges anywhere from 20% to 35%. This is a significant fraction of revisions for which investors react in a manner inconsistent with the analyst's advice.

Results indicate that low firm-relevant news media attention or opposing news media sentiment are positively associated with a conflicting reaction. Investor inattention,

changes in investor sentiment, information redundancy, information leakage, and weak analyst signals are also positively associated with a conflicting reaction. Further, revisions for stocks with larger analyst following, higher volatility, and greater analyst disagreement are positively associated with a conflicting reaction. Finally, revisions made by less experienced/reputable analysts and smaller brokerages are positively associated with a conflicting reaction. Looking at future earnings surprise, results suggest that analyst recommendations are equally helpful in identifying earnings surprises in the conflicting and non-conflicting subsamples. Trading portfolios that take advantage of the contradictory reaction earn approximately 7% to 14% per annum, providing evidence of price reversals.

Overall, findings suggest that recommendation revisions with conflicting reactions have important information that is initially overlooked by investors. Furthermore, news media sentiment surrounding the revision date appears to be the most significant driver of a conflicting reaction. Findings draw attention to the important role news media plays in information dissemination and suggests the need for further research in this area. In addition, findings support literature which suggests that soft information (e.g. news media sentiment) has a significant impact on the market.

Findings may be of interest to researchers who have used the sample of all revisions when conducting their study. In some cases, perhaps analyzing the two distributions (conflicting vs. non-conflicting) separately is more appropriate. Furthermore, findings that revisions with conflicting reactions are useful in identifying earnings surprises may be of interest to investors seeking to develop a profitable trading strategy.

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8. TABLES

TABLE 1
Sample Selection

	2000-2016 Analyst-Firm Recommendations	
1. Analyst-firm recommendations from IBES database (US firms only)	533,345	533,345
2. Less: First recommendation for analyst-firm combination	(193,073)	(193,073)
3. Total sample analyst-firm recommendation revisions	340,272	340,272
4. Sample merged with CRSP & Compustat databases	336,244	336,244
5. Less: Same-day recommendations for the same stock by one or more analysts	(50,968)	(50,968)
Affirmation recommendations (i.e. no upgrade/downgrade)	(69,933)	(69,933)
Missing variables from regression model	(2,553)	(2,553)
Firms not included in Thomson Reuters Institutional (13f) Holdings data		(50,984)
Firms not included in RavenPack News Analytics database		(52,766)
6. Regression Sample for Determinants Analysis	***212,790***	***109,040***
7. Less: Recommendations for which firm's subsequent/prior earnings announcement is more than 120 days after/before recommendation date	(2,874)	
Recommendations within 2 days of firm's most recent subsequent/prior earnings announcement	(41,910)	
Recommendations for which firm's subsequent earnings announcement is more than 120 days after closest quarterly consensus forecast	(700)	
Missing variables from regression model	(8,422)	
8. Regression Sample for Earnings Surprise Analysis	***158,884***	

TABLE 2
Frequency of Conflicting Reactions

I. *CONREACT* = Recommendation upgrade (downgrade) with 3-day (-1,+1) cumulative abnormal returns less (greater) than 0%. Upgrades (Downgrades) measured using most recent prior recommendation by the same analyst as the benchmark.

A. 5-Category Recommendation Level ("strong sell", "sell", "hold", "buy", "strong buy") to identify upgrade/downgrade:

	Size-Adjusted	Market-Adjusted	Market Model
% CONREACT: Full Sample	31.55%	31.78%	31.66%
% CONREACT: Downgrades	32.37%	32.78%	31.76%
% CONREACT: Upgrades	30.60%	30.63%	31.55%

B. 3-Category Recommendation Level ("sell", "hold", "buy") to identify upgrade/downgrade:

	Size-Adjusted	Market-Adjusted	Market Model
% CONREACT: Full Sample	30.08%	30.28%	30.19%
% CONREACT: Downgrades	30.59%	30.93%	30.08%
% CONREACT: Upgrades	29.49%	29.53%	30.31%

C. 2-Category Recommendation Level ("sell", "buy") to identify upgrade/downgrade:

	Size-Adjusted	Market-Adjusted	Market Model
% CONREACT: Full Sample	27.91%	28.05%	28.77%
% CONREACT: Downgrades	27.90%	28.36%	28.32%
% CONREACT: Upgrades	27.91%	27.95%	28.91%

Table 2 reports the frequencies of conflicting reactions (*CONREACT*) under various measurement specifications for the direction of the revision (upgrade or downgrade) and the market response (same-direction or opposite direction). Part I defines *CONREACT* as a recommendation upgrade (downgrade) with 3-day (-1,+1) cumulative abnormal returns less (greater) than 0%. Upgrades (Downgrades) are measured using the most recent prior recommendation by the same analyst as the benchmark. Sections A, B, and C identify the direction of the revision (upgrade or downgrade) using a 5-category, 3-category, and 2-category recommendation rating system, respectively. Reiterations, or recommendations to the same prior level are dropped in each scenario. For each panel, 3-day (-1,+1) cumulative abnormal returns are measured using size-adjusted, market-adjusted, and market model returns.

TABLE 2 Continued
Frequency of Conflicting Reactions

II. *CONREACT* = Recommendation upgrade (downgrade) with 3-day (-1,+1) cumulative abnormal returns less (greater) than -1%(1%). Upgrades (Downgrades) measured using most recent prior recommendation by the same analyst as the benchmark.

A. 5-Category Recommendation Level ("strong sell", "sell", "hold", "buy", "strong buy") to identify upgrade/downgrade:

	Size-Adjusted	Market-Adjusted	Market Model
% CONREACT: Full Sample	23.09%	23.26%	23.06%
% CONREACT: Downgrades	23.96%	24.26%	23.29%
% CONREACT: Upgrades	22.09%	22.10%	22.79%

B. 3-Category Recommendation Level ("sell", "hold", "buy") to identify upgrade/downgrade:

	Size-Adjusted	Market-Adjusted	Market Model
% CONREACT: Full Sample	21.75%	21.90%	21.71%
% CONREACT: Downgrades	22.37%	22.67%	21.82%
% CONREACT: Upgrades	21.04%	21.02%	21.57%

C. 2-Category Recommendation Level ("sell", "buy") to identify upgrade/downgrade:

	Size-Adjusted	Market-Adjusted	Market Model
% CONREACT: Full Sample	19.92%	19.96%	20.43%
% CONREACT: Downgrades	20.55%	20.79%	20.65%
% CONREACT: Upgrades	19.71%	19.68%	20.36%

Table 2 reports the frequencies of conflicting reactions (*CONREACT*) under various measurement specifications for the direction of the revision (upgrade or downgrade) and the market response (same-direction or opposite direction). Part II defines *CONREACT* as a recommendation upgrade (downgrade) with 3-day (-1,+1) cumulative abnormal returns less (greater) than -1%(1%). Upgrades (Downgrades) are measured using the most recent prior recommendation by the same analyst as the benchmark. Sections A, B, and C identify the direction of the revision (upgrade or downgrade) using a 5-category, 3-category, and 2-category recommendation rating system, respectively. Reiterations, or recommendations to the same prior level are dropped in each scenario. For each panel, 3-day (-1,+1) cumulative abnormal returns are measured using size-adjusted, market-adjusted, and market model returns.

TABLE 3
Mean Cumulative Abnormal Returns (Size-Adjusted)

	Non-Conflicting Reaction				Conflicting Reaction			
Event Window	**Downgrade**	**t-stat**	**Upgrade**	**t-stat**	**Downgrade**	**t-stat**	**Upgrade**	**t-stat**
(-60,-51)	-0.11%	-3.42	0.27%	8.60	0.02%	0.34	0.52%	7.63
(-50,-41)	0.10%	2.97	0.23%	7.00	-0.03%	-0.51	0.28%	4.28
(-40,-31)	0.20%	6.35	0.14%	4.55	0.11%	1.67	0.26%	3.90
(-30,-21)	0.24%	7.20	-0.02%	-0.72	0.20%	3.14	0.07%	1.03
(-20,-11)	0.33%	10.11	-0.31%	-9.78	0.44%	6.43	-0.29%	-4.19
(-10,-1)	-0.87%	-21.03	0.57%	15.09	**3.23%**	**35.28**	**-3.24%**	**-39.26**
(0, +10)	**-4.50%**	**-110.00**	**4.43%**	**117.98**	**2.89%**	**35.18**	**-1.76%**	**-24.04**
(+11, +20)	0.01%	0.30	0.24%	7.90	-0.12%	-1.96	0.23%	3.39
(+21, +30)	0.09%	2.65	0.13%	4.40	-0.03%	-0.54	0.02%	0.27
(+31, +40)	0.11%	3.16	0.20%	6.73	0.12%	1.95	0.22%	3.11
(+41, +50)	0.10%	2.85	0.14%	4.49	0.05%	0.73	0.20%	2.81
(+51,+60)	0.07%	1.99	0.13%	4.08	-0.01%	-0.18	0.13%	1.81
(-10,-2)	0.44%	14.41	-0.50%	-14.73	0.31%	3.48	-0.50%	-6.07
(-1, 0)	**-4.57%**	**-180.00**	**4.14%**	**154.34**	**4.67%**	**83.94**	**-3.86%**	**-120.00**
(-1, +1)	**-5.65%**	**-200.00**	**5.09%**	**181.68**	**6.06%**	**97.32**	**-5.11%**	**-140.00**
(0, +1)	**-4.30%**	**-180.00**	**4.03%**	**165.30**	**3.10%**	**55.22**	**-2.31%**	**-73.27**

The top portion of Table 3 reports the cumulative abnormal returns in 10-day intervals surrounding recommendation downgrades and upgrades with non-conflicting vs. conflicting reactions over the sample period 2000-2016. Intervals begin 60 days prior to the recommendation date and end 60 days after the recommendation date. The bottom portion of Table 3 reports cumulative abnormal returns in the 9-day pre-announcement window (-10, -2) and the following announcement day windows (-1, 0), (-1,+1), and (0,+1) surrounding the revision date. A conflicting reaction is defined as three-day (-1,+1) cumulative abnormal returns surrounding the revision date are less/greater than -1%/1% for an analyst upgrade/downgrade. Cumulative abnormal returns are calculated using size-adjusted returns (value-weighted). A firm's abnormal return is calculated as the buy-and-hold return for the firm over the given window minus the buy-and-hold return for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile. Test-statistics are cross-sectional as in Womack (1996). **Bold** for returns greater/less than 1%/-1%.

TABLE 4
Descriptive Statistics: Analyzing the Determinants of a Conflicting Reaction

Panel A: Continuous Variables

	Full Sample *Total Obs.* = 212,790			*Downgrades* *Total Obs.* = 113,735			*Upgrades* *Total Obs.* = 99,055		
Variable Mean (Standard Dev.)	**Non-Conflict**	**Conflict**	**P-Values for Dif in Means**	**Non-Conflict**	**Conflict**	**P-Values for Dif in Means**	**Non-Conflict**	**Conflict**	**P-Values for Dif in Means**
VOLUME	13.926	13.926	0.9987	13.885	13.857	0.0177	13.971	14.011	0.0015
	(1.652)	(1.762)		(1.680)	(1.780)		(1.618)	(1.736)	
NUMEA	4.510	4.557	0.0000	4.490	4.542	0.0000	4.532	4.577	0.0000
	(1.051)	(1.044)		(1.056)	(1.037)		(1.046)	(1.053)	
ABSPRECAR	0.061	0.072	0.0000	0.063	0.074	0.0000	0.059	0.068	0.0000
	(0.069)	(0.078)		(0.072)	(0.082)		(0.064)	(0.072)	
PRECAR	-0.000	-0.001	0.2701	0.004	0.003	0.0438	-0.005	-0.005	0.9156
	(0.087)	(0.100)		(0.090)	(0.103)		(0.084)	(0.095)	
RECLEVEL	-2.489	-2.488	0.7885	-3.158	-3.040	0.0000	-1.740	-1.801	0.0000
	(1.012)	(0.977)		(0.708)	(0.731)		(0.740)	(0.792)	
ABSCHREC	1.394	1.353	0.0000	1.396	1.354	0.0000	1.391	1.351	0.0000
	(0.537)	(0.527)		(0.541)	(0.532)		(0.532)	(0.521)	
DEVCONSENSUS	0.395	0.381	0.0000	0.447	0.422	0.0000	0.337	0.330	0.0000
	(0.290)	(0.290)		(0.333)	(0.331)		(0.218)	(0.218)	
ABSCHVIX	1.080	1.230	0.0000	1.050	1.158	0.0000	1.114	1.320	0.0000
	(1.298)	(1.470)		(1.249)	(1.354)		(1.351)	(1.599)	
CHVIX	-0.028	-0.029	0.9274	0.015	-0.015	0.0049	-0.076	-0.045	0.0152
	(1.568)	(1.749)		(1.529)	(1.661)		(1.610)	(1.854)	
ASSETS	7.821	7.744	0.0000	7.774	7.697	0.0000	7.875	7.802	0.0000
	(1.873)	(1.884)		(1.879)	(1.880)		(1.864)	(1.887)	
ANFOLLOW	2.420	2.501	0.0000	2.398	2.464	0.0000	2.443	2.546	0.0000
	(0.779)	(0.797)		(0.795)	(0.819)		(0.760)	(0.766)	
VOLATILITY	0.025	0.028	0.0000	0.025	0.029	0.0000	0.024	0.027	0.0000
	(0.016)	(0.017)		(0.017)	(0.018)		(0.015)	(0.017)	
CONTRARINESS	0.143	0.165	0.0000	0.132	0.157	0.0000	0.155	0.174	0.0000
	(0.287)	(0.301)		(0.278)	(0.298)		(0.296)	(0.306)	
ANTENURE	7.582	7.488	0.0000	7.582	7.492	0.0000	7.582	7.483	0.0000
	(0.882)	(0.912)		(0.876)	(0.901)		(0.889)	(0.925)	
ANPORTFOLIO	2.658	2.730	0.0000	2.667	2.731	0.0000	2.648	2.728	0.0000
	(0.883)	(0.942)		(0.876)	(0.923)		(0.891)	(0.966)	
BRSIZE	5.773	5.645	0.0000	5.781	5.675	0.0000	5.764	5.609	0.0000
	(1.144)	(1.249)		(1.152)	(1.246)		(1.134)	(1.253)	

Table 4 reports the descriptive statistics for regression variables from Model (1). Panel A reports the mean(standard deviation) of continuous variables comparing the conflicting vs. non-conflicting subsamples. Statistics are reported for the full sample of revisions as well as downgrades vs. upgrades separately. Continuous variables are winsorized at the 1st and 99th percentiles. See Appendix 1 for variable definitions.

TABLE 4 Continued
Descriptive Statistics: Analyzing the Determinants of a Conflicting Reaction

Panel B: Indicator Variables

	Full Sample		*Downgrades*		*Upgrades*	
	Total Obs. = 212,790		***Total Obs.*** = 113,735		***Total Obs.*** = 99,055	
Rate of Occurrence	**Non-Conflict**	**Conflict**	**Non-Conflict**	**Conflict**	**Non-Conflict**	**Conflict**
FRIDAY	0.185	0.192	0.189	0.193	0.181	0.190
AFTERHOURS	0.141	0.161	0.143	0.163	0.139	0.159
INDNEWS	0.806	0.825	0.814	0.833	0.797	0.815
EACLOSE	0.198	0.212	0.203	0.206	0.192	0.220
INCLEPS	0.534	0.482	0.528	0.464	0.540	0.503
INCLTARGET	0.516	0.437	0.428	0.383	0.615	0.503
LCONREACTREC	0.008	0.015	0.008	0.017	0.009	0.014
ALLSTAR	0.099	0.072	0.098	0.075	0.100	0.068
Observations	163,655	49,135	86,485	27,250	77,170	21,885
% Total Obs.	76.91%	23.09%	76.04%	23.96%	77.91%	22.09%

Table 4 reports the descriptive statistics for regression variables from Model (1). Panel B reports the frequencies of indicator variables comparing the conflicting vs. non-conflicting subsamples. Statistics are reported for the full sample of revisions as well as downgrades vs. upgrades separately. Continuous variables are winsorized at the 1st and 99th percentiles. See Appendix 1 for variable definitions.

TABLE 5
Regression Results: Analyzing the Determinants of a Conflicting Reaction

Dep. Variable: CONREACT — *Full Sample*

	Indep. Variables	Pred. Sign	(1) Coeff.	(1) (t-stat)	(2) Coeff.	(2) (t-stat)
I. Information Environment:	*NEWSDAY*	-			-0.193***	(-10.74)
	VOLUME	-	-0.007	(-1.61)	0.002	(0.30)
	FRIDAY	+	0.041***	(3.01)	0.058***	(3.02)
	AFTERHOURS	+	0.218***	(14.77)	0.218***	(10.32)
	NUMEA	+	0.020***	(3.69)	0.029***	(3.77)
	INDNEWS	+	0.057***	(4.10)	0.064***	(3.24)
	EACLOSE	+	0.153***	(10.43)	0.175***	(8.38)
	ABSPRECAR	+	0.751***	(9.40)	0.712***	(6.13)
II. Strength of Analyst's Signal:	*RECLEVEL*	?	-0.006	(-1.06)	-0.001	(-0.16)
	ABSCHREC	-	-0.112***	(-9.97)	-0.099***	(-6.21)
	DEVCONSENSUS	-	-0.164***	(-7.97)	-0.183***	(-6.29)
	INCLEPS	-	-0.129***	(-11.23)	-0.093***	(-5.72)
	INCLTARGET	-	-0.230***	(-20.24)	-0.258***	(-16.01)
III. Investor Characteristics:	*ABSCHVIX*	+	0.046***	(11.61)	0.045***	(7.96)
	INSTOWN	+			0.067**	(2.01)
IV. Firm/Stock Characteristics:	*ASSETS*	+	0.006	(1.41)	0.006	(1.04)
	ANFOLLOW	+	0.105***	(11.36)	0.101***	(7.39)
	VOLATILITY	+	6.217***	(15.06)	6.009***	(9.68)
	CONTRARINESS	+	0.145***	(8.02)	0.174***	(6.87)
	LCONREACTREC	+	0.507***	(10.18)	0.526***	(7.27)
V. Analyst/ Brokerage Characteristics:	*ANTENURE*	-	-0.057***	(-8.94)	-0.047***	(-5.27)
	ALLSTAR	-	-0.230***	(-10.87)	-0.212***	(-7.58)
	ANPORTFOLIO	+	0.085***	(13.12)	0.106***	(10.24)
	BRSIZE	-	-0.133***	(-26.59)	-0.131***	(-17.80)
	Constant	?	-0.323***	(-4.08)	-0.555***	(-4.78)
	Observations		212790		109040	
	Pseudo- R-squared		0.0246		0.0274	
	Wald p-value		0.0000		0.0000	
	Year Controls Included		YES		YES	
	Sample Period:		2000-2016		2000-2016	

Table 5 shows the regression results for Model (1) on the full sample of revisions (both downgrades and upgrades together). Regression (1) reports results on the larger sample before merging with RavenPack NewsAnalytics and Thomson Reuters Institutional (13f) Holdings databases. Regression (2) reports results after the merge to include *NEWSDAY* and *INSTOWN* variables. Dependent variable *CONREACT* is equal to 1 if the three-day (-1,+1) cumulative abnormal returns surrounding the revision date are less/greater than -1%/1% for an analyst upgrade/downgrade, else 0. Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-1,+1) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and clustering by analyst-firm pairs. See Appendix 1 for independent variable definitions. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

TABLE 6
Regression Results: Analyzing the Determinants of a Conflicting Reaction - Dowgrades vs. Upgrades

Dep. Variable: CONREACT			*Downgrades*				*Upgrades*			
			(1)		(2)		(3)		(4)	
	Indep. Variables	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
I. Information Environment:	*NEWSDAY*	-			-0.181***	(-7.54)			-0.199***	(-7.35)
	VOLUME	-	-0.008	(-1.41)	-0.004	(-0.44)	0.003	(0.49)	0.020**	(1.97)
	FRIDAY	+	0.031*	(1.69)	0.044*	(1.67)	0.046**	(2.22)	0.069**	(2.41)
	AFTERHOURS	+	0.211***	(10.68)	0.231***	(8.25)	0.212***	(9.58)	0.184***	(5.78)
	NUMEA	+	0.036***	(4.89)	0.049***	(4.65)	0.013	(1.58)	0.016	(1.41)
	INDNEWS	+	0.055***	(2.91)	0.044	(1.60)	0.051**	(2.56)	0.077***	(2.67)
	EACLOSE	+	0.074***	(3.69)	0.091***	(3.17)	0.212***	(9.85)	0.233***	(7.68)
	PRECAR	-/+	-0.195***	(-2.60)	-0.312***	(-2.89)	0.195**	(2.20)	0.244*	(1.92)
II. Strength of Analyst's Signal:	*RECLEVEL*	+/-	0.191***	(14.89)	0.182***	(9.96)	-0.164***	(-11.04)	-0.144***	(-6.76)
	ABSCHREC	-	-0.059***	(-3.96)	-0.042**	(-1.99)	-0.106***	(-5.86)	-0.112***	(-4.44)
	DEVCONSENSUS	-	-0.030	(-1.15)	-0.066*	(-1.77)	0.283***	(5.21)	0.278***	(3.60)
	INCLEPS	-	-0.220***	(-14.14)	-0.198***	(-8.96)	-0.026	(-1.54)	0.025	(1.04)
	INCLTARGET	-	-0.081***	(-5.25)	-0.105***	(-4.77)	-0.365***	(-21.40)	-0.395***	(-16.49)
III. Investor Characteristics:	*CHVIX*	-/+	-0.012***	(-2.72)	-0.011*	(-1.70)	0.016***	(3.33)	0.014**	(2.02)
	INSTOWN	+			0.012	(0.27)			0.127**	(2.54)
IV. Firm/Stock Characteristics:	*ASSETS*	+	0.013**	(2.45)	0.012	(1.52)	-0.002	(-0.38)	-0.001	(-0.08)
	ANFOLLOW	+	0.069***	(5.68)	0.076***	(4.18)	0.161***	(11.62)	0.141***	(6.89)
	VOLATILITY	+	7.462***	(14.70)	7.069***	(9.31)	8.711***	(14.09)	8.324***	(8.86)
	CONTRARINESS	+	0.157***	(6.26)	0.192***	(5.48)	0.131***	(4.92)	0.151***	(4.05)
	LCONREACTREC	+	0.723***	(11.22)	0.739***	(7.90)	0.262***	(3.50)	0.302***	(2.82)
V. Analyst/ Brokerage Characteristics:	*ANTENURE*	-	-0.059***	(-6.88)	-0.047***	(-3.87)	-0.054***	(-5.90)	-0.046***	(-3.55)
	ALLSTAR	-	-0.189***	(-6.83)	-0.152***	(-4.07)	-0.279***	(-8.81)	-0.285***	(-6.80)
	ANPORTFOLIO	+	0.087***	(10.36)	0.098***	(7.03)	0.080***	(8.29)	0.109***	(7.38)
	BRSIZE	-	-0.115***	(-17.20)	-0.117***	(-11.75)	-0.147***	(-20.23)	-0.142***	(-13.22)
	Constant	?	0.046	(0.43)	-0.107	(-0.68)	-0.788***	(-6.55)	-1.115***	(-6.25)
	Observations		113735		57923		99055		51117	
	Pseudo- R-squared		0.0231		0.0271		0.0313		0.0347	
	Wald p-value		0.0000		0.0000		0.0000		0.0000	
	Year Controls Included		YES		YES		YES		YES	
	Sample Period:		2000-2016		2000-2016		2000-2016		2000-2016	

Table 6 shows the regression results for Model (1) on the sample of downgrades vs. upgrades separately. Regressions (1) & (3) report results on the larger sample before merging with RavenPack NewsAnalytics and Thomson Reuters Institutional (13f) Holdings databases. Regressions (2) & (4) report results after the merge to include *NEWSDAY* and *INSTOWN* variables. Dependent variable *CONREACT* is equal to 1 if the three-day cumulative abnormal returns (-1,+1) surrounding the revision date are less/greater than -1%/1% for an analyst upgrade/downgrade, else 0. Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-1,+1) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and clustering by analyst-firm pairs. See Appendix 1 for independent variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 7
Regression Results: Analyzing the Determinants of a Conflicting Reaction - Newsdays Only

Dep. Variable: CONREACT			*Full Sample*			*Downgrades*		*Upgrades*	
			(1)			(2)		(3)	
	Indep. Variables	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Indep. Variables**	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
	OPPSENT	+	**0.721*** **	**(36.45)**	***ACSS***	+/-	**0.084*** **	**(23.55)**	**-0.091*** **	**(-20.32)**
	NEUTRALSENT	+	**0.365*** **	**(13.13)**	***NEUTRALSENT***	+	**0.119*** **	**(-3.30)**	**0.069***	**(1.69)**
	VOLUME	-	0.008	(0.98)	*VOLUME*	-	-0.018*	(-1.69)	0.024**	(1.98)
I. Information Environment:	*FRIDAY*	+	0.093***	(4.16)	*FRIDAY*	+	0.085***	(2.80)	0.093***	(2.78)
	AFTERHOURS	+	0.168***	(6.41)	*AFTERHOURS*	+	0.150***	(4.30)	0.169***	(4.39)
	NUMEA	+	0.026***	(2.83)	*NUMEA*	+	0.039***	(3.08)	0.023*	(1.71)
	INDNEWS	+	0.052**	(2.26)	*INDNEWS*	+	0.020	(0.63)	0.086***	(2.60)
	EACLOSE	+	0.158***	(6.72)	*EACLOSE*	+	0.067**	(2.09)	0.188***	(5.51)
	ABSPRECAR	+	0.796***	(5.69)	*PRECAR*	-/+	-0.097	(-0.73)	0.110	(0.72)
	RECLEVEL	?	0.019**	(2.04)	*RECLEVEL*	+/-	0.166***	(7.53)	-0.080***	(-3.10)
II. Strength of Analyst's Signal:	*ABSCHREC*	-	-0.093***	(-5.00)	*ABSCHREC*	-	-0.054**	(-2.18)	-0.090***	(-3.07)
	DEVCONSENSUS	-	-0.168***	(-4.85)	*DEVCONSENSUS*	-	-0.108**	(-2.38)	0.192**	(2.07)
	INCLEPS	-	-0.111***	(-5.83)	*INCLEPS*	-	-0.227***	(-8.78)	0.007	(0.24)
	INCLTARGET	-	-0.251***	(-13.40)	*INCLTARGET*	-	-0.105***	(-4.12)	-0.382***	(-13.77)
III. Investor Characteristics:	*ABSCHVIX*	+	0.049***	(7.32)	*CHVIX*	-/+	-0.002	(-0.28)	0.017**	(2.08)
	INSTOWN	+	0.065	(1.54)	*INSTOWN*	+	0.066	(1.17)	0.063	(1.02)
	ASSETS	+	-0.002	(-0.25)	*ASSETS*	+	0.002	(0.26)	-0.011	(-1.09)
IV. Firm/Stock Characteristics:	*ANFOLLOW*	+	0.126***	(7.76)	*ANFOLLOW*	+	0.085***	(3.94)	0.191***	(7.81)
	VOLATILITY	+	5.119***	(6.77)	*VOLATILITY*	+	8.148***	(8.66)	5.211***	(4.65)
	CONTRARINESS	+	0.166***	(5.53)	*CONTRARINESS*	+	0.186***	(4.45)	0.131***	(3.03)
	LCONREACTREC	+	0.576***	(7.20)	*LCONREACTREC*	+	0.768***	(7.49)	0.352***	(2.98)
	ANTENURE	-	-0.046***	(-4.41)	*ANTENURE*	-	-0.055***	(-3.83)	-0.042***	(-2.76)
V. Analyst/ Brokerage Characteristics:	*ALLSTAR*	-	-0.220***	(-6.74)	*ALLSTAR*	-	-0.169***	(-3.86)	-0.291***	(-6.06)
	ANPORTFOLIO	+	0.103***	(7.98)	*ANPORTFOLIO*	+	0.089***	(5.09)	0.126***	(6.82)
	BRSIZE	-	-0.125***	(-14.04)	*BRSIZE*	-	-0.106***	(-8.91)	-0.140***	(-10.86)
	Constant	?	-1.069***	(-7.40)	*Constant*	?	-4.077***	(-15.60)	3.315***	(10.19)
	Observations		82854		Observations		43476		39378	
	Pseudo- R-squared		0.0423		Pseudo- R-squared		0.0401		0.0461	
	Wald p-value		0.0000		Wald p-value		0.0000		0.0000	
	Year Controls Included		YES		Year Controls Included		YES		YES	
	Sample Period:		2000-2016		Sample Period:		2000-2016		2000-2016	

Table 7 shows the regression results for Model (1) for newsdays only (or where *NEWSDAY*=1). Dependent variable *CONREACT* is equal to 1 if the three-day cumulative abnormal returns (-1,+1) surrounding the revision date are less/greater than -1%/1% for an analyst upgrade/downgrade, else 0. Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-1,+1) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and clustering by analyst-firm pairs. See Appendix 1 for independent variabledefinitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 8
Descriptive Statistics: Earnings Surprise Analysis

Panel A: Mean (Standard Deviation) of Continuous Variables

Variable Mean (Standard Deviation)	Overall	Non-Conflict	Conflict	P-Values for Dif in Means
ES_CON	0.404	0.418	0.359	0.0000
	(0.586)	(0.586)	(0.584)	
ES_TS	0.034	0.044	0.003	0.0000
	(1.253)	(1.248)	(1.269)	
ES_PRC	0.001	0.001	0.001	0.5842
	(0.080)	(0.079)	(0.084)	
CHREC	-0.083	-0.062	-0.153	0.0000
	(1.483)	(1.493)	(1.446)	
PMOM	0.014	0.011	0.024	0.0000
	(0.311)	(0.301)	(0.340)	
LES_PRC	0.000	0.000	0.000	0.9936
	(0.084)	(0.083)	(0.088)	
Observations	158885	122,832	36,053	
% Observations		77.31%	22.69%	

Panel B: Correlation Matrix

	1	2	3	4	5	6
1 *ES_CON*	1					
2 *ES_TS*	0.2773*	1				
3 *ES_PRC*	0.0797*	0.1036*	1			
4 *CHREC*	0.0182*	0.0341*	0.0189*	1		
5 *PMOM*	0.1247*	0.1978*	0.0147*	0.0693*	1	
6 *LES_PRC*	0.0700*	0.1109*	0.0101*	-0.0035	0.3211*	1

Table 8 reports the descriptive statistics and Pearson correlations for regression variables from Model (2). Panel A reports the mean (standard deviation) of continuous variables comparing the conflicting vs. non-conflicting subsamples. Panel B reports the Pearson correlations. Continuous variables are winsorized at the 1st and 99th percentiles. * denotes significance at the 5% level or less. See Appendix 1 for variable definitions.

TABLE 9
Regression Results: Earnings Surprise Analysis

Dep. Var.: ES_CON		*Full Sample*				*CONREACT=0*				*CONREACT=1*			
Indep.Var.	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
CHREC	+	**0.004*** **	**(5.25)**	**0.001**	**(1.59)**	**0.002** **	**(2.40)**	**-0.000**	**(-0.44)**	**0.008*** **	**(4.01)**	**0.005*** **	**(2.67)**
PMOM	+	0.214***	(26.02)	0.230***	(28.01)	0.219***	(26.44)	0.235***	(28.51)	0.210***	(15.55)	0.225***	(16.70)
LES_PRC	+	0.236***	(11.17)	0.238***	(11.43)	0.228***	(9.94)	0.231***	(10.26)	0.248***	(6.38)	0.250***	(6.49)
Constant	?	0.402***	(152.30)	0.297***	(46.75)	0.415***	(153.81)	0.302***	(42.24)	0.355***	(88.31)	0.286***	(26.93)
Observations		158884		158884		122830		122830		36054		36054	
Adjusted R-squared		0.017		0.047		0.016		0.047		0.019		0.046	
Year Controls Included		NO		YES		NO		YES		NO		YES	
Sample Period		2000-2016		2000-2016		2000-2016		2000-2016		2000-2016		2000-2016	

Dep. Var.: ES_TS		*Full Sample*				*CONREACT=0*				*CONREACT=1*			
Indep.Var.	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
CHREC	+	**0.019*** **	**(9.65)**	**0.015*** **	**(8.01)**	**0.017*** **	**(7.62)**	**0.014*** **	**(6.12)**	**0.019*** **	**(4.38)**	**0.018*** **	**(4.08)**
PMOM	+	0.722***	(51.43)	0.732***	(51.38)	0.741***	(48.27)	0.751***	(48.58)	0.681***	(28.02)	0.686***	(28.17)
LES_PRC	+	0.801***	(17.92)	0.823***	(18.68)	0.814***	(16.40)	0.834***	(17.07)	0.747***	(8.72)	0.777***	(9.28)
Constant	?	0.026***	(6.70)	-0.046***	(-3.09)	0.036***	(8.93)	-0.061***	(-3.47)	-0.011	(-1.51)	-0.012	(-0.50)
Observations		158884		158884		122830		122830		36054		36054	
Adjusted R-squared		0.042		0.067		0.042		0.065		0.041		0.073	
Year Controls Included		NO		YES		NO		YES		NO		YES	
Sample Period		2000-2016		2000-2016		2000-2016		2000-2016		2000-2016		2000-2016	

Dep. Var.: ES_PRC		*Full Sample*				*CONREACT=0*				*CONREACT=1*			
Indep.Var.	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
CHREC	+	**0.001*** **	**(7.61)**	**0.001*** **	**(7.75)**	**0.001*** **	**(6.46)**	**0.001*** **	**(6.65)**	**0.001*** **	**(2.92)**	**0.001*** **	**(2.89)**
PMOM	+	0.003***	(2.69)	0.002**	(2.28)	0.004***	(3.48)	0.004***	(3.11)	-0.000	(-0.17)	-0.001	(-0.42)
LES_PRC	+	0.006*	(1.67)	0.006*	(1.66)	0.005	(1.14)	0.005	(1.12)	0.011	(1.46)	0.011	(1.48)
Constant	?	0.001***	(4.10)	0.001	(0.49)	(3.97)		0.001	(0.40)	0.001*	(1.71)	0.001	(0.42)
Observations		158884		158884		122830		122830		36054		36054	
Adjusted R-squared		0.001		0.001		0.001		0.001		0.000		0.000	
Year Controls Included		NO		YES		NO		YES		NO		YES	
Sample Period		2000-2016		2000-2016		2000-2016		2000-2016		2000-2016		2000-2016	

Table 9 shows the regression results for Model (2). Dependent variable *ES* is a measure of earnings surprise, either unexpected earnings (*ES_CON, ES_TS*) or the price reaction to unexpected earnings (*ES_PRC*). *ES_CON* is earnings surprise using analyst expectations; equal to the actual earnings per share (unadjusted) reported in the most recent subsequent earnings announcement minus earnings per share (unadjusted) reported in the closest analyst consensus forecast prior to earnings announcement date. This difference is scaled by the firm's stock price at the end of the month prior to quarter-end. *ES_TS* is earnings surprise using time-series expectations; equal to the firm's quarterly earnings (excluding extraordinary items) reported in the most recent subsequent earnings announcement minus quarterly earnings (excluding extraordinary items) for the same quarter in the prior year. This difference is scaled by the standard deviation of earnings surprise for the past eight quarters *ES_PRC* is earnings surprise using price reaction to unexpected earnings; equal to the 3-day cumulative abnormal returns (size-adjusted) surrounding the most recent subsequent earnings announcement date. The independent variable of interest *CHREC* is the signed change in recommendation level from the most recent prior recommendation by same the analyst for the same firm (where a positive change reflects an upgrade and a negative change reflects a downgrade). For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and clustering by analyst-firm pairs. See Appendix 1 for independent variable definitions. * p<0.10, ** p<0.05, *** p<0.01

TABLE 10
Trading Strategy Analysis

Table 10 reports the estimation results of the following six-factor asset pricing model for the non-conflicting (*CONREACT* = 0) and conflicting (*CONREACT* = 1) recommendation revision subsamples. For each sub-sample the table reports the results of a portfolio that is based on downgrades (Down), upgrades (Up), and a portfolio that goes long on upgrades and short on downgrades (Hedge).

$$PRETX_{pt} = \alpha_p + \beta_p MKTRF_{pt} + \theta_p SMB_{pt} + \gamma_p HML_{pt} + \lambda_p RMW_{pt} + \eta_p CMA_{pt} + \delta_p UMD_{pt} + \varepsilon_{pt}.$$

In the equation above p indexes the portfolio type and t is the time index. The dependent variable, *PRETX*, equals the excess monthly return on portfolio p during month t. Portfolio returns are calculated assuming that a position is opened beginning two trading days after the recommendation revision date and is closed either two trading days after the next earnings announcement date or 20 days after its initiation. The independent variables in the asset pricing model include excess market returns (*MKTRF*), size (*SMB*), book-to-market (*HML*), profitability (*RMW*), investment (*CMA*) and momentum (*UMD*) factor returns. *t* statistics are reported in parentheses and * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Panel A: Each position is opened two trading days after the recommendation date and closed two days after the next earnings announcement date.

Dependent variable: Excess portfolio return (*PRETX*)						
	CONREACT = 0			*CONREACT* = 1		
	Down	Up	Hedge	Down	Up	Hedge
Intercept	0.115	0.066	-0.049	-0.282*	0.314*	0.597***
	(1.03)	(0.77)	(-0.40)	(-1.87)	(1.78)	(3.06)
MKTRF	1.014***	1.042***	0.028	1.019***	1.126***	0.107**
	(33.43)	(44.54)	(0.85)	(24.82)	(23.53)	(2.01)
SMB	-0.036	-0.018	0.018	-0.107*	-0.096	0.010
	(-0.88)	(-0.57)	(0.40)	(-1.93)	(-1.49)	(0.15)
HML	-0.056	0.055	0.111**	0.020	-0.091	-0.110
	(-1.16)	(1.47)	(2.08)	(0.30)	(-1.19)	(-1.31)
RMW	-0.031	-0.100**	-0.069	-0.131*	-0.035	0.096
	(-0.59)	(-2.48)	(-1.19)	(-1.85)	(-0.42)	(1.05)
CMA	-0.136**	-0.129**	0.007	-0.031	-0.161	-0.130
	(-2.03)	(-2.50)	(0.10)	(-0.34)	(-1.52)	(-1.11)
UMD	-0.091***	0.073***	0.164***	0.020	-0.041	-0.061
	(-4.22)	(4.41)	(6.90)	(0.67)	(-1.21)	(-1.61)
N	204	204	204	204	204	204
R-squared	0.915	0.945	0.226	0.844	0.834	0.085
Adj. R-squared	0.913	0.943	0.203	0.839	0.829	0.058

Panel B: Each position is opened two trading days after the recommendation date and closed after a 20-day holding period.

Dependent variable: Excess portfolio return (*PRETX*)						
	CONREACT = 0			*CONREACT* = 1		
	Down	Up	Hedge	Down	Up	Hedge
Intercept	0.186	0.105	-0.081	-0.348*	0.296*	0.645***
	(1.39)	(0.97)	(-0.52)	(-1.77)	(1.67)	(2.72)
MKTRF	0.953***	1.014***	0.061	0.997***	1.068***	0.071
	(26.27)	(34.47)	(1.44)	(18.64)	(22.22)	(1.10)
SMB	0.021	-0.057	-0.078	-0.153**	-0.047	0.106
	(0.43)	(-1.43)	(-1.37)	(-2.13)	(-0.73)	(1.23)
HML	-0.073	-0.008	0.065	-0.028	-0.124	-0.096
	(-1.26)	(-0.18)	(0.96)	(-0.33)	(-1.62)	(-0.93)
RMW	0.025	-0.051	-0.076	-0.082	0.105	0.187*
	(0.40)	(-1.00)	(-1.04)	(-0.89)	(1.26)	(1.68)
CMA	-0.111	-0.067	0.044	0.079	-0.049	-0.128
	(-1.38)	(-1.02)	(0.48)	(0.67)	(-0.46)	(-0.90)
UMD	-0.133***	0.047**	0.180***	-0.051	-0.074**	-0.023
	(-5.16)	(2.22)	(5.99)	(-1.34)	(-2.17)	(-0.51)
N	204	204	204	204	204	204
R-squared	0.873	0.908	0.164	0.754	0.808	0.031
Adj. R-squared	0.870	0.906	0.139	0.746	0.802	0.002

Panel C: Based on a sample of *multi-step* recommendation revisions. Each position is opened two trading days after the recommendation date and closed after a 20-day holding period.

Dependent variable: Excess portfolio return (*PRETX*)						
	CONREACT = 0			*CONREACT* = 1		
	Down	Up	Hedge	Down	Up	Hedge
Intercept	0.176	0.291	0.114	-0.128	0.284	0.412
	(0.94)	(1.51)	(0.43)	(-0.44)	(0.99)	(1.06)
MKTRF	0.989***	1.012***	0.022	0.862***	1.151***	0.289***
	(19.31)	(19.35)	(0.30)	(10.93)	(14.81)	(2.75)
SMB	-0.092	-0.107	-0.015	-0.001	-0.111	-0.110
	(-1.33)	(-1.51)	(-0.15)	(-0.01)	(-1.06)	(-0.77)
HML	-0.045	-0.005	0.040	0.022	0.126	0.104
	(-0.55)	(-0.06)	(0.35)	(0.18)	(1.02)	(0.62)
RMW	-0.046	-0.008	0.038	-0.276**	0.026	0.302*
	(-0.51)	(-0.08)	(0.30)	(-2.03)	(0.20)	(1.66)
CMA	-0.129	-0.040	0.089	0.057	-0.166	-0.222
	(-1.14)	(-0.34)	(0.55)	(0.33)	(-0.96)	(-0.96)
UMD	-0.121***	-0.006	0.114**	-0.118**	0.092*	0.210***
	(-3.31)	(-0.17)	(2.21)	(-2.10)	(1.67)	(2.80)
N	204	204	204	204	204	204
R-squared	0.788	0.757	0.038	0.588	0.628	0.077
Adj. R-squared	0.781	0.749	0.009	0.575	0.617	0.049

Panel D: Based on a sample of *single-step* recommendation revisions. Each position is opened two trading days after the recommendation date and closed after a 20-day holding period.

Dependent variable: Excess portfolio return (*PRETX*)						
	CONREACT = 0			*CONREACT* = 1		
	Down	Up	Hedge	Down	Up	Hedge
Intercept	0.178	0.045	-0.133	-0.508**	0.142	0.651**
	(1.21)	(0.43)	(-0.86)	(-2.39)	(0.72)	(2.40)
MKTRF	0.947***	0.999***	0.053	1.037***	1.081***	0.044
	(23.63)	(34.80)	(1.25)	(17.99)	(20.03)	(0.59)
SMB	0.064	-0.043	-0.107*	-0.160**	0.064	0.223**
	(1.19)	(-1.10)	(-1.88)	(-2.06)	(0.88)	(2.25)
HML	-0.075	0.026	0.101	-0.076	-0.166*	-0.090
	(-1.17)	(0.56)	(1.49)	(-0.83)	(-1.93)	(-0.76)
RMW	0.055	-0.089*	-0.144**	-0.042	0.220**	0.262**
	(0.80)	(-1.79)	(-1.97)	(-0.42)	(2.37)	(2.06)
CMA	-0.103	-0.037	0.065	0.165	-0.066	-0.231
	(-1.16)	(-0.59)	(0.70)	(1.30)	(-0.56)	(-1.42)
UMD	-0.152***	0.064***	0.216***	-0.023	-0.116***	-0.093*
	(-5.33)	(3.14)	(7.20)	(-0.57)	(-3.03)	(-1.78)
N	204	204	204	204	204	204
R-squared	0.850	0.911	0.227	0.726	0.776	0.060
Adj. R-squared	0.845	0.908	0.203	0.718	0.770	0.031

Panel E: Based on a sample of *news-day* recommendation revisions with *same direction news sentiment*. Each position is opened two trading days after the recommendation date and closed after a 20-day holding period.

Dependent variable: Excess portfolio return (*PRETX*)						
	CONREACT = 0			*CONREACT* = 1		
	Down	Up	Hedge	Down	Up	Hedge
Intercept	0.307*	0.038	-0.269	0.041	0.450	0.408
	(1.71)	(0.25)	(-1.08)	(0.14)	(1.64)	(1.07)
MKTRF	0.890***	1.016***	0.126*	0.995***	1.038***	0.043
	(18.23)	(24.50)	(1.87)	(12.57)	(13.88)	(0.41)
SMB	-0.023	-0.053	-0.030	0.106	-0.118	-0.224
	(-0.34)	(-0.94)	(-0.33)	(1.00)	(-1.17)	(-1.60)
HML	-0.081	-0.166**	-0.085	-0.011	-0.070	-0.059
	(-1.04)	(-2.52)	(-0.79)	(-0.09)	(-0.59)	(-0.36)
RMW	0.064	0.038	-0.026	-0.130	-0.106	0.023
	(0.76)	(0.53)	(-0.22)	(-0.95)	(-0.82)	(0.13)
CMA	-0.085	0.332***	0.418***	0.294*	0.115	-0.179
	(-0.79)	(3.63)	(2.80)	(1.68)	(0.70)	(-0.78)
UMD	-0.133***	0.024	0.157***	-0.080	-0.028	0.052
	(-3.83)	(0.82)	(3.28)	(-1.42)	(-0.52)	(0.70)
N	205	205	205	205	205	205
R-squared	0.761	0.817	0.106	0.610	0.627	0.030
Adj. R-squared	0.754	0.812	0.079	0.598	0.616	0.001

Panel F: Based on a sample of *news-day* recommendation revisions with *opposite news sentiment*. Each position is opened two trading days after the recommendation date and closed after a 20-day holding period.

Dependent variable: Excess portfolio return (*PRETX*)						
	CONREACT = 0			*CONREACT* = 1		
	Down	Up	Hedge	Down	Up	Hedge
Intercept	0.110	-0.133	-0.243	-0.782**	0.415	1.197**
	(0.48)	(-0.57)	(-0.77)	(-2.26)	(1.11)	(2.51)
MKTRF	0.937***	1.005***	0.068	1.118***	1.081***	-0.037
	(14.90)	(15.86)	(0.79)	(11.86)	(10.60)	(-0.28)
SMB	-0.019	-0.074	-0.055	-0.024	0.356**	0.380**
	(-0.23)	(-0.87)	(-0.47)	(-0.19)	(2.59)	(2.18)
HML	-0.176*	0.155	0.331**	-0.115	-0.201	-0.086
	(-1.75)	(1.53)	(2.41)	(-0.77)	(-1.24)	(-0.41)
RMW	0.083	0.026	-0.056	0.152	0.605***	0.453**
	(0.76)	(0.24)	(-0.38)	(0.93)	(3.43)	(2.03)
CMA	0.046	-0.225	-0.270	-0.081	0.021	0.102
	(0.33)	(-1.61)	(-1.42)	(-0.39)	(0.09)	(0.36)
UMD	-0.126***	0.010	0.136**	0.054	-0.143*	-0.197**
	(-2.82)	(0.23)	(2.23)	(0.80)	(-1.97)	(-2.14)
N	205	205	205	205	205	205
R-squared	0.669	0.677	0.046	0.513	0.470	0.049
Adj. R-squared	0.659	0.667	0.017	0.498	0.454	0.020

9. APPENDICES

APPENDIX 1
Regression Variable Definitions

Variable	Description
Dependent Variable Determinants Analysis:	
CONREACT	A conflicting market reaction to an individual analyst's recommendation revision. Equal to 1 if the three-day cumulative abnormal returns (-1,+1) surrounding the revision date are less/greater than -1%/1% for an analyst upgrade/downgrade, else 0. Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-1,+1) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile.
I. Information Environment Around Revision Date:	
NEWSDAY	Indicator variable equal to 1 if the firm appears in the headlines of a news story on the revision date or the previous trading day, else 0. News data obtained from RavenPack News Analytics - Equities - Down Jones Edition. This database contains business news published in Dow Jones Newswires, Wall Street Journal, Barron's and MarketWatch.
OPPSENT	Indicator variable equal to 1 if the average news sentiment of stories published on the revision date or the previous trading day conflicts with the directions of the analyst's revision (e.g. positive sentiment and a downgrade, or negative sentiment and an upgrade), else 0.
NEUTRALSENT	Indicator variable equal to 1 if the average news sentiment of stories published on the revision date or the previous trading day is designated as neutral, or an average CSS score of 50 in RavenPack.
ACSS	Average composite sentiment score (CSS) of stories published on the revision date or the previous trading day from RavenPack News Analytics - Equities - Down Jones Edition. Score between 0 and 100 with values above 50 representing average positive sentiment and values below 50 representing average negative sentiment.
VOLUME	Share volume – equal to the natural logarithm of the total number of shares of the firm's stock sold on the recommendation revisions date.
FRIDAY	Indicator variable equal to 1 if the recommendation revision was made on a Friday, else 0.
AFTERHOURS	Indicator variable equal to 1 if the recommendation revision was made after the market close, or 4:00pm E.T., else 0.
NUMEA	Number of same-day earnings announcements – equal to the natural logarithm of the total number of earnings announcements made by any firm on the recommendation revision date.
INDNEWS	Indicator variable equal to 1 if there are multiple recommendation revisions on the same day for firms in the same industry (2-digit SIC code), else 0.

EACLOSE	Indicator variable equal to 1 if there is an earnings announcement (by the firm for which the analyst is providing a recommendation) within the window (-2, +2) surrounding the recommendation revision date, else 0.
PRECAR	Signed cumulative abnormal returns over the 9-day period prior to the event window (-1,+1). Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-10,-2) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile.
ABSPRECAR	Absolute value of cumulative abnormal returns over the 9-day period prior to the event window (-1,+1). Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-10,-2) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile.

II. Strength of the Analyst's Signal:

RECLEVEL	Recommendation level reported by the analyst where highest to lowest values are assigned as follows: Strong Buy, Buy, Hold, Sell, Strong Sell.
CHREC	The signed change in recommendation level from the most recent prior recommendation by same the analyst for the same firm (where a positive change reflects an upgrade and a negative change reflects a downgrade).
ABSCHREC	The absolute value of the change in recommendation level from the most recent prior recommendation by the same analyst for the same firm.
HOLD	Hold – indicator variable equal to 1 if the recommendation level is a "hold" (i.e. level 3), else 0.
STS	Sell-to-sell – indicator variable equal to 1 if the recommendation upgrade or downgrade is from a sell recommendation level to another sell level (e.g. level 5 to 4 or level 4 to 5), else 0.
BTB	Buy-to-buy– indicator variable equal to 1 if the recommendation upgrade or downgrade is from a buy recommendation level to another buy level (e.g. level 2 to 1 or level 1 to 2), else 0.
UPSELL	Upgrade to a sell recommendation level – indicator variable equal to 1 if the recommendation change is an upgrade to a sell recommendation level, else 0.
DOWNBUY	Downgrade to a buy recommendation level – indicator variable equal to 1 if the recommendation change is a downgrade to a buy recommendation level, else 0.
DEVCONSENSUS	Percentage deviation of recommendation level from the most recent prior consensus recommendation level (using mean consensus).
INCLEPS	Indicator variable equal 1 for revisions in which an earnings forecast is included, else 0.
INCLTARGET	Indicator variable equal 1 for revisions in which a target price is included, else 0.

III. Investor Characteristics:

CHVIX	Measure of the overall change in investor sentiment. Equal to the daily change in the closing value of the Chicago Board Options Exchange (CBOE) Volatility Index (VIX), also known as the "fear index." A positive (negative) *CHVIX* reflects an increase (decrease) in investor "fear."
ABSCHVIX	Absolute value of the overall change in investor sentiment. Equal to the absolute value of the daily change in the closing value of the Chicago Board Options Exchange (CBOE) Volatility Index (VIX), also known as the "fear index."
INSTOWN	Institutional ownership percentage – total institutional ownership as a percentage of shares outstanding.

IV. Firm/Stock Characteristics:

ASSETS	Firm size – measured as the natural logarithm of total firm assets from most recent prior 10-Q/10-K.
ANFOLLOW	Analyst following – measured as the natural logarithm of the total number of recommendations made for a particular stock (by any analyst) in a given year.
VOLATILITY	Volatility – calculated as the standard deviation of size-adjusted abnormal returns for the 60 trading days before the pre-event window of (-10, -2). Abnormal returns are calculated as the buy-and-hold returns for the firm minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile.
CONTRARINESS	Measure of analyst contrariness surrounding a particular stock with a ratio between 0 and 1 for lowest to highest level of contrariness. Looking at all analyst recommendation revisions made for a particular stock in the (-30, 0) window surrounding the event date, the ratio is calculated as #Sell/#Buy if total number of Buy recommendations (#Buy) is greater than total number of Sell recommendations (#Sell), and #Buy/#Sell if total number of Sell recommendations is greater than total number of Buy recommendations. Recommendation levels of 1 or 2 are considered a Buy, and recommendation levels of 3, 4, or 5 are considered a Sell.
LCONREACTREC	Indicator variable equal to 1 if there was a conflicting reaction to the most recent prior recommendation revision made by any analyst for a particular stock, else 0.

V. Analyst/Brokerage Characteristics:

ANTENURE	Analyst tenure – calculated as the natural logarithm of the number of years since the analyst first appeared in the I/B/E/S recommendations database.
ALLSTAR	All-star analyst - indicator variable equal to 1 if the analyst is included in the October 2018 issue of Institutional Investor as one of Wall Street's best equity research analysts (1st-place, 2nd-place, 3rd-place, and runner-up designations all included), else 0.
ANPORTFOLIO	Size of analyst's portfolio – calculated as the natural logarithm of the total number of stocks an analyst is following in a given year.

BRSIZE	Brokerage size – calculated as the natural logarithm of the total number of individual stocks covered by a particular brokerage in a given year.

Dependent Variables Earnings Surprise Analysis:

ES	A measure of earnings surprise, either unexpected earnings (ES_CON, ES_TS) or the price reaction to unexpected earnings (ES_PRC).
ES_CON	Earnings surprise using analyst expectations. Equal to the actual earnings per share (unadjusted) reported in the most recent subsequent earnings announcement minus earnings per share (unadjusted) reported in the closest analyst consensus forecast prior to earnings announcement date. This difference is scaled by the firm's stock price at the end of the month prior to quarter-end (Using IBES Unadjusted Summary).
ES_TS	Earnings surprise using time-series expectations. Equal to the firm's quarterly earnings (excluding extraordinary items) reported in the most recent subsequent earnings announcement minus quarterly earnings (excluding extraordinary items) for the same quarter in the prior year. This difference is scaled by the standard deviation of earnings surprise for the past eight quarters (Using Compustat Quarterly data).
ES_PRC	Earnings surprise using price reaction to unexpected earnings. Equal to the 3-day cumulative abnormal returns (size-adjusted) surrounding the most recent subsequent earnings announcement date.

Control Variables Earnings Surprise Analysis:

PMOM	Control variable for price momentum calculated as the cumulative abnormal returns (size-adjusted) for firm i from t-127 to t-2 with respect to the most recent subsequent earnings announcement date.
LES_PRC	Control variable for prior quarter's earnings surprise calculated at the 3-day cumulative abnormal returns (size-adjusted) surrounding the most recent prior earnings announcement date.

APPENDIX 2

Correlation Matrix: Analyzing the Determinants of a Conflicting Reaction

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1 *OPP*	1								
2 *VOLUME*	0.000	1							
3 *FRIDAY*	0.0073*	-0.0061*	1						
4 *AFTERHOURS*	0.0232*	-0.0230*	-0.0907*	1					
5 *NUMEA*	0.0192*	-0.0207*	-0.1347*	0.0033	1				
6 *INDNEWS*	0.0202*	0.0346*	-0.0126*	0.0148*	0.0166*	1			
7 *EACLOSE*	0.0150*	0.0270*	0.0973*	-0.0066*	0.3521*	-0.0061*	1		
8 *ABSPRECAR*	0.0627*	0.0301*	-0.0006	-0.0311*	0.0294*	0.0237*	-0.0548*	1	
9 *PRECAR*	-0.0024	-0.0137*	0.0001	0.0042	0.0018	-0.0046*	0.0114*	-0.0382*	1
10 *RECLEVEL*	0.0006	-0.0293*	-0.0001	-0.0160*	0.0201*	-0.0130*	-0.0078*	-0.0279*	-0.0257*
11 *ABSCHREC*	-0.0323*	0.0110*	0.003	-0.0571*	0.0057*	-0.0190*	-0.0006	-0.0051*	0.0029
12 *DEVCONSENSUS*	-0.0206*	-0.0746*	0.0029	-0.0267*	-0.0009	-0.0042	-0.003	0.0345*	0.0095*
13 *INCLEPS*	-0.0441*	0.0601*	0.0165*	0.0343*	0.0740*	-0.0178*	0.2430*	-0.0428*	-0.0227*
14 *INCLTARGET*	-0.0667*	0.1063*	-0.0145*	0.0423*	-0.0058*	-0.0027	0.0426*	-0.0543*	0.0015
15 *ABSCHVIX*	0.0472*	0.0384*	-0.0086*	-0.0151*	0.0103*	0.0264*	-0.0192*	0.0970*	-0.0398*
16 *CHVIX*	-0.0002	-0.0005	-0.0320*	0.0047*	0.0100*	-0.0081*	-0.0035	-0.0016	0.0162*
17 *ASSETS*	-0.0173*	0.5144*	-0.0238*	0.0486*	-0.0485*	0.0067*	-0.0760*	-0.2002*	0.0061*
18 *ANFOLLOW*	0.0436*	0.5275*	-0.0176*	0.0175*	-0.0333*	0.0715*	-0.0947*	0.0036	-0.0106*
19 *VOLATILITY*	0.0861*	-0.0272*	0.0166*	-0.0350*	0.0185*	0.0565*	-0.0114*	0.4535*	-0.0098*
20 *CONTRARINESS*	0.0316*	0.1389*	0.0023	-0.0083*	0.0195*	0.0166*	-0.0365*	0.0209*	0.0019
21 *LCONREACTREC*	0.0309*	0.0430*	0.0184*	-0.0080*	0.0130*	0.0017	0.0264*	0.0268*	0.0006
22 *ANTENURE*	-0.0447*	0.0829*	-0.0111*	-0.001	-0.0380*	-0.0180*	-0.0048*	-0.0896*	0.0065*
23 *ALLSTAR*	-0.0394*	0.0889*	-0.0097*	0.0268*	-0.0018	-0.0179*	-0.0321*	-0.0154*	0.0027
24 *ANPORTFOLIO*	0.0337*	-0.0132*	-0.0092*	-0.0071*	-0.0111*	0.0734*	-0.0455*	0.0194*	-0.0003
25 *BRSIZE*	-0.0459*	0.0930*	-0.0166*	0.0562*	-0.0255*	0.0097*	-0.0502*	-0.0092*	-0.0007
	10	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
10 *RECLEVEL*	1								
11 *ABSCHREC*	0.0052*	1							
12 *DEVCONSENSUS*	-0.1453*	0.3722*	1						
13 *INCLEPS*	0.0112*	-0.003	-0.0189*	1					
14 *INCLTARGET*	0.1155*	-0.0361*	-0.0570*	0.2810*	1				
15 *ABSCHVIX*	0.0183*	0.0062*	0.0125*	-0.0161*	-0.0146*	1			
16 *CHVIX*	-0.0227*	0.0073*	0.0062*	0.0077*	0.0052*	0.0558*	1		
17 *ASSETS*	-0.0340*	-0.0194*	-0.1318*	-0.0260*	0.0695*	0.0166*	-0.0006	1	
18 *ANFOLLOW*	-0.0118*	-0.0190*	-0.1155*	-0.0589*	-0.0014	0.0407*	-0.0011	0.4135*	1
19 *VOLATILITY*	-0.0226*	-0.0293*	0.0431*	-0.0337*	-0.0877*	0.1244*	-0.0112*	-0.3731*	-0.0085*
20 *CONTRARINESS*	0.0438*	0.0171*	0.0032	-0.0627*	-0.0187*	0.0235*	-0.0044*	0.1190*	0.2580*
21 *LCONREACTREC*	-0.0089*	0.0098*	-0.0033	-0.0013	-0.003	0.0112*	-0.0034	0.0167*	0.0578*
22 *ANTENURE*	-0.0064*	0.0408*	-0.0307*	0.0803*	0.0974*	0.0087*	0.003	0.1307*	-0.0383*
23 *ALLSTAR*	-0.0306*	-0.0416*	-0.0352*	-0.0142*	0.0151*	-0.0140*	0.0073*	0.1271*	0.0759*
24 *ANPORTFOLIO*	-0.0385*	0.0220*	0.0205*	-0.0792*	-0.0964*	0.0601*	-0.0091*	0.0115*	0.1805*
25 *BRSIZE*	-0.0546*	-0.0769*	-0.0382*	-0.0569*	-0.0415*	0.0382*	-0.0127*	0.1289*	0.1174*
	19	**20**	**21**	**22**	**23**	**24**	**25**		
19 *VOLATILITY*	1								
20 *CONTRARINESS*	-0.0064*	1							
21 *LCONREACTREC*	0.0091*	0.0626*	1						
22 *ANTENURE*	-0.1425*	-0.0124*	-0.0055*	1					
23 *ALLSTAR*	-0.0287*	0.0199*	-0.0041	0.1289*	1				
24 *ANPORTFOLIO*	0.0392*	0.0785*	0.0277*	0.0410*	0.0586*	1			
25 *BRSIZE*	-0.0157*	0.0300*	0.003	-0.0143*	0.2794*	0.2546*	1		

Appendix 2 shows the Pearson correlations for all regression variables in Model (1). Continuous variables are winsorized at the 1st and 99th percentiles. * denotes significance at the 5% level or less. See Appendix 1 for variable definitions

APPENDIX 3
Regression Results: Analyzing the Determinants of a Conflicting Reaction

Dependent Variable: CONREACT			*Full Sample*			
			(1)		(2)	
	Indep. Variables	**Pred. Sign**	**Coeff.**	**(t-stat)**	**Coeff.**	**(t-stat)**
I. Information Environment:	*NEWSDAY*	-			-0.183***	(-10.12)
	VOLUME	-	-0.008*	(-1.78)	0.002	(0.25)
	FRIDAY	+	0.039***	(2.82)	0.056***	(2.91)
	AFTERHOURS	+	0.214***	(14.45)	0.213***	(10.05)
	NUMEA	+	0.021***	(3.76)	0.030***	(3.80)
	INDNEWS	+	0.050***	(3.56)	0.057***	(2.87)
	EACLOSE	+	0.155***	(10.51)	0.175***	(8.36)
	ABSPRECAR	+	0.757***	(9.46)	0.722***	(6.21)
II. Strength of Analyst's Signal:	***HOLD***	+	**0.122*** **	**(9.74)**	**0.103*** **	**(5.81)**
	STS	+	**0.364*** **	**(5.65)**	**0.340*** **	**(3.93)**
	BTB	+	**0.264*** **	**(12.03)**	**0.268*** **	**(8.90)**
	UPSELL	+	**0.186*** **	**(9.27)**	**0.189*** **	**(6.63)**
	DOWNBUY	+	**0.273*** **	**(10.21)**	**0.268*** **	**(7.28)**
	DEVCONSENSUS	-	-0.103***	(-5.19)	-0.110***	(-3.89)
	INCLEPS	-	-0.125***	(-10.87)	-0.089***	(-5.44)
	INCLTARGET	-	-0.204***	(-17.68)	-0.236***	(-14.40)
III. Investor Characteristics:	*ABSCHVIX*	+	0.045***	(11.26)	0.045***	(7.81)
	INSTOWN	?			0.051	(1.53)
IV. Firm/Stock Characteristics:	*ASSETS*	+	0.010**	(2.45)	0.011*	(1.75)
	ANFOLLOW	+	0.104***	(11.28)	0.099***	(7.27)
	VOLATILITY	+	6.277***	(15.17)	5.965***	(9.58)
	CONTRARINESS	+	0.165***	(9.12)	0.194***	(7.63)
	LCONREACTREC	+	0.510***	(10.23)	0.529***	(7.28)
V. Analyst/ Brokerage Characteristics:	*ANTENURE*	-	-0.058***	(-9.10)	-0.048***	(-5.36)
	ALLSTAR	-	-0.217***	(-10.21)	-0.200***	(-7.10)
	ANPORTFOLIO	+	0.071***	(10.88)	0.091***	(8.72)
	BRSIZE	-	-0.123***	(-24.58)	-0.122***	(-16.47)
	Constant	?	-0.730***	(-9.15)	-0.956***	(-8.18)
	Observations		212790		109040	
	Pseudo- R-squared		0.0277		0.0307	
	Wald p-value		0.0000		0.0000	
	Year Controls Included		YES		YES	
	Sample Period:		2000-2016		2000-2016	

Appendix 3 shows the regression results for Model (1) on the full sample of revisions (both upgrades and downgrades together). Dependent variable CONREACT is equal to 1 if the three-day (-1,+1) cumulative abnormal returns surrounding the revision date are less/greater than -1%/1% for an analyst upgrade/downgrade, else 0. Cumulative abnormal returns are calculated as the buy-and-hold returns for the firm over the window (-1,+1) minus the buy-and-hold returns for a value-weighted portfolio of firms in the same NYSE/AMEX/NASDAQ market capitalization decile. For each regression, all continuous variables are winsorized at the 1st and 99th percentiles. T-statistics reflect two-tailed significance and are calculated using heteroscedasticity-robust standard errors and clustering by analyst-firm pairs.