Timeliness and Quality of 10-K Filings: The Impact of the Accelerated Filing Deadline

Lisa Bryant-Kutcher\textsuperscript{a,*}, Emma Yan Peng\textsuperscript{b}, Kristina Zvinakis\textsuperscript{c}

\textsuperscript{a} University of Oregon, Lundquist College of Business, 1208 University of Oregon, Eugene, OR 97403

\textsuperscript{b} Fordham University, 441 East Fordham Road, Bronx, NY 10458

\textsuperscript{c} University of Texas at Austin, McCombs School of Business, 1 University Station, Austin, TX 78712

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* Corresponding author. Tel.: 541.346.3252; e-mail: lbryant@uoregon.edu

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Abstract

In response to provisions in the Sarbanes-Oxley Act, the SEC shortened the filing deadline for the Form 10-K from 90 to 75 days after year end. This research addresses two questions related to the acceleration of the filing deadline. First, was the shortened filing deadline the cause of the late filings observed in the first year after the filing deadline went into effect? Second, has the quality of financial information issued since the deadline change diminished, as many of the proposal’s opponents claimed would be the case? We examine both of these questions by comparing a sample of 85 timely filers to 59 late filers. The results of a logistic analysis suggest that meeting the shortened deadline was problematic for firms with weak internal control systems, suggesting the shortened deadline contributed to the late filings. Our quality results reveal that post-deadline, the quality of timely filers’ financial information, relative to late filers, did not diminish. Overall, firms that met the shortened deadline were able to provide higher quality information in a timelier manner, thereby increasing the overall usefulness of this information.
I. Introduction

As a result of the Sarbanes-Oxley Act (SOX), the Securities and Exchange Commission (SEC) has amended a number of reporting requirements for publicly-traded entities. This paper focuses on the amendment that shortens the 90-day Form 10-K filing deadline. Where equity and listing requirements are met, a firm whose fiscal year ends on or after December 15, 2003, is required to file its Form 10-K 75 days after year end. Approximately 102 firms subject to that requirement for the first time in 2003 notified the SEC that they would be unable to meet the filing deadline. This paper explores the differences and similarities between these late filers and a control sample of timely filers with the goal of understanding and partially quantifying the impact of this change in regulation on the financial reporting process.

The provisions of SOX, and the resulting changes promulgated by the SEC, were intended to improve both corporate governance and financial disclosure. In the SEC’s view, accelerating the Form 10-K filing deadline would provide investors with more timely, and thus more useful, information. While comments received by the SEC were generally supportive of a shortened deadline, many believed that the SEC’s proposal was too aggressive. Accounting firms, law firms, and academics expressed concern that the shortened deadline would be burdensome and would likely decrease the quality of the information provided (SEC 2002c). Despite these concerns, the SEC’s proposal was implemented and became effective as of December 15, 2002.¹

The change in the Form 10-K filing deadline allows us to address two research questions. First, related to previous research in this area, we seek to understand the causes of late filings. In any given year, some firms will file their Form 10-Ks after the required deadline. Our analysis

¹ The filing deadline was shortened to 75 days beginning with fiscal years ending on or after December 15, 2003.
sheds light on whether the accelerated filing deadline contributed to these late filings. Second, we address the tradeoff between quality and timeliness noted by both opponents and proponents of the filing deadline change. We examine whether the quality of financial statement information was detrimentally affected as a result of the accelerated filing deadline. The SEC repeatedly stated that the change in filing deadline was intended to provide investors useful information in a timelier manner. However, if the end result was the provision of inferior information, then the SEC would not appear to be achieving its stated goal in a desired manner.

To address our first question, we examine both Form 12b-25\textsuperscript{2} filings and popular press announcements, compare firm characteristics across a sample of late and timely filers, and look to the conclusions of previous research in the late-filings area. Based on this analysis, we develop two fundamental explanations for a firm’s inability to timely file its 10-K. First, consistent with previous research, poor financial performance may be the cause of the late filing, suggesting that the shortened deadline was incidental to the delay. Second, and reflective of the current reporting environment, an untimely filing may be related to the strength of the internal control system of a firm. Our sample of late filers simply may not have had a process in place that would allow them to comply with the shortened filing deadline, suggesting the delay in filing was a direct consequence of the deadline change.

In addressing our second (quality) question, we focus on those firms that could not meet the shortened 75-day deadline, but were able to meet the historic 90-day deadline. Why would these firms bear the cost of the significant negative market reaction documented in Table 1 that resulted from their failure to meet the deadline? One explanation is that these firms were sacrificing disclosure timeliness for disclosure quality. In most cases, the costs of late filing

\textsuperscript{2} The Form 12b-25 is used to notify the SEC of the inability to timely file the Form 10-K. Firms receive an automatic 15-calendar day extension to file their Form 10-K with the filing of the form.
would be substantially less than the costs that could result from a future restatement. Thus, we examine whether timely filers provided financial statement information of lesser quality than those late-filers that filed within the historic 90-day filing deadline. Examining this question is more difficult than the previous question because, across our time horizon, many changes were made to the financial reporting process that should have affected the quality of financial statement information (see Appendix A). If the accelerated filing deadline caused the quality of the timely filers’ financial information to decrease while other changes caused the quality of financial information to increase, we would not be able to disentangle the two effects. Thus, we focus on changes in financial statement quality for timely versus late filers, which allows us to isolate the effect of the change in filing deadline on report quality.

A logistic analysis reveals that timely-filing firms have stronger systems of internal control than the late-filing firms in our sample. Consistent with prior research, our univariate tests show that timely filers are more economically viable relative to late filers. However, neither economic nor financial distress is significantly related to the probability of a late filing. Additionally, our control for late-filing history indicates that past late filing behavior is informative about current late filing behavior. Overall, these results suggest that while some of these late filings would have taken place regardless of the change, the change in filing deadline resulted in current period late filings for firms with weak internal controls.

Contrary to our expectations, our analysis of the quality of financial statement information reveals that timely-filing firms did not experience a decrease in quality relative to those firms that filed late, but within the historic 90-day deadline. Using a discretionary accruals regression analysis similar to Myers et al. (2003), we find that timely-filing firms experienced an increase in quality relative to those late-filing firms filing within 90 days. These results, taken
together with the results of our logistic analysis, suggest that for firms with strong systems of internal control, meeting the shortened filing deadline did not diminish the quality of financial information.

The results of this research speak to both the intended benefits and unintended consequences of disclosure regulation. The shortened filing deadline may cause firms to further strengthen their systems of internal control, which should result in the provision of timelier and better quality financial information. Alternatively, if the shortened filing deadline is used as an “excuse” for untimely filings (Hadi 2005), managers may start to think more strategically about the timing of required disclosures. Clearly, one potential result of such game playing would be the provision of timely information that was found to be unreliable at some point in the future and at a potentially significant cost, if past experience is any indication. Our results may also be instructive in thinking about the 60-day reporting deadline scheduled to go into effect in December 2005 (SEC 2004).

The remainder of the paper is organized as follows: Section II explains the filing deadline change and Section III develops our hypotheses. Section IV discusses the sample selection procedure and our research methods. Section V presents the results of our analysis and Section VI concludes.

II. Accelerated Filing Deadline - Background

Section 409 of the Sarbanes-Oxley Act authorizes the SEC to compel reporting firms to disclose to the public “on a rapid and current basis” information concerning material changes in the financial condition or operations of the firm (U.S. Congress 2002). In response to Section
409, the SEC accelerated the filing deadline of the Form 10-K (SEC 2002a).\textsuperscript{3,4} Beginning December 15, 2003, the filing deadline has been shortened from 90 to 75 days after a firm’s year end. The shortened reporting deadline affects those firms that: (1) have a common equity public float of $75 million or more as of the firm’s most recently completed second fiscal quarter, (2) have been subject to the Securities Exchange Act of 1934 reporting requirements for at least 12 calendar months, (3) have previously filed an annual report and (4) are not a “small business” as defined in Rule 12b-2 (Reg. Sec. 240.12b-2) of the 1934 Act. Additionally, though the change was effective as of December 15, 2002, the filing deadline remained 90 days in the first year under the new rule. Beginning December 15, 2004, the filing deadline was to be shortened to 60 days. However, in August 2004, the SEC delayed the implementation of the 60-day filing deadline until December 15, 2005 (SEC 2004).

In implementing this change, the SEC’s focus was on “…improving the usefulness of periodic reports to investors (SEC 2002a, p. 2).” The SEC noted that while the filing deadline of annual reports had not been changed in 30 years, over that same time period, technology had advanced to allow firms to collect and disseminate information nearly instantaneously, should they so choose. While critics of the proposed change argued that such advances in technology were largely offset by increases in accounting and disclosure requirements, as well as business complexity, the SEC was not dissuaded (SEC 2002c). As with many of the other Sarbanes-related changes, this attempt at improved usefulness was intended to rebuild investor confidence in the marketplace.

\textsuperscript{3} The SEC’s Final Rule also shortens the filing deadline for quarterly reports (Form 10-Q) and requires a firm to provide access to 10-K and 10-Q filings on its website as soon as practicable after electronic filing (SEC 2002a).
\textsuperscript{4} As part of a 1998 proposal relating to the regulatory structure of securities offerings, the SEC proposed to accelerate the Form 10-K filing deadline to 60 days after year end for all registrants. This proposal was not a part of the final rule (SEC 1998).
III. Hypotheses Development

Our first set of hypotheses addresses reasons for late filings. Previous literature examining late SEC filings (Alford et al. 1994) finds that firms that delay their 10-K filings are different from the general populace of firms. Alford et al. (1994) find that 31% of their sample firms indicated some type of financial distress as the explanation for their late filing. Additionally, they find that the late-filing firms performed worse financially relative to timely filing firms; Alford et al. (1994) show that late filers tend to have lower return on equity, lower stock returns, higher leverage and are less liquid than timely-filing firms. Thus, we hypothesize:

H1: Late-filing firms are less economically viable than timely-filing firms.

Note that we distinguish between financial and economic distress in our tests. The fact that financially distressed firms are often late in filing their Form 10-K reports seems commonly accepted (Lawrence 1983). However, our hypothesis encompasses the possibility that these late-filing firms are insolvent as well as the possibility that these firms are solvent, but economically distressed. Thus, our hypothesis tests whether: (1) a firm’s late filing is a consequence of financial distress or (2) the cause of a firm’s economic distress is the also the cause of the late filing.5

While not addressed in previous literature, our second late-filing hypothesis reflects the change in the reporting environment facing publicly-traded firms post-SOX. Rather than differing on financial performance, the failure by firms in our sample to meet the shortened filing deadline may, in part, be attributed to a difference in systems of internal control. The change in the reporting deadline was not unexpected; all firms affected by the accelerated deadline had a year to prepare for the change (SEC 2002a). Given this fact, the acceleration of the reporting

5 The discussion in this paragraph draws heavily on the introductory discussion in Andrade and Kaplan (1998).
deadline should not have been a burden for firms with strong internal control systems. Thus, we hypothesize:

\[ H2: \text{Late-filing firms have weaker internal controls over financial reporting relative to timely-filing firms.} \]

As Scheutze (1993) notes, “…even companies with good internal controls make mistakes.” Thus, it would be naïve to suggest that all late-filing firms had a poor system of internal control. However, fraudulent financial reporting generally calls into question the adequacy of internal control systems. The corporate scandals of the recent past have forced firms to reexamine their systems of internal control. To the extent that a firm had a good system of internal control and, as a result, was better equipped to deal with the changes in reporting requirements on all dimensions, that firm should have been less likely to need an extension of time to file its Form 10-K. This logic provides the intuition underlying our second late-filing hypothesis.

Our third hypothesis focuses on the quality of financial statement information in the Form 10-K filing. In the comment letters on the proposal received by the SEC, many firms noted the paradox between requiring more disclosure in a shorter period of time. As the general counsel of Charles Schwab observed, “…a tension arises between enhanced disclosure and accelerated disclosure (SEC 2002b).” Similarly, many other comment letters voiced concern that the increased disclosure requirements resulting from the Sarbanes-Oxley Act, coupled with the shortened deadline, would result in the deterioration in the quality of periodic reports and lead to less investor confidence in the marketplace, the exact opposite of the result the SEC was seeking.

The difficulty of examining the validity of the argument that the shortened filing deadline affected financial statement quality lies in the fact that so many other changes intended to
improve financial statement quality were put into place just before the shortened filing deadline took effect. Thus, to examine this issue, we focus on changes in quality across time. Specifically, we compare changes in the quality of timely-filing firms’ financial statement information to changes in the quality of financial statement information of those firms unable to meet the shortened filing deadline, but able to file within the historic 90-day filing period. This comparison is motivated by the observation that while obtaining an extension to file is relatively costless from a compliance perspective, the negative market reaction to the late filing announcements was pronounced (as documented in Table 1). Thus, we hypothesize that firms that filed their Form 10-Ks late but within the historic 90-day window were most concerned about the quality of their disclosures. That is, these firms chose to bear a short term cost in order to better meet their obligation to the users of their financial statements. Such behavior is consistent with the belief that the real value of audited financial information may be that it disciplines other firm-reported information (Liang 2000); in other words, more timely, but inaccurate, information is not useful for decision making. Thus, we hypothesize:

H3: The quality of financial information provided by timely filing firms decreased relative to the quality of financial information provided by firms filing late but within the historic 90-day deadline.

IV. Research Method

Sample Derivation and Description

Our initial search of the SEC’s Edgar database finds 102 unique late filing notifications (or NT 10-K filings, the SEC’s code for the Form 12b-25 filing) in the 10-day window

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6 Our “costless” characterization relates to the fact that as long as a Form 12b-25 is filed within one business day after the due date of the Form 10-K, the SEC will automatically grant a 15-calendar day extension for the filing of the Form 10-K. However, a firm that is late in filing its 10-K loses the ability to use short-form registration for at least one year from the date of the late filing. Untimely filings can also affect sales of restricted and controlled securities (SEC 2002a). Finally, while procedures vary, certain stock exchanges immediately delist late filers.
surrounding March 15, 2004. On further investigation, seven of these filings are eliminated because they relate to “small businesses,” seven are eliminated because they are financial institutions, and 20 are eliminated because they are REIT, Limited Partnership or Limited Liability Company filings. Finally, nine firms are eliminated because of missing financial data, leaving a sample of 59 late-filing firms.

In order to have a basis for comparison, we create a randomly selected pool of timely filing firms. To identify a potential sample, we begin with the population of COMPUSTAT firms and identify those non-financial-service firms that would also be subject to the accelerated filing requirements. Thus, we delete (1) any firm with common equity public float less than $75 million as of the last business day of its second quarter in fiscal year 2003,7 (2) any firm that files a Form 10-KSB (“small business”), (3) any firm with a fiscal year end between February and November, to limit our sample to similarly cyclically situated firms, (4) any firm that filed a Form 12b-25 in 2004, (5) any firm incorporated outside the U.S., and (6) any firm without data necessary to calculate the independent variables employed in our analysis. This partitioning leaves us with a sample of 1,575 firms from which to randomly draw a control sample.

We use simple random sampling to choose a 100-firm control sample from this 1,575 firm pool.8 From this reduced sample, we delete nine firms that, while they did not file a Form 12b-25, were not timely in filing their Form 10-K. In addition, we eliminate three firms that changed their fiscal year end during our sample period,9 a REIT, a firm that was liquidated and a firm that was not publicly traded. This leaves us with a control sample of 85 timely-filing firms.

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7 Float is calculated as common shares outstanding (COMPUSTAT #14) multiplied by closing stock price (COMPUSTAT #61) at the end of the second quarter of fiscal year 2003. The accelerated filing guidelines are addressed in Section II.
8 In simple random sampling, each unit has an equal probability of selection, and sampling is without replacement; an observation cannot be selected more than once.
9 While our tests are generally restricted to 2003, we require firms to have data available from 1999 to 2003.
**Timeliness of 10-K Filing**

We estimate a logistic regression that relates the probability of an untimely Form 10-K filing to proxies for financial and economic distress as well as the quality of a firm’s internal control over financial reporting. To control for factors other than these that could affect the probability of a late filing, we also introduce variables that consider a firm’s late-filing history, whether or not a firm experienced an auditor change, length of audit, and firm size. Hence, we estimate the following logistic regression:

\[
Late_i = \alpha + \beta_1 Leverage_i + \beta_2 CR_i + \beta_3 ROA_i + \beta_4 Percent Loss_i + \beta_5 Weak IC_i + \beta_K X_{Ki} + \varepsilon_i
\]  

where:

- **Leverage** = Debt to Asset Ratio. Total liabilities (#181)\(^{10}\) divided by total assets (#6)
- **CR** = Current Ratio. Current assets (#4) divided by current liabilities (#5)
- **ROA** = Return on Assets. Income before extraordinary items (#18) divided by average total assets (#6)
- **Percent Loss** = Percentage of loss years based on earnings before interest and taxes (#170 + #15) over the last five years
- **Weak IC** = 1 if the firm disclosed in a 10-Q or 10-K filing that they had identified a weakness or deficiency in internal control, 0 otherwise
- **X_{Ki}** = A vector of explanatory variables representing a firm’s late-filing history (*Multiple Late*), whether or not a firm experienced an auditor change (*Auditor Change*) in 2003, length of audit (*Audit Lag*), and firm size (*Log(Assets)*)

In our first hypothesis, H1, we test whether the financial condition of the firm affects the probability of an untimely Form 10-K filing. As mentioned previously, we distinguish between financial and economic distress in order to better understand why financial condition affects 10-K filings. The first two variables in the regression equation represent our proxies for “pure” financial distress (Andrade and Kaplan 1998). Previous research in this area, as well as

\(^{10}\) Numbers in parentheses refer to COMPUSTAT data numbers. All variables are measured using fiscal year 2003 data unless otherwise noted.
anecdotal evidence,\textsuperscript{11} shows that firms experiencing financial distress are often late filers. While not well explained, we suspect this phenomenon is related to the bankruptcy process. Firms filing for bankruptcy are regularly delisted from their stock exchanges and likely feel less pressure to be timely in SEC filings unrelated to reorganization proceedings. Thus, we expect $\beta_1 > 0$ and $\beta_2 < 0$, as higher leverage reflects a firm’s debt burden and a smaller current ratio reflects liquidity concerns. We expect that the greater the debt burden and the lower the liquidity, the more likely the firm is financially distressed and will not meet its filing requirements in a timely manner.

We proxy for economic distress using return on assets (ROA) and the percentage of loss years in the previous five years. Based on the analysis in the previous paragraph, if economically distressed firms are on the path to bankruptcy, economic distress would also increase the probability of an untimely filing (Byron 2004). Therefore, we expect $\beta_3 < 0$, as lower ROA means the firm is less economically viable, and $\beta_4 > 0$, as a higher percentage of loss observations indicates lower economic viability. However we are not as confident in the significance of these relationships. Economically distressed firms might be more concerned about timeliness than financially distressed firms. Firms that are economically distressed have a vested interest in maintaining their exchange listing and avoiding debt covenant violations. Both of these conditions are, in part, avoidable with timely SEC filings. Thus, economic distress might not significantly influence the probability of filing late.

In our second hypothesis, H2, we examine whether firms that appear to have weak systems of internal control over financial reporting are more likely to be untimely in their Form 10-K filings. Our measure of internal control is an indicator variable set equal to 1 if the firm

\textsuperscript{11} Spiegel Inc. delayed filing its Form 10-K for 14 months, as its founder believed that the revelation that the auditor had issued a going concern opinion would have “jeopardized the firm” (Landler 2004).
has disclosed, in a 2003 SEC filing, a deficiency or weakness in internal control over financial reporting. Under the SEC’s final rules implementing Section 302, effective as of August 29, 2002, CFOs and CEOs are obligated to disclose “significant deficiencies” in internal controls (Huber et al. 2003). In addition, under the SEC’s final rules implementing Section 404, all public companies that are “accelerated filers” must report on internal control over financial reporting for fiscal years ending on or after November 15, 2004 (Deloitte et al. 2004). Our expectation is that $\beta_3 > 0$; a disclosed weakness in internal control would be evidence of a weakness in internal control and an indication that a firm would have difficulty filing within the 75-day deadline.

Finally, we include a set of control variables that could also impact a firm’s filing behavior and, as a result, affect the probability of a late filing. Whether a firm has filed a Form 12b-25 during the past five years (Multiple Late) represents our belief that historic late filing behavior may explain current late filing behavior. While we expect the coefficient on Multiple Late to be positive, we also note that statistical significance would suggest that the current late filing was less a function of the deadline change and more a function of firm history and practice. Auditor Change, which equals one if the firm experienced an auditor change in 2003, is included because a change in auditor could impact the ability of a firm to timely file its 10-K (Schwartz and Soo 1996). Audit Lag is the number of days from fiscal year end to audit report date. This measures the time to complete the audit and should be positively related to a late filing. Finally, we include the log of total assets ($\log(Assets)$) in the regression as a proxy for firm size. We do not have a prediction about the direction of this relationship. That is, while smaller firms may experience more difficulty complying with the SEC’s disclosure requirements and, as a

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12 In the initial proposal related to Section 404, the SEC intended to require such reports for fiscal years ending on or after September 15, 2003. That deadline was later changed to June 14, 2004 and eventually postponed until November 15, 2004.
consequence, struggle to file in a timely manner, the complexity of larger firms may indicate that size makes meeting filing requirements in a timely manner more difficult.

**Quality of Financial Information**

In a summary of the comments received by the SEC (2002c) concerning the accelerated filing deadline, two dimensions of quality were stressed. The shorter filing deadline could: (1) affect management’s ability to prepare accurate information and (2) impact the auditor’s ability to thoroughly audit the information provided by management. We choose to focus on the first dimension, disclosure quality, primarily because audit quality is more difficult to measure and assess in the short time period available to us after the filing deadline change. Additionally, because “quality” is not explicitly defined in these comments, we concentrate on the quality of financial statement information included in the Form 10-K filings, as measured by the quality of earnings. While audit quality and earnings quality are distinct, prior research suggests that they are empirically related (e.g., Myers et al. 2003).

We partition our sample into three groups – timely filers, late but within 90-day filers, and post 90-day late filers – and focus on the change in the quality of earnings information across these groupings from 2002 to 2003. Similar to Myers et al. (2003), we estimate the following regression to test our quality hypothesis: \(^{13}\)

\[
\Delta Quality_i = \alpha + \beta_1 \text{Timely}_i + \beta_2 \text{Post 90-day}_i + \beta_3 \text{Growth CF}_i + \beta_4 \Delta \text{Size}_i \\
+ \beta_5 \Delta \text{ROA}_i + \beta_6 \text{Abs(DiscAccruals)}_{i,2002} + \beta_7 \text{Weak IC}_i + \epsilon_i
\]

where:

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\(^{13}\) Consistent with the logistic regression, all variables are measured using fiscal year 2003 data unless otherwise noted.
\[ \Delta \text{Quality} = -1 \times \text{Change in absolute value of discretionary accruals, calculated using the modified-Jones model (specified below)}^{14} \]

\[ \text{Timely} = \begin{cases} 1 & \text{if the firm filed its 10-K within 75 days after fiscal year end, 0 otherwise} \\ 0 & \text{otherwise} \end{cases} \]

\[ \text{Post 90-day} = \begin{cases} 1 & \text{if the firm filed its 10-K more than 90 days after fiscal year end, 0 otherwise} \\ 0 & \text{otherwise} \end{cases} \]

\[ \text{Growth CF} = \frac{\text{Cash flow from operations (#308)} \times \text{average assets (#6)}}{\text{Cash flow from operations scaled by average assets in 2002}} \]

\[ \Delta \text{Size} = \text{Change in log(assets) (#6)} \]

\[ \Delta \text{ROA} = \text{Change in Return on Assets} \times \frac{\text{Income before extraordinary items (#18)}}{\text{average total assets (#6)}} \]

\[ \text{Abs(DiscAccruals)_{2002}} = \text{Absolute value of discretionary accruals for fiscal year end 2002} \]

\[ \text{WeakIC} = \begin{cases} 1 & \text{if the firm disclosed in a 10-Q or 10-K filing that they had identified a weakness or deficiency in internal control, 0 otherwise} \\ 0 & \text{otherwise} \end{cases} \]

Consistent with prior research (e.g., Myers et al. 2003), we measure the quality of earnings information using the quality of accruals; our focus is on discretionary accruals, as measured by the modified-Jones model. We specify our dependent variable as the change in the absolute value of discretionary accruals, and transform this change by multiplying it by -1. Such a transformation facilitates a more intuitive interpretation of the coefficients in our quality regression (Equation (2)). Our estimates of discretionary accruals are the residuals from the following model:

\[ \text{Accruals}_{i,t} = \delta_0 + \delta_1 \frac{1}{\text{Assets}_{i,t-1}} + \delta_2 (\Delta \text{Sales}_{i,t} - \Delta \text{AR}_{i,t}) + \delta_3 \text{PPE}_{i,t} + \varepsilon_{i,t} \]

where:

\[ \text{Accruals} = (\Delta \text{Current Assets (#4)} - \Delta \text{Current Liabilities (#5)} - \Delta \text{Cash (#1)} + \Delta \text{current portion of long-term debt (#34)} - \text{depreciation and amortization (#14)} \times \text{lagged assets (#6)} \]

\[ \text{Assets} = \text{Total assets (#6)} \]

\[ \Delta \text{Sales} = \text{Change in net sales (#12) scaled by lagged assets (#6)} \]

\[ \Delta \text{AR} = \text{Change in accounts receivable (#2) scaled by lagged assets (#6)} \]

\[ \text{PPE} = \text{Property, plant, and equipment, gross (#7) scaled by lagged assets} \]

\[ ^{14} \text{We also measure the dependent variable as the difference between 2003 quality and a benchmark for average quality, defined as the average of the magnitude of discretionary accruals from 1999 to 2002. Our results using this alternative measure are qualitatively similar to those presented in Table 6.} \]
In our quality hypothesis, H3, we test whether the quality of financial statement information provided by timely-filing firms decreased relative to firms that file late but within 90 days of fiscal year end. Sixty three percent of the firms in our sample that did not meet the shortened deadline were able to file within the 15-day extension period granted with the Form 12b-25 filing. We argue that these firms traded off timeliness for quality. That is, these firms chose to be untimely and file during the previously existing 90-day deadline period in order to provide financial statement information of the quality to which they were accustomed. As a result, we implement our test of this hypothesis by including an indicator variable for timely filers in our regression estimation. If the within 90-day late filers were maintaining existing quality, then those firms that filed within 75 days should experience a decrease in the quality of financial statement information provided as a result of the filing deadline change. Therefore, we expect $\beta_1 < 0$. While we do not have a hypothesis for those firms that filed their form 10-K after 90 days, we also include a separate indicator variable, Post 90-day, for those firms. We expect that firms that filed after the extension period expired (i.e., after 90 days) faced problems larger than that of a shortened reporting period and, therefore, the quality of their financial information is likely to have decreased. However, given these firms had more time and may have been under more scrutiny, the quality of their financial information could also have increased. Therefore, we have no prediction for $\beta_2$. 

$\delta_{0j}, \delta_{1j}, \delta_{2j}, \delta_{3j}$

Coefficient estimates from contemporaneous regressions by two digit SIC code, $j$

$\varepsilon$

Discretionary accruals
Following the approach in Myers et al. (2003), we include a number of control variables in our quality regression. Specifically, we include the growth in cash flows ($\text{Growth CF}$), change in the log of assets ($\Delta \text{Size}$), change in Return on Assets ($\Delta \text{ROA}$), the lagged value of the magnitude of discretionary accruals ($\text{Abs(DiscAccruals)}_{2002}$), and an indicator variable for weak internal controls ($\text{Weak IC}$). Prior research (e.g., Myers et al. 2003) has shown that cash flows are negatively related to accruals. Therefore we expect that $\text{Growth CF}$ is positively related to the change in quality - $\beta_3 > 0$. Because Dechow and Dichev (2002) show that size is positively related to earnings quality, we expect that $\Delta \text{Size}$ is positively related to the change in quality - $\beta_4 > 0$. We include the change in ROA to control for change in firm performance (Kothari et al. 2005). We expect $\Delta \text{ROA}$ to be negatively related to the change in quality - $\beta_5 < 0$. The lagged value of the magnitude of discretionary accruals is included as a control for the ability to manage earnings, all else equal. A larger lagged magnitude of discretionary accruals suggests that little ability to further manage earnings exists. Therefore $\text{Abs(DiscAccruals)}_{2002}$ is expected to be positively related to quality - $\beta_6 > 0$. Lastly, we include an indicator variable for a disclosed weakness in internal control. Doyle et al. (2005) show that weak internal controls and earnings quality are negatively related. We expect that firms disclosing a weakness in internal control will experience a decrease in quality - $\beta_7 < 0$.

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15 Because our quality variable is based on the change in discretionary accruals rather than the level, we include only those variables that would impact the change in discretionary accruals.

16 We include the average magnitude of discretionary accruals from 1999 to 2002 as an alternative measure. Our results are similar to those reported in Table 6, although the coefficient on $\text{Timely}$ is not significantly different from zero. This suggests that the change in quality for timely and late but within 90-day filers was not different, which is inconsistent with H3 (as is the result reported in Table 6).
V. Empirical Results

Descriptive Statistics

In Table 1, we provide information about the characteristics of our late filing sample. Panel A of Table 1 summarizes the reasons given for the late filing. We find that 61 percent of our firms give an accounting or auditing reason as an explanation for the delay in filing their 10-K. Reasons within this category are diverse, ranging from waiting on third party information to restatements. These reasons suggest that a weak system of internal control may be a driver of late filings. We broadly categorize other explanations for late filings as asset acquisitions or dispositions (5%), financial distress (7%), or legal matters (3%). Only one firm (2%) provided no explicit reason for its delay. The frequency of stated reasons differs dramatically from the Alford et al. (1994) analysis. Only 27 percent of their sample firms provide an accounting or auditing related explanation for the delayed filing. The difference in explanations across time is likely due to the heightened scrutiny of financial accounting during our sample period.

We also examine the market-adjusted stock returns around the Form 12b-25 filing date for those firms where stock price data is available (Table 1, Panel B). We find an immediate and negative price reaction occurs the day of the Form 12b-25 filing. The average market-adjusted return for late-filing firms on the day of filing is -2 percent. The negative reaction is consistent with the results in Alford et al. (1994), although our returns are larger in magnitude. This negative reaction suggests that there was a cost to the delay and that such a filing revealed previously unavailable private information to the market.

Finally, Panel C presents the number of days after the filing deadline that the late filing firms filed their Form 10-K. Sixty-three percent of the firms in the sample filed within the 15-
day extension period automatically granted with the Form 12b-25 filing, which, in effect, extends the filing period to the historic 90-day filing deadline.

[Insert Table 1 here]

Table 2 presents the mean and median amounts of the independent variables used in the logistic regression for late and timely filers for fiscal year 2003. Our first hypothesis, H1, focuses on the economic viability of late filers as compared to timely filers. We find that in the year of late filing, late-filing firms have statistically higher leverage and a statistically lower current ratio and ROA. In addition, late filing firms have a statistically higher percentage of loss years over the past five years. Similar to previous research, the univariate analysis supports the conjecture that late-filing firms are in worse financial health than timely-filing firms.

Our second hypothesis, H2, examines whether firms that appear to have weak systems of internal control over financial reporting are more likely to be late in filing their Form 10-K. Fifty four percent of our late-filing firms disclosed a weakness or deficiency in internal controls, while only four percent of our timely-filing firms did.

The last segment of Table 2 presents mean and median amounts for our control variables. Thirty two percent of current period late filers filed a late Form 10-K in the past five years, compared to one percent of our timely filers. Additionally, more late filers also changed auditors – 16 percent during 2003 – compared to five percent of timely filers. Late filers also took significantly longer to have their audit completed. Finally, the late and timely filers do not differ significantly on total assets. The last finding suggests that size may not be as important in affecting regulatory compliance currently as it has been demonstrated to be in the past.

[Insert Table 2 here]
Table 3 presents Pearson and Spearman correlation coefficients for the independent variables used in the logistic regression (Equation (1)). Consistent with prior research (e.g., Andrade and Kaplan 1998; Doyle et al. 2005), we find that the financial distress variables and the weak internal control indicator are correlated with ROA, our measure of firm performance.

[Insert Table 3 here]

**Logistic Regression Results**

Table 4 presents the coefficients from the estimation of Equation (1), our logistic regression.\(^{17}\) While our univariate analysis showed a difference in economic viability across late and timely filing firms, the results from the logistic regression only partially support the hypothesis that these variables are significant in predicting an untimely filing. The coefficient estimates on leverage, the current ratio, and ROA are not significantly different from zero. However, the coefficient on percent of loss years in the past five years is positive and significant. Therefore, we provide weak support for H1; while late and timely firms differ in their economic viability, only economic, not financial, distress is significantly associated with late filings.\(^{18}\) The difference of our conclusion from previous research can potentially be explained by examining the reasons given for late-filings. Alford et al. (1994) found that 31 percent of their sample firms cited financial distress as the reason for their delayed filing, yet only 7 percent of our sample firms cite a similar explanation. Though the percentage for our sample could be higher in theory, as a number of reasons given may be precursors to financial distress (expanded audit procedures, reconsideration of revenue recognition methods), financial distress does not appear to play a

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\(^{17}\) The results we present in Table 4 are based on standard logistic estimation. We also estimate a weighted logistic regression to reflect the fact that the sample has more late filers than the proportion that exists in the population (Zmijewski 1984). These results are qualitatively similar to those presented in Table 4.

\(^{18}\) These results do not change when we control for industry by including industry dummy variables, nor if we industry adjust the financial and economic distress variables.
significant role in causing our observed late Form 10-K filings. Rather, the majority of our firms were simply unable or unwilling to meet the accelerated filing deadline.

Consistent with our expectation in H2 and with the results of our univariate analysis, the coefficient on the indicator variable for weak internal controls (Weak IC) is positive and significant (p < 0.01). This finding suggests that firms disclosing a weakness or deficiency in internal control are more likely to be late filers. To aid in the interpretation of this coefficient, the odds ratio, also presented in Table 4, suggests that a firm disclosing a weakness in internal control is 7 times more likely to be a late filer than a firm not disclosing such a weakness.\(^\text{19}\)

Overall, these results are consistent with our expectation that firms late in filing their Form 10-K had weaker systems of internal control over financial reporting than their timely-filing comparison sample.

With respect to our control variables, the positive coefficient on the multiple late filings variable indicates that late filing firms were more likely to have been tardy in their 10-K filings in the past five years. The odds ratio shows that these firms are 17 times more likely to be late filers in 2003 than firms that had not filed late in the past five years. The significance of this coefficient suggests that the late filing may have less to do with the change in the filing deadline and more to do with the firm’s historic filing profile. However, in our view, this finding is also consistent with the notion that late-filing firms have a weaker system of internal control over financial reporting. In addition, we find a positive coefficient on audit lag, suggesting that firms with longer audit procedures are more likely to be late filers. The insignificant coefficients on

\[^{19}\text{We also examine other potential measures of strength of internal control, including whether financial statements were restated during the previous 5 years, whether the CEO was also chairman of the Board, and the percent of independent directors on the Board. None of these variables are significantly associated with a late filing. We attribute the lack of significance to the fact that these are weak proxies for the strength of the internal control system.}\]
auditor change and size suggest that these variables are not associated with timeliness of the 10-K filing. Finally, the Hosmer-Lemeshow statistic (distributed chi-square with eight degrees of freedom) does not reject the null hypothesis for goodness of fit of the model\textsuperscript{20} and the model exhibits considerable explanatory power (Pseudo $R^2$ of 0.55).

**Quality Analysis**

Before discussing the quality analysis presented in Tables 5 and 6 we address two untabulated results that are indirectly related to quality. Prior to 2003, timely filers, on average, announced earnings 40 days after year end. Both within and post 90-day late-filers waited, on average, 51 days to announce earnings. In 2003, while the average number of days to earnings announcement for timely filers remained 40, the average number of days increased to 63 and 74 days for both categories of late filers, respectively. The second untabulated result relates to audit length. From 1999 to 2002, across timely filers, late but within 90-day filers, and post 90-day late filers the length from the end of the fiscal year to the audit report date increased, most notably for the post 90-day late filers. The most interesting result is that while post 90-day late filers were able to announce earnings, on average, 74 days after year end, their audit reports were dated, on average, 193 days after year end. Consistent with popular press assertions (Glass, Lewis, and Co. 2004), this suggests that this subset of late-filing firms were making early announcements of earnings and then waiting to disclose more detailed Form 10-K filing information.

\textsuperscript{20} The goodness-of-fit statistic proposed by Hosmer and Lemeshow (1989) places observations into deciles based on the predicted probabilities and then computes a Pearson chi-square test based on the observed and expected number of observations in each decile. Higher values of the statistic (corresponding to smaller p-values) indicate a lack of fit of the model.
Table 5 presents descriptive statistics by filing sub-sample for the variables included in the quality model, Equation (2). Timely and post 90-day filing firms have, on average, a smaller magnitude of discretionary accruals relative to the late but within 90-day filers. Contrary to expectations, timely-filing firms show an increase in quality between 2002 and 2003, while the late but within 90-day filers reveal a decrease in quality, although these amounts are not significantly different from each other or from zero. While differences among the growth in cash flows, change in size, and change in ROA exist across the groups, only the difference in medians in growth in cash flow for timely and late but within 90-day filers is significant. Consistent with the descriptive statistics presented in Table 2, we find that timely filers have significantly fewer disclosures of a weakness in internal control over financial reporting. Forty three percent of the late but within 90-day filers and 83 percent of the post 90-day filers disclose a weakness or deficiency in internal control, while only 4 percent of timely filers do so.

[Insert Table 5 here]

Table 6 presents the regression coefficients for the change in quality model, Equation (2). Again, because so many changes were implemented that could potentially affect financial statement quality in the years leading up to the filing deadline change, our results focus on the relative differences in changes in quality from 2002 to 2003. Contrary to expectations, we find that for timely filing firms, quality increased as a result of the shortened filing deadline relative to late but within 90-day filers. Timely-filing firms were able to provide higher quality information in a shorter time period.\(^{21}\) This result suggests that the late but within 90-day filers did not tradeoff timeliness for quality. Rather, not only did these firms fail to file on time, they provided lower quality financial information. Taken together, these results are inconsistent with

\(^{21}\) An analysis of the timing of 10-K filings for years prior to 2003 shows that firms filed, on average, more than 75 days after year end. Therefore, the accelerated filing deadline required firms to shorten the time necessary to file the 10-K.
the prediction in our third hypothesis. After controlling for other influences, we are unable to find support for the timeliness/quality tradeoff in our results. This finding is consistent with our previously reported finding that firms with strong systems of internal control were able to meet the shortened filing deadline without difficulty.

[Insert Table 6 here]

The control variables for growth in cash flow from operations and the magnitude of discretionary accruals included in Equation (2) are positive and significant, as expected. Surprisingly, we find that change in size and change in ROA are not associated with changes in quality. Lastly, we find that weak internal controls are negatively associated with a change in quality, as predicted. Overall, the results of this estimation suggest that the accelerated filing deadline appears to have resulted in the provision of more useful information to investors as the information was more timely and the quality of the information provided was not diminished (and, in fact, it appears to have increased).

VI. Conclusion

This research examines firm responses to the change in the Form 10-K filing deadline with the intent of understanding both how firms behaved in the presence of the shortened filing deadline and whether the quality of the information provided was affected by the shortened reporting period. In examining these late filings, our aim is to understand the impact of Sarbanes-related changes in reporting requirements on the provision of audited financial information as well as on the firms providing such information.

We find that late-filing firms have weaker systems of internal control than timely-filing firms and that this is associated with the probability of a late filing. This finding suggests that
complying with the shortened filing deadline was not a difficult obstacle for firms with good systems of internal control. This is also consistent with Glass, Lewis, and Company’s (2004, 1) observation that a late filing “…should be accompanied by a heavy dose of skepticism.” Additionally, while we find that late and timely-filing firms differ on dimensions of economic viability, these differences are not significantly associated with the probability of a late filing.

Because of the many changes implemented to affect financial statement quality in the years prior to the filing deadline change, this research examines the change in quality for timely filers and late but within 90-day filers. Commenters on the SEC’s proposal suggested that a shortened reporting period would result in a decrease in the quality of information provided. We hypothesize that those firms that met the shortened filing deadline experienced a decrease in the quality of their financial information relative to late but within 90-day filers. Our expectation is that this sub-sample of late filers traded off timeliness for quality. However, contrary to our expectations, we find that timely filers experienced an increase in quality relative to the late but within 90-day filers. From this result, we conclude that the accelerated filing deadline appears to have achieved its stated goal without harming the quality of financial information provided. That is, firms that met the shortened deadline were able to provide higher quality information in a more timely manner, therefore increasing the overall usefulness of this information.

From our perspective, these research results are informative about the shortened filing deadline in two primary ways. First, the SEC received numerous comment letters concerning the shortened filing deadline. Many commenters noted that the technological advances that allow companies to generate earnings information quickly enough to facilitate a timely earnings release do not replace the analytical thought and scrutiny necessary to prepare periodic (Form 10-K)
reports (SEC 2002b). Our results suggest that, for our sample of firms, the shortened filing deadline was not problematic on this dimension.

Second, in explaining the rationale for shortening the filing deadline, the SEC concluded that information that was timelier would be more useful to investors. While “usefulness” in this context means information that is timely enough to be useful in decision making, it is important to remember that an alternate definition of usefulness exists. If the usefulness of audited financial information lies in the fact that such information disciplines other firm-reported (and non-audited) information, the danger exists that shortening the deadline may undermine this disciplining function. Our research results suggest that shortening the deadline to 75 days was not, for firms with good systems of internal control, problematic. However, what period of time is too short is open to debate. Thus, while implementing a shortened deadline may improve usefulness, the need for accuracy and quality in such financial information should not be overlooked. The SEC’s delay in implementing the 60-day deadline is consistent with this conclusion.
References


Table 1
Characteristics of Late Filing Firms

Panel A: Reasons for late filing (n = 59)

<table>
<thead>
<tr>
<th>Stated Reason</th>
<th># of observations</th>
<th>% of observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting/auditing issues</td>
<td>36</td>
<td>61 %</td>
</tr>
<tr>
<td>Asset acquisitions/dispositions</td>
<td>3</td>
<td>5 %</td>
</tr>
<tr>
<td>Financial distress</td>
<td>4</td>
<td>7 %</td>
</tr>
<tr>
<td>Legal matters</td>
<td>2</td>
<td>3 %</td>
</tr>
<tr>
<td>No explicit reason given</td>
<td>1</td>
<td>2 %</td>
</tr>
<tr>
<td>Other</td>
<td>13</td>
<td>22 %</td>
</tr>
</tbody>
</table>

Panel B: Market-adjusted stock returns around the Form 12b-25 filing date (n = 53)

<table>
<thead>
<tr>
<th>Time</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>0.004</td>
<td>-0.001</td>
</tr>
<tr>
<td>0</td>
<td>-0.017*</td>
<td>-0.012*</td>
</tr>
<tr>
<td>1</td>
<td>-0.019*</td>
<td>-0.002</td>
</tr>
<tr>
<td>0 to 1</td>
<td>-0.036*</td>
<td>-0.015*</td>
</tr>
</tbody>
</table>

* significant at p < 0.05.

Panel C: Days from filing deadline to actual filing of 10-K (n = 59)

<table>
<thead>
<tr>
<th>Number of Days</th>
<th># of observations</th>
<th>% of observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5 days</td>
<td>12</td>
<td>20 %</td>
</tr>
<tr>
<td>6 to 10 days</td>
<td>8</td>
<td>14 %</td>
</tr>
<tr>
<td>11 to 15 days</td>
<td>17</td>
<td>29 %</td>
</tr>
<tr>
<td>16 to 50 days</td>
<td>6</td>
<td>10 %</td>
</tr>
<tr>
<td>51 to 100 days</td>
<td>5</td>
<td>8 %</td>
</tr>
<tr>
<td>More than 100 days</td>
<td>8</td>
<td>14 %</td>
</tr>
<tr>
<td>Not yet filed</td>
<td>3</td>
<td>5 %</td>
</tr>
</tbody>
</table>
Table 2
Descriptive Statistics for Timeliness Regression Variables

<table>
<thead>
<tr>
<th>Variablea</th>
<th>Timely Filers</th>
<th></th>
<th></th>
<th>Late Filers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>Median</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>Economic Viability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>85</td>
<td>0.497**</td>
<td>0.505**</td>
<td>56</td>
<td>0.678</td>
</tr>
<tr>
<td>Current Ratio</td>
<td>85</td>
<td>2.479*</td>
<td>1.715*</td>
<td>56</td>
<td>1.877</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>85</td>
<td>0.040**</td>
<td>0.042**</td>
<td>56</td>
<td>-0.040</td>
</tr>
<tr>
<td>Percent Loss</td>
<td>85</td>
<td>0.174**</td>
<td>0**</td>
<td>56</td>
<td>0.443</td>
</tr>
<tr>
<td>Internal Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weak IC Indicator</td>
<td>85</td>
<td>0.035**</td>
<td>0**</td>
<td>59</td>
<td>0.542</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Late</td>
<td>85</td>
<td>0.012**</td>
<td>0**</td>
<td>59</td>
<td>0.322</td>
</tr>
<tr>
<td>Auditor Change</td>
<td>85</td>
<td>0.047*</td>
<td>0*</td>
<td>56</td>
<td>0.161</td>
</tr>
<tr>
<td>Audit Lag</td>
<td>85</td>
<td>46**</td>
<td>43**</td>
<td>56</td>
<td>112</td>
</tr>
<tr>
<td>Assets (in millions)</td>
<td>85</td>
<td>4,427</td>
<td>1,007</td>
<td>56</td>
<td>2,955</td>
</tr>
</tbody>
</table>

a Variable definitions (COMPUSTAT annual data numbers are in parentheses and all variables are measured using fiscal year 2003 data unless otherwise noted):

- **Leverage** = Total liabilities (#181) divided by total assets (#6)
- **Current Ratio (CR)** = Current assets (#4) divided by current liabilities (#5)
- **Return on Assets (ROA)** = Income before extraordinary items (#18) divided by average total assets (#6)
- **Percent Loss** = Percentage of loss years based on earnings before interest and taxes (#170 + #15) over the last five years
- **Weak IC Indicator (Weak IC)** = 1 if the firm disclosed in a 10-Q or 10-K filing that they had identified a weakness or deficiency in internal control, 0 otherwise
- **Multiple Late** = 1 if the firm has had a late 10-K filing in the past five years, 0 otherwise
- **Auditor Change** = 1 if the firm changed its auditor during 2003, 0 otherwise
- **Audit Lag** = number of days from fiscal year end to audit report date
- **Assets** = Total assets (#6)

**, * represents a significant difference between the timely and late samples at 0.01 and 0.05, respectively. Wilcoxon Rank Sum tests are used to test for differences in median amounts.
Table 3
Correlation Matrix\(^a\)

<table>
<thead>
<tr>
<th>Variable(^b)</th>
<th>Leverage</th>
<th>Current Ratio</th>
<th>ROA</th>
<th>Percent Loss</th>
<th>Weak IC Indicator</th>
<th>Multiple Late</th>
<th>Auditor Change</th>
<th>Audit Lag</th>
<th>Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage</td>
<td></td>
<td>-0.63</td>
<td>-0.28</td>
<td>0.14</td>
<td>0.27</td>
<td>0.19</td>
<td>0.14</td>
<td>0.24</td>
<td>0.49</td>
</tr>
<tr>
<td>Current Ratio</td>
<td>-0.53</td>
<td></td>
<td>-0.04</td>
<td>-0.06</td>
<td>-0.16</td>
<td>-0.06</td>
<td>-0.13</td>
<td>-0.27</td>
<td></td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-0.19</td>
<td>0.15</td>
<td></td>
<td>-0.59</td>
<td>-0.29</td>
<td>-0.26</td>
<td>-0.09</td>
<td>-0.32</td>
<td>0.06</td>
</tr>
<tr>
<td>Percent Loss</td>
<td>0.20</td>
<td>-0.09</td>
<td>-0.50</td>
<td>0.27</td>
<td>0.23</td>
<td>0.02</td>
<td>0.33</td>
<td>-0.17</td>
<td></td>
</tr>
<tr>
<td>Weak IC Indicator</td>
<td>0.31</td>
<td>-0.05</td>
<td>-0.30</td>
<td>0.26</td>
<td>0.19</td>
<td>0.21</td>
<td>0.61</td>
<td>0.00</td>
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<tr>
<td>Multiple Late</td>
<td>0.20</td>
<td>-0.16</td>
<td>-0.25</td>
<td>0.22</td>
<td>0.19</td>
<td>0.01</td>
<td>0.37</td>
<td>-0.12</td>
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<tr>
<td>Auditor Change</td>
<td>0.13</td>
<td>-0.07</td>
<td>-0.05</td>
<td>0.03</td>
<td>0.21</td>
<td>0.01</td>
<td>0.14</td>
<td>-0.11</td>
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</tr>
<tr>
<td>Audit Lag</td>
<td>0.17</td>
<td>-0.10</td>
<td>-0.10</td>
<td>0.19</td>
<td>0.57</td>
<td>0.15</td>
<td>0.09</td>
<td>-0.02</td>
<td></td>
</tr>
<tr>
<td>Assets</td>
<td>0.14</td>
<td>-0.16</td>
<td>0.07</td>
<td>-0.14</td>
<td>0.01</td>
<td>-0.06</td>
<td>-0.03</td>
<td>0.05</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Pearson (Spearman) correlations are reported below (above) the diagonal. Correlations that appear in bold are significant at \(p < 0.05\).
\(^b\) Variable definitions appear in Table 2
Table 4
Results from Estimating a Logistic Regression Predicting Late Filing Status

\[ \text{Late}_i = \alpha + \beta_1 \text{Leverage}_i + \beta_2 \text{CR}_i + \beta_3 \text{ROA}_i + \beta_4 \text{Percent Loss}_i + \beta_5 \text{Weak IC}_i + \beta_K X_{ki} + \varepsilon_i \]  

<table>
<thead>
<tr>
<th>Variablea</th>
<th>Predicted Sign</th>
<th>Estimated Coefficient (p-value)</th>
<th>Odds Ratio Estimateb</th>
<th>Unit Changec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>?</td>
<td>-3.72*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.05)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>+</td>
<td>0.95</td>
<td>1.10</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.24)</td>
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<td></td>
</tr>
<tr>
<td>Current Ratio</td>
<td>-</td>
<td>-0.14</td>
<td>0.99</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.27)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on Assets</td>
<td>-</td>
<td>0.03</td>
<td>1.00</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.49)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Loss</td>
<td>+</td>
<td>1.94*</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weak IC</td>
<td>+</td>
<td>2.00**</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Late</td>
<td>+</td>
<td>2.84**</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auditor Change</td>
<td>+</td>
<td>0.70</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.24)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit Lag</td>
<td>+</td>
<td>0.06**</td>
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<td></td>
<td></td>
<td>(0.00)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log(Assets)</td>
<td>?</td>
<td>-0.29</td>
<td>0.75</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.24)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pseudo $R^2$ 0.55
Hosmer & Lemeshow statistic 5.60 (p value) (0.69)

a Variable definitions appear in Table 2.
b The odds ratio is a useful way to interpret coefficient estimates in a logistic regression. For example, the odds of a firm with weak internal control being a late filer are 7 times higher than a non-weak internal control firm.
c The unit change column represents the amount of the change in the independent variable that the odds ratio is capturing. For the dichotomous variables, this is simply a change from 0 to 1. For continuous variables (except Log(Assets)), we specify the unit change to be 0.1.

* (**) represents significance at $p < 0.05 (0.01)$
Table 5
Descriptive Statistics of Quality Regression Variables by Filing Sub-Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Timely Filers ((n=84))</th>
<th>Within 90-day Late Filers ((n=37))</th>
<th>Post 90-day Filers ((n=18))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
<td>Mean</td>
</tr>
<tr>
<td>Abs(DiscAccruals)(_{2003})</td>
<td>0.04*</td>
<td>0.03*</td>
<td>0.10</td>
</tr>
<tr>
<td>∆Quality</td>
<td>0.01</td>
<td>0.00</td>
<td>-0.02</td>
</tr>
<tr>
<td>Growth CF</td>
<td>1.27</td>
<td>1.04*</td>
<td>0.65</td>
</tr>
<tr>
<td>∆Size</td>
<td>0.09</td>
<td>0.08</td>
<td>0.04</td>
</tr>
<tr>
<td>∆ROA</td>
<td>0.02</td>
<td>0.00</td>
<td>-0.13</td>
</tr>
<tr>
<td>Abs(DiscAccruals)(_{2002})</td>
<td>0.05</td>
<td>0.03</td>
<td>0.08</td>
</tr>
<tr>
<td>WeakIC</td>
<td>0.04*</td>
<td>0*</td>
<td>0.43</td>
</tr>
</tbody>
</table>

*Variable definitions:
Abs(DiscAccruals)\(_{2003}\) = Absolute value of discretionary accruals calculated using the modified-Jones model deflated by average total assets
∆Quality = -1 x ∆Abs(DiscAccruals)
Growth CF = Cash flow from operations \(#308\) scaled by average assets \(#6\) in 2003 divided by cash flow from operations scaled by average assets in 2002
∆Size = Change in log(assets) \(#6\)
∆ROA = Change in Return on Assets (Income before extraordinary items \(#18\) divided by average total assets \(#6\))
Weak IC = 1 if the firm disclosed in a 10-Q or 10-K filing that they had identified a weakness or deficiency in internal control, 0 otherwise

* (+) represents a significant difference between the timely (post 90-day) and late but within 90-day samples at 0.05. Wilcoxon Rank Sum tests are used to test for differences in median amounts.
Table 6
Results from Estimating the Quality Regression

\[ \Delta \text{Quality}_i = \alpha + \beta_1 \text{Timely}_i + \beta_2 \text{Post 90-day}_i + \beta_3 \text{Growth CF}_i + \beta_4 \Delta \text{Size}_i + \beta_5 \Delta \text{ROA}_i + \beta_6 \text{Abs(DiscAccruals)}_{i,2002} + \beta_7 \text{Weak IC}_i + \varepsilon_i \] (2)

<table>
<thead>
<tr>
<th>Variable(^a)</th>
<th>Predicted Sign</th>
<th>Estimated Coefficient (p-value)</th>
<th>Estimated Coefficient (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>?</td>
<td>-0.02 (0.11)</td>
<td>-0.06** (0.00)</td>
</tr>
<tr>
<td>Timely</td>
<td>-</td>
<td>0.03 (0.06)</td>
<td>0.04** (0.01)</td>
</tr>
<tr>
<td>Post 90-day</td>
<td>?</td>
<td>-0.00 (0.98)</td>
<td>0.03 (0.12)</td>
</tr>
<tr>
<td>Growth CF</td>
<td>+</td>
<td>0.003* (0.02)</td>
<td></td>
</tr>
<tr>
<td>(\Delta \text{Size})</td>
<td>+</td>
<td>-0.01 (0.28)</td>
<td></td>
</tr>
<tr>
<td>(\Delta \text{ROA})</td>
<td>-</td>
<td>-0.004 (0.35)</td>
<td></td>
</tr>
<tr>
<td>\text{Abs(DiscAccruals)}_{2002}</td>
<td>+</td>
<td>0.66** (0.00)</td>
<td></td>
</tr>
<tr>
<td>\text{WeakIC}</td>
<td>-</td>
<td>-0.03* (0.02)</td>
<td></td>
</tr>
<tr>
<td>(N)</td>
<td>139</td>
<td></td>
<td>139</td>
</tr>
<tr>
<td>Adjusted R(^2)</td>
<td>0.02</td>
<td></td>
<td>0.43</td>
</tr>
</tbody>
</table>

\(^a\) Variable definitions:

- Timely = 1 if the firm filed its 10-K within 75 days of fiscal year end, 0 otherwise
- Post 90-day = 1 if the firm filed its 10-K after 90 days of fiscal year end, 0 otherwise
- Other variable definitions appear in Table 5.

\(^*, **\) represents significance at 0.01 and 0.05, respectively.
Appendix A
Changes Affecting Financial Reporting, 2000 and forward

January 6, 2000  SEC report that concludes serious structural problems exist at PWC

June 30, 2000  SEC proposes changes in auditor independence regulations

December 5, 2000  Auditor independence regulation changes adopted

October 16, 2001  Enron takes $1 billion writedown

President Bush signs the Investor and Capital Market Fee Relief Act that reduces fees for stock registrations, transactions and mergers and implements pay parity for SEC employees

January 16, 2002  President Bush signs the Investor and Capital Market Fee Relief Act that reduces fees for stock registrations, transactions and mergers and implements pay parity for SEC employees

January 17, 2002  Harvey Pitt discusses/addresses a proposed new accounting oversight board

January 22, 2002  The existing Public Oversight Board (created in 1977) votes to disband

January 22, 2002  SEC identifies issues in MD&A to be addressed in 2001 fiscal year end reports

January 30, 2002  Pay parity for SEC employees denied by OMB

February 12, 2002  Senate Committee on Banking Housing and Urban Affairs holds first in a series of 10 hearings on investor protection

February 13, 2002  SEC proposes to modify annual and quarterly report filing deadline

February 13, 2002  SEC calls on NASDAQ and NYSE to examine specific components of corporate governance

March 7, 2002  President Bush proposes plan to strengthen corporate reporting, including CEO certification of financial statements

June 13, 2002  SEC proposes to require CEOs to certify their firm's financial statements

July 30, 2002  Sarbanes Oxley Act (PL 107-204)

July 30, 2002  PCOAB created (as a part of the Sarbanes Oxley Act)


October 22, 2002  SEC issues proposed 404 rulings, applies to firms beginning with FYE September 15, 2003

June 18, 2003  SEC postpones 404 reports until June 15, 2004

August 25, 2004  Delays second shortening of 10-K and 10-Q filing dates to take effect at the end of 2004 until 2005