DOI: 10.1111/j.1475-679X.2009.00319.x
Journal of Accounting Research
Vol. 47 No. 2 May 2009
*Printed in U.S.A.*

CHICAGO BOOTH

# Unintended Consequences of Granting Small Firms Exemptions from Securities Regulation: Evidence from the Sarbanes-Oxley Act

FENG GAO,* JOANNA SHUANG WU,*
AND JEROLD ZIMMERMAN*

Received 15 November 2007; accepted 13 November 2008

ABSTRACT

This paper provides evidence about the unintended consequences arising when small companies are exempted from costly regulations—these firms have incentives to stay small. Between 2003 and 2008, the SEC postponed compliance with Section 404 of the Sarbanes-Oxley Act of 2002 (SOX) for "non-accelerated filers" (firms with public float less than $75 million). We hypothesize and find that some of these firms had an incentive to remain below this bright line threshold. Moreover, we document that these firms remained small by undertaking less investment, making more cash payouts to shareholders, reducing the number of shares held by non-affiliates, making more bad news disclosures, and reporting lower earnings than control firms. Finally, there is no evidence that firms remaining small are doing so to maintain insiders' private control benefits. These findings have implications beyond SOX because numerous federal and state regulations exempt small firms via bright line size thresholds.

## 1. Introduction

Economists have long recognized that government regulations often generate unintended consequences.[1] The initial Securities Act of 1933 and the

*University of Rochester.

[1] By "unintended consequence" we mean that one of the outcomes of the regulation was either unanticipated by the regulator or not the objective of the regulation. See Averch and Johnson [1962], Merton [1936], Stigler [1971], and Spatt [2006].

Securities Exchange Act of 1934 exempt small firms from certain filing requirements. The Securities and Exchange Commission (SEC) expanded these exemptions in implementing the Sarbanes Oxley Act of 2002 (SOX). Beyond securities regulations, numerous statutory and regulatory exemptions exist for small businesses (Bradford [2004]). This paper presents evidence that exempting small firms from restrictive regulatory requirements (SOX in this case) generates the unintended consequence of creating incentives for some of these firms to remain small.

SOX aims to better protect investors via a variety of new regulations that impose rather substantial compliance costs on filing companies.[2] Commentators point out that SOX can undesirably reduce management risk-taking incentives, distort corporate disclosure, impede the flow of internal information, and reduce firms' ability to attract qualified managers and directors (Ribstein [2002], Romano [2005], Holmstrom and Kaplan [2003], Bargeron, Lehn, and Zutter [2007]). Some empirical evidence suggests that SOX imposes net costs on shareholders (Zhang [2007]) and bondholders (DeFond et al. [2007]), and especially high costs on small firms (Iliev [2007]). Moreover, small filers allege that the costs of SOX are disproportionate to the benefits.[3] However, the debate over whether SOX is on net costly is far from settled (Leuz [2007], Li, Pincus, and Rego [2008]).

We hypothesize that the enactment and subsequent implementation of SOX creates incentives for certain firms to stay small—in particular to keep their public float below $75 million, the threshold in the SEC's definition of "nonaccelerated" filers.[4] Since 2003, the SEC has on several occasions deferred the implementation deadline for nonaccelerated filers regarding Section 404 of SOX.

Section 404 requires managers to document and assess the effectiveness of internal controls and their external auditor to attest and report on management's assessment. Many SEC filers and other commentators view Section 404 as one of the most onerous parts of SOX (e.g., Zhang [2007]). Section 404's requirements are designed to apply to all public companies regardless of size. However, from the outset small businesses strongly opposed the one-size-fits-all regulatory approach. Due to the fixed component in compliance costs, small firms are disproportionately impacted relative to large firms (e.g., Eldridge and Kealey [2005], A.R.C. Morgan [2005]); they have to compete with large firms for the post-SOX limited supply of auditors and

[2] See Coates [2007], Romano [2005], Ribstein [2002], Cohen, Dey, and Lys [2005], Linck, Netter, and Yang [2008], and Iliev [2007] for a discussion of the compliance costs and a variety of other consequences generated by SOX.

[3] ACSPC [2006].

[4] Public float is defined by the SEC as the aggregate market value of voting and nonvoting common equity held by nonaffiliates of the issuer. "An affiliate is a person, such as a director or large shareholder, in a relationship of control with the issuer. Control means the power to direct the management and policies of the company in question, whether through the ownership of voting securities, by contract, or otherwise" (http://www.sec.gov/investor/pubs/rule144.htm, SEC [2008a]). The determination of a firm's affiliates involves judgment and is potentially subject to manipulation.

face a sharp rise in audit costs.[5] Also, small businesses argue that their ability to remain nimble and competitive in the marketplace is incompatible with Section 404's mandate for well-defined internal control processes and clearly segregated duties.[6]

In response to the concerns expressed by small businesses,the SEC extends the compliance deadline for nonaccelerated filers when it adopts its final rules regarding Section 404 on May 27, 2003. The extension raises expectations of even more extensions and the possible eventual exemption to complying with Section 404 for nonaccelerated filers. Zhang [2007] and Iliev [2007] report that nonaccelerated filers receiving additional time to comply with Section 404 experience statistically significant positive abnormal stock returns at the announcements of the various extensions. One interpretation of these findings is that the market views the deferral of Section 404 and the possible eventual exemption of nonaccelerated filers from Section 404 as firm-value enhancing.

At least two nonmutually exclusive reasons can motivate managers to retain their firm's nonaccelerated filer status: (1) they believe that complying with Section 404 reduces shareholder value and/or (2) they believe that Section 404 reduces their private control benefits. We present tests that attempt to differentiate between these two motivations. Under both explanations, managers of nonaccelerated filers undertake actions to maintain their firm's "nonaccelerated filer" designation by keeping their public float below $75 million. On the other hand, the $75 million threshold is likely of little relevance for an accelerated filer even if it has a public float close to $75 million because once classified as an accelerated filer, stringent requirements must be satisfied to exit that status.[7]

In our tests, we compare nonaccelerated filers with a control sample of accelerated filers. Our control sample consists of firms with market capitalizations below $150 million to avoid including, as control firms, large companies that might be vastly different from nonaccelerated filers. Our event period spans June 1, 2003 (following the first SEC deferment of the Section 404 compliance deadline for nonaccelerated filers) to December 31, 2005 (soon after the SEC issues the new exit rule for accelerated filers, see footnote 7). In order to isolate the effect of SOX, we also construct a control period from January 1, 1999 to September 1, 2001, which ends before the legislative activities leading to SOX and before the SEC introduces the "accelerated" and "nonaccelerated filers" distinction. In the pre-SOX control period we assign pseudo-identifiers to firms as either accelerated filers

[5] See, for example, the *Wall Street Journal* editorial on August 15, 2005 "Sarbanes-Oxley is a curse for small-cap companies" by the Chairman and CEO of the American Stock Exchange (Wolkoff [2005]).

[6] ACSPC [2006].

[7] As detailed in table 1, prior to December 2005, to exit the accelerated filer status a company must become a Small Business Issuer with public float and revenues less than $25 million for two consecutive years. In December 2005, the SEC issued new rules that allow a company to exit the accelerated filer status in the same year when its public float drops below $50 million.

or nonaccelerated filers according to the later SEC definitions. Our test design is therefore one of difference-in-differences where we compare the post-SOX differences between nonaccelerated filers and accelerated filers to the corresponding pre-SOX differences.

We document several actions that nonaccelerated filers appear to employ to keep their public float below the $75 million threshold post-SOX. Since a firm's public float is determined by its share price and by the number of common shares held by nonaffiliates, both can be used to manage public float. Consistent with this, we find that post-SOX nonaccelerated filers:

1) Take actions related to various corporate policies to stay small:
   - reducing net investment in property, plant, and equipment, intangibles, and acquisitions
   - paying out more cash to shareholders via ordinary and special dividends and share repurchases
   - decreasing the number of shares held by nonaffiliates.

Because the testing date of a firm's filing status occurs only once each fiscal year (the last trading day of its second fiscal quarter), we also document various techniques adopted by nonaccelerated filers post-SOX to exert temporary downward pressure on share prices before testing their filing status:

2) Actions related to short-term price impact:
   - disclosing more bad news in the second fiscal quarter
   - reporting lower accounting earnings in the second fiscal quarter.

Furthermore, we find evidence that the nonaccelerated filers' incentives to undertake the above actions are weaker when they are further away from the $75 million threshold. We also document that the various actions undertaken by the nonaccelerated filers post-SOX appear to be effective in that these firms are more likely to remain below the $75 million threshold in the following year.

In order to investigate the motives behind managers' actions to remain small, we compare the corporate governance of firms that stay below the $75 million threshold by a small margin (less than $10 million) with that of firms that cross the threshold by a similarly narrow margin. We find no evidence of poor governance in firms that remain small. If anything, these firms appear to have better governance systems than firms that cross the threshold. The evidence, therefore, does not support the preservation of insider private control benefits as a motivation for staying small. However, the results should be interpreted with caution because of the relatively small number of observations in the governance test and, more importantly, the lack of a well-developed theory of corporate governance and corresponding reliable empirical proxies (Larcker, Richardson, Tuna [2007]).

Our paper is related to two concurrent studies—Iliev [2007] and Nondorf, Singer, and You [2008]. Iliev [2007] reports that, compared to nonaccelerated filers, accelerated filers pay higher audit fees and experience significantly lower stock returns in their first year of Section 404 compliance. He also suggests that some nonaccelerated filers manipulate their 2004 public

float to avoid compliance with Section 404. Nondorf, Singer, and You [2008] find that firms with public float around $75 million reduce their float temporarily during their second fiscal quarter compared to other firms via lower stock returns and more insider buying. Our paper differs from these two papers in several ways. Iliev [2007] focuses on the costs imposed on Section 404 complying firms, not the actual mechanisms used by managers to avoid compliance. Nondorf, Singer, and You [2008] include both accelerated and nonaccelerated filers in their "threshold" firms, thereby making it difficult to interpret their findings.

Our study makes several contributions. First, we provide evidence on the economic consequences of exempting small companies from regulation. The Advisory Committee on Small Public Companies (ACSPC [2006]) recommends less onerous regulatory rules for small filers, and the SEC is proposes rules to systematically adopt these recommendations.[8] Our evidence suggests that when regulations entail large costs for small businesses, one of the unintended consequences of these exemptions is that some firms have incentives to remain below the bright-line thresholds. While this result is consistent with firms having incentives to avoid costly regulation, it does not address the broader question of whether exempting small firms from regulation benefits society.

Second, we document a heretofore unrecognized consequence of SOX—nonaccelerated filers keeping their public float below $75 million. Prior studies suggest SOX can change a firm's cost–benefit tradeoff of participating in U.S. public capital markets (Engel, Hayes, and Wang [2007], Leuz, Triantis, and Wang [2008], Piotroski and Srinivasan [2008], Hostak et al. [2007], Gao [2007]). Our results indicate that, for firms remaining public, SOX also alters their incentives to grow. Lower growth has social welfare implications if it affects employment, wealth creation, and real investment.

Finally, we provide additional evidence on the economic consequences of SOX and, in particular, its Section 404 provisions on internal controls, for small public companies. A common theme emerging from prior studies is that SOX more adversely affects small firms (Engel, Hayes, and Wang [2007], Leuz, Triantis, and Wang [2008], Piotroski and Srinivasan [2008]). Our findings add to this literature and are consistent with the view that Section 404 of SOX imposes net costs on small businesses (e.g., Ribstein [2002], Romano [2005], Holmstrom and Kaplan [2003]).

Our paper's implications extend beyond the several hundred small firms approaching the $75 million public float threshold that defer implementing Section 404. The SEC has differential reporting requirements for "small business issuers" (less than $25 million in revenue and public float), "accelerated filers" (public float in excess of $75 million), and "large accelerated filers" (public float in excess of $700 million). In addition to these

[8] SEC Release No. 33-8812 and No. 33-8819 (SEC [2007a, 2007b]). The Advisory Committee on Small Public Companies was established by the SEC in March 2005 to "assess the current regulatory system for smaller companies under the securities laws of the United States, and make recommendations for changes." (ACSPC [2006, p. 1]).

entry thresholds, the SEC defines other thresholds to exit the accelerated and large accelerated reporting requirements.[9] Besides these SEC size thresholds, federal and state statutes and regulations contain numerous exemptions for small businesses (Bradford [2004]). Two federal statutes, the U.S. Regulatory Flexibility Act and the Small Business Regulatory Enforcement Fairness Act of 1996, require federal agencies to consider exemptions or reduced standards for small businesses. Several agencies provide preferential treatment for small firms using bright-line thresholds. While this study focuses on a narrow set of firms trying to avoid Section 404 compliance, its inferences (if confirmed in other settings) suggest that numerous firms likely have incentives to stay below explicit size thresholds.

The remainder of the paper is organized as follows. Section 2 describes the institutional background to the SEC's definition of "nonaccelerated filer" and the several postponements of the compliance deadline for section 404. We develop our hypotheses in section 3. Descriptions of our methodology are in section 4. Section 5 presents the evidence related to nonaccelerated filers' proclivity to stay below the size threshold. Section 6 investigates the specific actions undertaken by nonaccelerated filers to accomplish their goal of staying small post-SOX. The corporate governance test is discussed in section 7 and robustness tests are given in section 8. Section 9 concludes the paper.

## 2. *Institutional Background*

### 2.1 "ACCELERATED FILERS" VERSUS "NONACCELERATED FILERS"

From its inception, U.S. federal securities regulation contained exemptions for small companies. In 1992, the SEC introduced the concept of "small business issuers," (filers with revenues and public float below $25 million), and applied abbreviated disclosure rules to them. The enactment of SOX in 2002 reignited concerns about undue regulatory burdens for small companies. The September 5, 2002 SEC final rules requiring accelerating filing deadlines for annual and quarterly reports introduced the concepts of "accelerated filers" and "nonaccelerated filers" (SEC [2002b]). This rule gradually shortened the filing deadlines for annual and quarterly reports. The SEC exempted nonaccelerated filers from the acceleration of the annual and quarterly reporting deadlines.

Table 1 chronicles the major events and provides the SEC definitions of accelerated and nonaccelerated filers. "Accelerated filers" are reporting companies with public float of at least $75 million measured as of the last

[9] SEC Release No. 33-8644 and 34-52989, issued on December 21, 2005 (SEC [2005a]). As noted earlier, in footnote 7, prior to December 2005 an accelerated filer needs to become a small business issuer to exit the accelerated filer status. Since 2007, the SEC has combined small business issuers and nonaccelerated filers into a single category called "smaller reporting companies" (those with public float less than $75 million). These firms are eligible for scaled disclosure and reporting requirements that were previously available only to small business issuers (SEC [2007b]).

**TABLE 1**
*Key Events and Definitions*

| | |
|---|---|
| April 12, 2002 | The SEC proposed accelerating the filing of quarterly reports and annual reports to modernize the periodic reporting system (SEC [2002a]). |
| July 30, 2002 | The Sarbanes-Oxley Act was signed into law. |
| September 5, 2002 | The SEC adopted final rules regarding the acceleration of filing deadlines for reports on form 10-K and form 10-Q. The phase-in period for accelerated deadlines of quarterly and annual reports will begin for reports filed by companies that meet the definition of "accelerated filer" as of their first fiscal year ending on or after December 15, 2002.<br><br>An accelerated filer is an issuer that:<br>• had a public float of at least $75 million as of the last business day of the most recently completed second fiscal quarter;<br>• as of such fiscal year-end has been subject to the reporting requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 for at least 12 calendar months;<br>• has filed at least one annual report under the Exchange Act; and<br>• is not eligible to file abbreviated reports on forms 10-KSB and 10-QSB.<br>In general, an issuer is eligible to use forms 10-KSB and 10-QSB if both its annual revenues and its public float, based on the closing price on any day within 60 days prior to the fiscal year-end, are less than $25 million.<br><br>Once a company becomes an accelerated filer, it remains an accelerated filer regardless of whether it continues to have a public float of $75 million or more, except that if the company subsequently becomes eligible to use forms 10-KSB and 10-QSB, it will cease to be an accelerated filer until such time as it again satisfies the "accelerated filer" definition (SEC [2002b]). |
| May 27, 2003 | The SEC voted to adopt rules concerning management's report on internal control (Section 404). Accelerated filers are expected to comply for fiscal years on or after June 15, 2004. All other issuers will be required to comply for their fiscal years ending on or after April 15, 2005 (SEC [2003b]). |
| May 28, 2003 | President George W. Bush signed the Jobs and Growth Tax Relief Reconciliation Act of 2003. The tax reform lowered the statutory personal tax rate for dividends from a maximum rate of 38.1% to a flat rate of 15%. It applied retroactively from the beginning of 2003. |
| February 24, 2004 | The SEC approved an extension of the original compliance dates for the amendments related to internal control reporting. The compliance dates for companies that are "accelerated filers" are extended to fiscal years ending on or after November 15, 2004 (an extension of five months), and for nonaccelerated filers and foreign private issuers, to fiscal years ending on or after July 15, 2005 (an extension of three months) (SEC [2004]). |
| March 2, 2005 | The SEC extended Section 404 compliance dates for nonaccelerated filers and foreign private issuers to its first fiscal year ending on or after July 15, 2006 (an extension of one year) (SEC [2005b]). |

*(Continued)*

**TABLE 1**—*Continued*

| | |
|---|---|
| September 21, 2005 | The SEC voted to propose extending Section 404 compliance dates for nonaccelerated filers to its first fiscal year ending on or after July 15, 2007 (an extension of one year) and adjust the definition for accelerated filers (SEC [2005c]). |
| December 21, 2005 | The SEC issued final rule regarding exiting the definition of accelerated filer status to provide easier exit. Under the new rules, a company may exit the accelerated filer status in the same year when its public float has dropped below $50 million (SEC [2005a]). |
| August 9, 2006 | The SEC proposed providing further relief for nonaccelerated filers regarding Section 404 compliance dates. The compliance date is moved to its first fiscal year ending on or after December 15, 2007 (an extension of six months); the compliance date to provide an auditor's attestation report on interval control is moved to a fiscal year ending on or after December 15, 2008 (SEC [2006b, 2006c]). |
| June 20, 2008 | The SEC approved an additional one-year extension of the compliance date for smaller public companies to meet Section 404 auditor attestation requirement. With the extension, smaller companies will now be required to provide the auditor's attestation report for fiscal years ending on or after December 15, 2009 (SEC [2008b]). |

business day of their most recently completed second fiscal quarter. Once a firm becomes an "accelerated filer," it remains so classified until it qualifies as a "small business issuer." These "nonaccelerated filer" definitions remain in effect during our event period through the end of 2005.

### 2.2 DEFERMENT OF SECTION 404 COMPLIANCE DEADLINES

SOX, signed into law in July 2002, directs the SEC to develop rules to implement Section 404 regarding internal controls. The first SEC proposal requires all public firms to comply with section 404 for fiscal years ending on or after September 15, 2003. Based on adverse public comments, on May 27, 2003 the SEC defered accelerated filers' compliance with Section 404 to fiscal years ending on or after June 15, 2004, and for nonaccelerated filers to fiscal years ending on or after April 15, 2005 (SEC [2003a]).

Neither Section 404 nor the SEC ruling in September 2003 contain procedural guidance for implementing section 404. In March 2004, the Public Company Accounting Oversight Board (PCAOB) issued Audit Standard No. 2 (AS2) specifying the rules external auditors are to use in evaluating the effectiveness of internal controls (PCAOB 2004). With no specific Section 404 implementation rules for management, AS2 also became the de facto guide to managers.

The initial lack of implementation guidance prompted the SEC to further extend Section 404 compliance deadlines on February 24, 2004 for both accelerated filers (to fiscal years ending on or after November 15, 2004) and nonaccelerated filers (to fiscal years ending on or after July 15, 2005). Accelerated filers began complying with Section 404 in 2004. The deadline for nonaccelerated filers was further extended—on March 2, 2005 to fiscal years ending on or after July 15, 2006, and on September 21, 2005 to fiscal years ending on or after July 15, 2007. On August 9, 2006, the SEC proposed

extending nonaccelerated filers' section 404 compliance to the first annual report for fiscal years ending on or after December 15, 2007. Furthermore, nonaccelerated filers need only complete the management's assessment of the internal controls in their first year of compliance with the requirements. Auditor's attestation of the nonaccelerated client's internal control report would follow in the next fiscal year (SEC [2006b]). On June 20, 2008, the SEC approved an additional one-year extension (to fiscal years ending on or after December 15, 2009) regarding the auditor attestation requirement for nonaccelerated filers (SEC [2008b]). In the various extensions to the compliance date for Section 404, the SEC justified its decisions by arguing it was to "reduce the first year cost of compliance" and "make implementation of the internal control over financial reporting requirements more effective" (SEC [2006a]).

## *3. Hypothesis Development*

SOX Section 404 appears to impose relatively higher costs on small firms than large firms. Widely cited statistics from the American Electronics Association suggest that Section 404 costs the average multibillion-dollar company about 0.5% of revenue and as much as 3% for small companies. The first year implementation of Section 404 led to a shortage of audit expertise. Eldridge and Kealey [2005] document that audit fees as a percentage of total assets more than doubled following the enactment of SOX, and small companies reported larger increases.

The indirect costs of Section 404 for small companies likely are significant as well. Small firms have more section 404 implementation problems because they tend to have less well-defined internal control processes and less clear segregation of duties (Ashbaugh-Skaife, Collins, and Kinney [2007], Doyle, Ge, and McVay [2007]). The Advisory Committee on Small Public Companies (ACSPC [2006, p. 24]) argues that the result of Section 404 is "a cost/benefit equation that, many believe, diminishes shareholder value. . ."

Mindful of these concerns, the SEC repeatedly extended Section 404 compliance deadlines for nonaccelerated filers (see section 2). Zhang [2007] and Iliev [2007] report that nonaccelerated filers receiving additional time to comply with Section 404 experience statistically significant positive abnormal stock returns at the announcements of the various extensions. One interpretation of this evidence is that stockholders view complying with Section 404 as on net costly and the deferment as share-value enhancing for small companies. Supporting this interpretation, Iliev [2007] documents that in the first year of Section 404 compliance small complying firms see their audit fees double and their share values fall.

Some managers likely view their nonaccelerated filer status, and thereby deferring Section 404 compliance, as firm-value increasing.[10] Deferring Section 404 is valuable to these firms because it lowers the present value of their

[10] Nonaccelerated filers also avoid the potential costs associated with the acceleration of 10-K and 10-Q filing deadlines. The SEC recognizes that while investors in smaller companies value

compliance costs. Early Section 404 compliers incur high start-up costs as the mechanics of Section 404 evolve and a temporary shortage of Section 404 knowledgeable auditors drives audit fees up. In addition to these potential cost savings from compliance deferment, some nonaccelerated filers might hold the expectation that they will eventually be exempt from Section 404 requirements or a less onerous set of rules might be devised for small filers. Finally, future non-SOX securities regulation might exempt nonaccelerated filers, and hence generate additional benefits of remaining below the $75 million threshold. Having defined the "accelerated/nonaccelerated" dichotomy, there is at least the possibility that future securities rules might again exempt or defer costly provisions. This is precisely one of the key recommendations made by the Advisory Committee on Small Public Companies (ACSPC [2006]).

Besides maximizing shareholder value, managers of nonaccelerated filers may seek to avoid Section 404 compliance to protect their private control benefits, which an effective internal control system may jeopardize. Prior studies of firm decisions to go dark (Leuz, Triantis, and Wang [2008]) or go private (Engel, Hayes, and Wang [2007]) and of foreign firms' decisions to delist from U.S. stock exchanges (Hostak et al. [2007], Piotroski and Srinivasan [2008]) suggest that avoiding SOX compliance can be motivated by both concerns about the SOX compliance costs and insiders' protection of their private control benefits. In section 7 we present tests that attempt to differentiate between these two motivations.

Under both explanations, we expect managers of nonaccelerated filers to incur costs to keep their public float below $75 million if those costs are lower than the net costs from Section 404 compliance and from other future regulations that exempt nonaccelerated filers. A variety of actions exist to keep their public float below the threshold. Since a firm's public float is determined by its share price as well as the number of common shares held by nonaffiliates, reducing either lowers public float. For example, foregoing certain positive net present value (NPV) projects and/or making more dividend payouts to shareholders dampens share price. In addition, public float can be reduced by lowering the number of nonaffiliated shares. Some of these actions impose direct costs on shareholders (e.g., forgoing profitable growth opportunities), while others may not (e.g., paying out more cash dividends).

To form a reference point for analyzing nonaccelerated filers, we construct a control sample of accelerated filers with market capitalizations of $150 million or below. While these control firms' public float is reasonably close to $75 million, this threshold holds little relevance to them because they can only exit the accelerated filer status if their revenues and public float fall below $25 million for two consecutive years. To further increase our confidence that the difference between accelerated and nonaccelerated

---

timely disclosures, these companies "may not have the resources or infrastructure to prepare their reports on a shorter timeframe without undue burden or expense." (SEC [2002a]).

filers during our post-SOX event period is not driven by correlated omitted variables, we construct a pre-SOX control period and form pseudoclassifications of "accelerated" and "nonaccelerated filers" according to the later SEC definitions. If the various actions undertaken by nonaccelerated filers are effective, we expect that they should have a greater tendency to remain below the size threshold post-SOX. We therefore predict:

*H1*: In the post-SOX period nonaccelerated filers are more likely to stay below the $75 million threshold than control firms.

The following hypothesis describes the specific actions undertaken by nonaccelerated filers to stay small:

*H2*: In the post-SOX period nonaccelerated filers are more likely to:

(a): reduce their net investment in property, plant, and equipment, intangibles, and acquisitions;
(b): pay out more cash to shareholders via ordinary and special dividends and share repurchases;
(c): decrease the number of shares held by nonaffiliates of the firm.

Because the testing date for determining the accelerated versus nonaccelerated filer status is the last business day of the firm's second fiscal quarter, a nonaccelerated filer might also engage in activities to exert downward pressure on its stock price prior to the test. One way to achieve this might be through delaying good news and accelerating bad news disclosures prior to the test. A manager might also choose more income-decreasing accounting accruals believing that lower earnings reduce their share price. This leads to our next hypothesis:

*H3*: In the post-SOX period nonaccelerated filers are more likely to:

(a): disclose more bad news in the second fiscal quarter;
(b): report lower accounting earnings in the second fiscal quarter.

Insider selling offers another channel through which a nonaccelerated filer can influence its share price prior to the test date. Because small stocks generally have lower liquidity, stock sales by insiders before the end of the second fiscal quarter could be an effective way to temporarily depress share prices. However, while insider selling can have a negative impact on share prices, it can also increase the number of shares held by nonaffiliates.[11] We conduct tests on whether insiders engage in more selling activities in the second fiscal quarter, but do not provide a specific prediction.

---

[11] The net effect of insider selling on public float is negative if the percentage price impact is larger than the percentage of insider shares sold. Prior studies generally find significant price impact from insider trades, especially for small firms (Seyhun [1986], Lakonishok and Lee [2001]). Seyhun [1986] reports that insider sales generate significant abnormal returns of −1.5% over the 50-day window after the trading date, even though the average number of shares traded by insiders accounts for only a fraction of a percent of the total number of shares outstanding.

Note that there is a timing dimension to the tests on bad news disclosures (H3a), accounting earnings (H3b), and insider selling. We expect that these actions likely occur in the second fiscal quarter because these actions are geared more toward exerting temporary downward pressure on share prices. In contrast, the actions in H2a through H2c (lower investments, more cash payouts, and fewer nonaffiliated shares) likely have longer-lasting effects on public float and we therefore hypothesize that they are more likely to be taken throughout the year by nonaccelerated filers post-SOX.

Finally, the incentive of nonaccelerated filers to manage their public float depends on the likelihood they will cross the $75 million threshold. As the firm's public float approaches the threshold, the likelihood of crossing increases and the more likely managers will engage in the various actions predicted in H2 and H3. We therefore make the following prediction.

*H4*: In the post-SOX period, nonaccelerated filers' propensity to undertake the actions predicted in H2 and H3 increases when their public float is closer to the $75 million threshold.

Table 2 provides a summary of the above hypotheses and the tables providing the tests. For the hypothesized actions in H2 and H3 we also summarize how they are expected to impact public float—through affecting share prices or the number of nonaffiliated shares, or both. Some of the actions (dividend payments and share repurchases) can affect stock returns due to signaling effects. However, given the current context, the predictions on any potential signaling effects are ambiguous.

## *4. Methodology*

Our sample comprises two time periods. The event period spans June 1, 2003 (following the SEC ruling delaying section 404 on May 27) to December 31, 2005 (following the SEC relaxing the exit rule for accelerated filers that potentially changes nonaccelerated filers' incentives to stay small). A control period is selected as January 1, 1999 to September 1, 2001, which ends before the legislative activities leading to SOX. We start with all firm-years with a second fiscal quarter-end that falls within one of the two time periods and with a market value of equity of $150 million or below. Figure 1 displays the timeline of the test and control periods.

Most of our tests are conducted with a firm-year as the unit of observation. Firm-year $t$ is defined as the one-year period from the end of the second fiscal quarter in fiscal year $t$ (time 1 in fig. 2) to the next second fiscal quarter-end (time 2). The dependent variables on the specific actions undertaken by nonaccelerated filers are measured over firm-year $t$, consisting of fiscal quarters 3 and 4 of year $t$ and fiscal quarters 1 and 2 of year $t+1$.

We measure our main test variable, nonaccelerated filer status, at time 1. We collect information on a firm's filing status for each year during the event period (when such a distinction is made according to SEC rule) from the firm's 10-K report. Specifically, $NA_t$ equals one if a firm reports its filing status as "nonaccelerated" in its 10-K report for that year or if it files a 10-KSB,

**TABLE 2**
*Summary of Hypotheses and Findings*

| Tests | Hypothesis No. | Table No. | Predicted Sign Event ∗ NA | Impact on[a] |
|---|---|---|---|---|
| 1) Post-SOX nonaccelerated filers are more likely to stay below the $75 million threshold than control firms. | H1 | T6 | + | |
| 2) Actions undertaken by nonaccelerated filers post-SOX to stay small: | | | | |
| a) Decisions related to investment, payout, nonaffiliated shares: | | | | |
| • Reduce net investment in property, plant, and equipment; intangibles; and acquisitions | H2a | T8 | − | Price |
| • Pay out more cash to shareholders via ordinary and special dividends and share repurchases | H2b | T8 | + | Dividends: impact on price (no impact on returns including dividends) Repurchases: impact on no. of nonaffiliated shares |
| • decrease the number of shares held by nonaffiliates of the firm | H2c | T9 | − | no. of nonaffiliated shares |
| b) Actions in the second fiscal quarter: | | | 2ndqtr ∗ Event ∗ NA | |
| • Disclose more bad news in the second fiscal quarter | H3a | T10 | + | Price (short-term) |
| • Report lower accounting earnings in the second fiscal quarter | H3b | T10 | − | Price (short-term) |
| • Engage in more insider selling in the second fiscal quarter | | T11 | | |

[a]Some of the actions, such as dividend payments and share repurchases, can affect stock returns due to signaling effects. However, given the current context, the predictions on any potential signaling effects are unclear.

indicating its status as a small business issuer; $NA_t$ equals zero if the firm reports its filing status as "accelerated." We also collect firms' public float information from the same 10-K or 10-KSB reports. The vast majority of firms disclose their public float measured on the last business day of the second fiscal quarter, which is the public float used to determine the firm's filing status for that fiscal year.

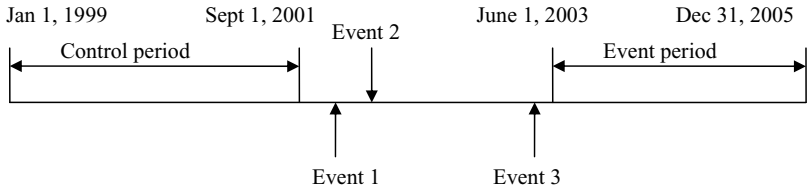


FIG. 1.—Timeline of event period and control period. Event 1: July 30, 2002, the Sarbanes-Oxley Act was signed into law. Event 2: September 5, 2002, the SEC adopted final rules on the acceleration of 10-K and 10-Q filing deadlines. Event 3: May 27, 2003, the SEC adopted rules delaying implementation of Section 404 of SOX.

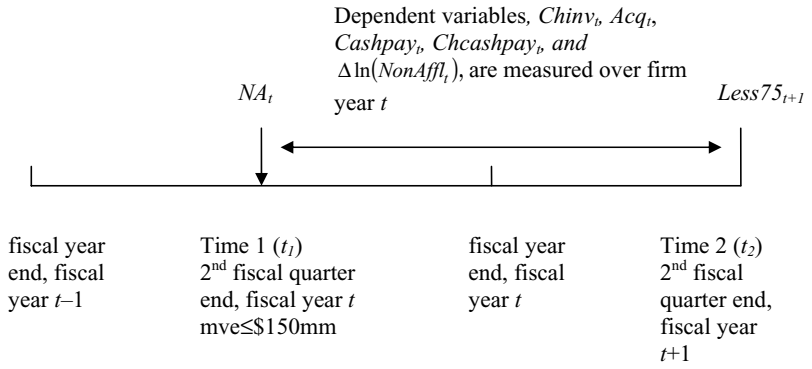


FIG. 2.—Definition of a firm-year based on two consecutive second fiscal quarter-ends. $NA_t = 1$ if firm's status is nonaccelerated, and zero otherwise. $Less75_{t+1} = 1$ if firm's public float is <$75 million, and zero otherwise.

During the control period, the concepts of accelerated and nonaccelerated filers have not yet been introduced. We collect public float information from firms' 10-K or 10-KSB filings during this period and assign pseudoidentifiers to firms as either accelerated filers or nonaccelerated filers according to the later SEC definitions. Specifically, $NA_t$ equals one if a firm's public float is below $75 million and it is below $75 million in all prior years since 1998 (this is to mimic the path dependence in the later SEC ruling), or if the firm files a 10-KSB. $NA_t$ equals zero if the firm's public float is greater than or equal to $75 million in the current year or in any of the previous years since 1998.[12]

[12] During the control period, the vast majority of our sample firms disclose public float measured a few days prior to its 10-K filing date. For example, for a December 31 year-end firm, a public float disclosed in the fiscal year 1999 10-K filing is usually measured around the end of the first quarter in the next fiscal year. Since we are interested in the public float at the end of the second fiscal quarter, in this particular example we use the public float measured around the end of the first fiscal quarter of 2000 to proxy for the firm's public float at the end of the second fiscal quarter of 2000. This imprecise match in timing may introduce noise/bias into our analyses.

Our main data source is Compustat. Data on stock returns and dividend announcement dates are from the Center for Research in Security Prices (CRSP). Information on acquisitions and share repurchases is from Securities Data Company (SDC) and insider trading information is obtained from Thomson Financial Insider Filing Data. News disclosures are hand-collected from the Factiva database. As reported in table 3 panel A, we exclude foreign firms, financial institutions, and firms in regulated industries, as well as firms with market value of common equity above $150 million at the end of the second fiscal quarter in year $t$ (time 1 in fig. 2). For partial year observations (firm-years ending outside the two time period windows), we require a minimum of three months of data within the window for inclusion in our sample. Finally, we remove any firm-year observation for which we cannot ascertain from the Electronic Data-Gathering, Analysis, and Retrieval (EDGAR) database its filing status or obtain its public float information as of the second fiscal quarter-end of fiscal year $t$ (time 1 in fig. 2), as well as firms that are delisted before time 2 in figure 2. These data requirements lead to a base sample of 6,946 firm-year observations with 4,282 firm-years (2,547 firms) in the control period and 2,664 firm-years (1,291 firms) in the event period. The market downturn between our two time periods and firms exiting the public capital markets post-SOX (Engel, Hayes, and Wang [2007], Leuz, Triantis, and Wang [2008]) likely explains the reduction in observations from the control to the event periods. Some subsequent tests impose additional data requirements as detailed in table 3 panel B. Finally, nonaccelerated filers account for slightly over 70% of the total firm-year observations in both the event and control periods, suggesting that our procedure to assign pseudo-identifiers to firms in the control period reasonably approximates the later SEC definitions of accelerated and nonaccelerated filers.

Table 4 reports summary statistics for accelerated filers and nonaccelerated filers in the event period (panel A) and control period (panel B). Detailed variable definitions are provided in appendix A. Nonaccelerated filers with a median public float of $24.8 million and median sales of $40.5 million in the event period ($15.4 million in public float and $34.0 million in sales in the control period) are smaller than accelerated filers, which have a median public float of $90.9 million and median sales of $79.5 million in the event period ($80.4 million in public float and $115.5 million in sales in the control period).[13] Table 4 panel C presents the differences in the variables between nonaccelerated filers and accelerated filers in the event and control periods. The last columns in panel C reflect the differences in the differences between the two time periods. $Less75_{t+1}$ is an indicator that equals

[13] Nonaccelerated filers have a median market value of equity (untabulated) of $38 million in the event and $24 million in the control periods, respectively. As expected, market values of equity are larger than the median public floats ($25 million and $15 million). The correlation between market value and public float for our sample firms is 0.78. We note that our nonaccelerated filers are larger than firms going dark, which have a median market value of roughly $4 million as reported in Leuz, Triantis, and Wang [2008].

**TABLE 3**
*Sample Selection*

**Panel A: Base sample**

| | Observations Dropped | No. Firm-Year Observations | No. Firms |
|---|---|---|---|
| Compustat firms with fiscal year-end data 1999 to 2005 | | 50,981 | |
| Less: foreign firms | 8,543 | 42,438 | |
| Less: financial institutions and regulated industries | 13,771 | 28,667 | |
| Less: observations with less than three months in the control or the event period | 9,376 | 19,291 | |
| Less: firms with market value of equity at second fiscal quarter-end higher than 150 million | 10,581 | 8,710 | |
| Less: firms without previous financials to calculate $ROA_{t-1}$, $MB_{t-1}$, $Sales_{t-1}$, $FCF_{t-1}$, $Leverage_{t-1}$ | 567 | 8,143 | |
| Less: firms with missing public float as of the second fiscal quarter-end of fiscal year $t$ or missing information on filing status from 10-K | 938 | 7,205 | |
| Less: firms delisted by the end of firm-year $t$ | 259 | 6,946 | |
| The base sample with firm-year observations | | 6,946 | |
| Event period | | 2,664 | 1,291 |
| Nonaccelerated filers ($NA_t = 1$) | | (1,913) | (806) |
| Accelerated filers ($NA_t = 0$) | | (751) | (485) |
| Control period | | 4,282 | 2,547 |
| Nonaccelerated filers ($NA_t = 1$) | | (3,035) | (1,706) |
| Accelerated filers ($NA_t = 0$) | | (1,247) | (841) |

| | Total |
|---|---|
| The base sample with firm-year observations | 6,946 |
| The base sample with firm-quarter observations | 23,504 |

**Panel B: Sample selection for each test**

| | # observations |
|---|---|
| Likelihood of staying small (section 5) | |
| The base sample firm-year observations | 6,946 |
| Less: missing one year out public float or missing Fama–French industry classifications | 632 |
| Resulting firm-year observations | 6,314 |
| Investment, acquisition, and cash payout (sections 6.1 to 6.3) | |
| The base sample firm-year observations | 6,946 |
| Change in nonaffiliated shares (section 6.7) | |
| The base sample firm-year observations | 6,946 |
| Less: missing lagged changes in shares | 1,890 |
| Resulting firm-year observations | 4,056 |
| News disclosures (section 6.4) | |
| Randomly selected firm-quarter observations | 200 |
| Less: missing public float data | 25 |
| Resulting firm-quarter observations | 175 |
| Quarterly earnings (section 6.5) | |
| The base sample firm-quarter observations | 23,504 |
| Less: missing unexpected quarterly earnings | 325 |
| Resulting firm-quarter observations | 23,179 |
| Insider trading (section 6.6) | |
| The base sample firm-quarter observations | 23,504 |
| Less: missing lags of the following quarterly variables: ROE, buy-and-hold return | 230 |
| Resulting firm-quarter observations | 23,274 |

**TABLE 4**

*Summary Statistics*

**Panel A: Firm-year observations in the event period (June 1, 2003 to December 31, 2005)**

The raw values of control variables are presented in the summary statistics and the correlation matrix. Variable definitions are in appendix A.

| Nonaccelerated Filers | | | | | Accelerated Filers | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Variable | *N* | Mean | Median | Std. Dev. | Variable | *N* | Mean | Median | Std. Dev. |
| $Pf_t$ | 1,913 | 29.154* | 24.808* | 19.882 | $Pf_t$ | 751 | 90.937 | 90.925 | 27.312 |
| $NALrg_t$ | 1,913 | 0.215* | 0.000* | 0.411 | $NALrg_t$ | 751 | 0.000 | 0.000 | 0.000 |
| $Less75_{t+1}$ | 1,585 | 0.847* | 1.000* | 0.360 | $Less75_{t+1}$ | 644 | 0.262 | 0.000 | 0.440 |
| $Chinv_t$ | 1,913 | 0.003 | 0.002 | 0.092 | $Chinv_t$ | 751 | 0.006 | 0.002 | 0.099 |
| $Acq_t$ | 1,913 | 0.086* | 0.000* | 0.281 | $Acq_t$ | 751 | 0.121 | 0.000 | 0.327 |
| $Cashpay_t$ | 1,913 | 0.109 | 0.000 | 0.311 | $Cashpay_t$ | 751 | 0.111 | 0.000 | 0.314 |
| $Chcashpay_t$ | 1,913 | 0.088 | 0.000 | 0.283 | $Chcashpay_t$ | 751 | 0.096 | 0.000 | 0.295 |
| $\Delta\ln\ (NonAffl_t)$ | 990 | 0.104 | 0.033 | 0.250 | $\Delta\ln(NonAffl_t)$ | 341 | 0.091 | 0.036 | 0.228 |
| $ROA_{t-1}$ | 1,913 | −0.045 | 0.057 | 0.385 | $ROA_{t-1}$ | 751 | −0.050 | 0.056 | 0.302 |
| $MB_{t-1}$ | 1,913 | 2.511* | 1.424* | 22.860 | $MB_{t-1}$ | 751 | 3.056 | 1.648 | 7.133 |
| $Sales_{t-1}$ | 1,913 | 101.119* | 40.520* | 263.479 | $Sales_{t-1}$ | 751 | 193.367 | 79.506 | 310.888 |
| $FCFs_{t-1}$ | 1,913 | 0.006* | −0.055* | 0.318 | $FCFs_{t-1}$ | 751 | 0.123 | 0.023 | 0.340 |
| $Leverage_{t-1}$ | 1,913 | 0.116* | 0.016* | 0.211 | $Leverage_{t-1}$ | 751 | 0.102 | 0.004 | 0.191 |
| $Older_{t-1}$ | 1,913 | 0.647* | 1.000 | 0.478 | $Older_{t-1}$ | 751 | 0.583 | 1.000 | 0.493 |
| $Stdret_{t-1}$ | 1,913 | 0.188* | 0.157* | 0.134 | $Stdret_{t-1}$ | 751 | 0.171 | 0.150 | 0.094 |

*(Continued)*

**TABLE 4**—*Continued*

**Panel B: Firm-year observations in the control period (January 1, 1999 to September 1, 2001)**

Variable definitions are in appendix A.

| Nonaccelerated Filers | | | | | Accelerated Filers | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Variable | *N* | Mean | Median | Std. Dev. | Variable | *N* | Mean | Median | Std. Dev. |
| $Pf_t$ | 3,035 | 21.562* | 15.364* | 19.709 | $Pf_t$ | 1,247 | 87.769 | 80.415 | 49.684 |
| $NALrg_t$ | 3,035 | 0.123* | 0.000* | 0.328 | $NALrg_t$ | 1,247 | 0.000 | 0.000 | 0.000 |
| $Less75_{t+1}$ | 2,912 | 0.912* | 1.000* | 0.284 | $Less75_{t+1}$ | 1,206 | 0.596 | 1.000 | 0.491 |
| $Chinv_t$ | 3,035 | −0.002* | −0.001* | 0.112 | $Chinv_t$ | 1,247 | −0.010 | −0.004 | 0.103 |
| $Acq_t$ | 3,035 | 0.097 | 0.000 | 0.295 | $Acq_t$ | 1,247 | 0.104 | 0.000 | 0.306 |
| $Cashpay_t$ | 3,035 | 0.071* | 0.000* | 0.256 | $Cashpay_t$ | 1,247 | 0.143 | 0.000 | 0.350 |
| $Chcashpay_t$ | 3,035 | 0.041* | 0.000* | 0.199 | $Chcashpay_t$ | 1,247 | 0.075 | 0.000 | 0.264 |
| $\Delta\ln(NonAffl_t)$ | 1,974 | 0.058* | 0.010* | 0.264 | $\Delta\ln(NonAffl_t)$ | 751 | 0.030 | 0.010 | 0.206 |
| $ROA_{t-1}$ | 3,035 | −0.018* | 0.074* | 0.334 | $ROA_{t-1}$ | 1,247 | −0.004 | 0.089 | 0.298 |
| $MB_{t-1}$ | 3,035 | 2.675* | 1.308* | 19.062 | $MB_{t-1}$ | 1,247 | 2.491 | 1.540 | 13.075 |
| $Sales_{t-1}$ | 3,035 | 76.787* | 34.010* | 148.386 | $Sales_{t-1}$ | 1,247 | 249.495 | 115.541 | 435.405 |
| $FCFs_{t-1}$ | 3,035 | −0.025* | −0.085* | 0.271 | $FCFs_{t-1}$ | 1,247 | 0.020 | −0.064 | 0.292 |
| $Leverage_{t-1}$ | 3,035 | 0.141* | 0.057* | 0.189 | $Leverage_{t-1}$ | 1,247 | 0.170 | 0.074 | 0.221 |
| $Older_{t-1}$ | 3,035 | 0.448 | 0.000 | 0.497 | $Older_{t-1}$ | 1,247 | 0.427 | 0.000 | 0.495 |
| $Stdret_{t-1}$ | 3,035 | 0.237* | 0.193 | 0.185 | $Stdret_{t-1}$ | 1,247 | 0.221 | 0.189 | 0.142 |

*(Continued)*

**TABLE 4**—*Continued*

**Panel C. Mean differences between comparison groups**

Variable definitions are in appendix A.

| Event Period, Nonaccelerated − Accelerated | | | | Control Period, Nonaccelerated − Accelerated | | | | Difference in Differences | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | Mean | Std. Err. | $p > \|t\|$ | Variable | Mean | Std. Err. | $p > \|t\|$ | Variable | Mean | Std. Err. | $p > \|t\|$ |
| $Pf_t$ | −61.782 | 1.220 | <0.0001 | $Pf_t$ | −66.207 | 0.953 | <0.0001 | $Pf_t$ | 4.424 | 1.548 | 0.004 |
| $NALrg_t$ | 0.215 | 0.013 | <0.0001 | $NALrg_t$ | 0.123 | 0.010 | <0.0001 | $NALrg_t$ | 0.093 | 0.017 | <0.0001 |
| $Less75_{t+1}$ | 0.584 | 0.017 | <0.0001 | $Less75_{t+1}$ | 0.316 | 0.013 | <0.0001 | $Less75_{t+1}$ | 0.269 | 0.021 | <0.0001 |
| $Chinv_t$ | −0.003 | 0.004 | 0.559 | $Chinv_t$ | 0.008 | 0.004 | 0.026 | $Chinv_t$ | −0.010 | 0.006 | 0.067 |
| $Acq_t$ | −0.035 | 0.013 | 0.006 | $Acq_t$ | −0.008 | 0.010 | 0.440 | $Acq_t$ | −0.027 | 0.016 | 0.094 |
| $Cashpay_t$ | −0.002 | 0.013 | 0.889 | $Cashpay_t$ | −0.072 | 0.010 | <0.0001 | $Cashpay_t$ | 0.070 | 0.016 | <0.0001 |
| $Chcashpay_t$ | −0.008 | 0.011 | 0.450 | $Chcashpay_t$ | −0.034 | 0.008 | <0.0001 | $Chcashpay_t$ | 0.026 | 0.014 | 0.053 |
| $\Delta\ln(NonAffl_t)$ | 0.013 | 0.016 | 0.404 | $\Delta\ln(NonAffl_t)$ | 0.029 | 0.011 | 0.007 | $\Delta\ln(NonAffl_t)$ | −0.016 | 0.019 | 0.409 |
| $ROA_{t-1}$ | 0.006 | 0.015 | 0.700 | $ROA_{t-1}$ | −0.013 | 0.011 | 0.242 | $ROA_{t-1}$ | 0.019 | 0.019 | 0.306 |
| $MB_{t-1}$ | −0.545 | 0.793 | 0.492 | $MB_{t-1}$ | 0.185 | 0.619 | 0.765 | $MB_{t-1}$ | −0.730 | 1.006 | 0.468 |
| $Sales_{t-1}$ | −92.247 | 11.651 | <0.0001 | $Sales_{t-1}$ | −172.708 | 9.101 | <0.0001 | $Sales_{t-1}$ | 80.460 | 14.785 | <0.0001 |
| $FCFs_{t-1}$ | −0.117 | 0.013 | <0.0001 | $FCFs_{t-1}$ | −0.045 | 0.010 | <0.0001 | $FCFs_{t-1}$ | −0.072 | 0.016 | <0.0001 |
| $Leverage_{t-1}$ | 0.014 | 0.009 | 0.113 | $Leverage_{t-1}$ | −0.029 | 0.007 | <0.0001 | $Leverage_{t-1}$ | 0.043 | 0.011 | 0.000 |
| $Older_{t-1}$ | 0.063 | 0.021 | 0.003 | $Older_{t-1}$ | 0.021 | 0.017 | 0.201 | $Older_{t-1}$ | 0.042 | 0.027 | 0.116 |
| $Stdret_{t-1}$ | 0.017 | 0.007 | 0.012 | $Stdret_{t-1}$ | 0.016 | 0.005 | 0.003 | $Stdret_{t-1}$ | 0.001 | 0.009 | 0.896 |

*indicates significant differences in means and medians between accelerated firms and nonaccelerated firms with a $p$-value less than 10%. Mean comparisons are based on the $t$-test, while median comparisons are based on the Wilcoxon ranked sum test.

one if the one-year-ahead public float at time 2 (in fig. 2) is less than $75 million, and zero otherwise. The difference in the differences on $Less75_{t+1}$ is significantly positive, consistent with nonaccelerated filers being more likely to stay below the $75 million threshold in the event period, offering support for H1. The differences are negative and significant for $Chinv_t$ and $Acq_t$, suggesting that, relative to the control firms, nonaccelerated filers have smaller changes in investments and lower frequencies of acquisitions in the event period, supporting H2a. The differences in differences on $Cashpay_t$ and $Chcashpay_t$ are positive and significant, indicating more cash payouts by nonaccelerated filers in the event period than control firms, supporting H2b. Table 5 presents the correlation matrix for our main test variables.

## 5. *Nonaccelerated Filers' Propensity to Stay Small*

If a nonaccelerated filer's ultimate goal is to retain its nonaccelerated filing status, the most direct measure of the outcome is its future public float. To test H1 (nonaccelerated filers are more likely to remain below the $75 million threshold than control firms) we estimate the following logistic regression (firm subscripts are omitted in this and all subsequent regression models):

$$prob(Less75_{t+1} = 1) = Logit\Big(\beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \sum_j \beta_j Controls\Big) \quad (1)$$

The dependent variable, $Less75_{t+1}$, is defined in the previous section. Our independent variables include an indicator variable for nonaccelerated filers measured at time 1, $NA_t$. Reflecting our difference-in-differences test design, we also include the indicator variable $Event_t$, which takes the value of one if year $t$ is post-SOX (June 1, 2003 to December 31, 2005) and zero if year $t$ is pre-SOX (January 1, 1999 to September 1, 2001). The coefficient on $NA_t(\beta_1)$ captures the difference in the likelihood of staying small between nonaccelerated filers and accelerated filers during the control period. The sum of the coefficients on $NA_t$ and $Event_t NA_t(\beta_1 + \beta_3)$ measures the difference in the likelihood of staying small between nonaccelerated filers and accelerated filers during the event period. Therefore, the $\beta_3$ coefficient on the interactive term $Event_t NA_t$ captures the difference in the differences between the two time periods. We expect that post-SOX nonaccelerated filers are more likely to stay below $75 million than control firms and as a result predict a *positive* sign on $Event_t NA_t$.[14]

[14] Even though H4 posits that larger nonaccelerated filers are more likely to *undertake actions* to stay small than smaller nonaccelerated filers, given their larger public float large nonaccelerated filers' likelihood of staying below the threshold may not differ from those of smaller nonaccelerated filers. Accordingly, model (1) does not investigate the differences between large and small nonaccelerated filers.

**TABLE 5**

*Correlation Matrix for Firm-Year Observations*

| Variable | $Pf_t$ | $NA_t$ | $NAlrg_t$ | $Less75_{t+1}$ | $Chinv_t$ | $Acq_t$ | $Cashpay_t$ | $Chcashpay_t$ | $\Delta\ln(NonAffl_t)$ | $ROA_{t-1}$ | $MB_{t-1}$ | $Sales_{t-1}$ | $FCFs_{t-1}$ | $Leverage_{t-1}$ | $Older_{t-1}$ | $Stdret_{t-1}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $Pf_t$ | | **−0.68** | **0.28** | **−0.52** | **0.07** | **0.08** | **0.11** | **0.09** | **0.03** | **0.02** | **0.28** | **0.27** | **0.16** | **−0.06** | −0.02 | **−0.05** |
| $NA_t$ | **−0.72** | | **0.22** | **0.45** | **0.02** | **−0.03** | **−0.07** | **−0.04** | 0.02 | **−0.02** | **−0.09** | **−0.28** | **−0.09** | **−0.02** | **0.03** | **0.03** |
| $NAlrg_t$ | **0.15** | **0.22** | | **−0.09** | **0.07** | **0.05** | **0.03** | **0.04** | **0.05** | −0.01 | **0.13** | −0.01 | **0.06** | **−0.05** | −0.01 | 0.01 |
| $Less75_{t+1}$ | **−0.50** | **0.45** | **−0.09** | | **−0.05** | **−0.09** | **−0.05** | **−0.06** | **−0.22** | **0.02** | **−0.10** | **−0.12** | **−0.12** | **0.04** | 0.01 | 0.00 |
| $Chinv_t$ | **0.06** | 0.02 | **0.05** | **−0.05** | | **0.07** | 0.01 | **0.02** | **0.08** | **0.17** | **0.11** | **−0.04** | **0.05** | **−0.04** | **0.05** | **−0.05** |
| $Acq_t$ | **0.06** | **−0.03** | **0.05** | **−0.09** | **0.06** | | **0.03** | **0.05** | **0.07** | **0.06** | **0.04** | 0.01 | **0.04** | **−0.02** | **−0.05** | 0.00 |
| $Cashpay_t$ | **0.09** | **−0.07** | **0.03** | **−0.05** | 0.01 | **0.03** | | **0.80** | **−0.13** | **0.22** | **−0.09** | **0.20** | **−0.04** | 0.01 | **0.18** | **−0.29** |
| $Chcashpay_t$ | **0.07** | **−0.04** | **0.04** | **−0.06** | 0.01 | **0.05** | **0.80** | | **−0.06** | **0.18** | **−0.05** | **0.14** | **−0.03** | 0.00 | **0.13** | **−0.21** |
| $\Delta\ln(NonAffl_t)$ | **−0.03** | **0.04** | **0.03** | **−0.20** | **0.09** | **0.09** | **−0.11** | **−0.06** | | **−0.20** | **0.17** | **−0.17** | **0.03** | **−0.04** | **−0.10** | **0.22** |
| $ROA_{t-1}$ | 0.00 | **−0.02** | −0.01 | **0.02** | **0.11** | **0.06** | **0.22** | **0.18** | **−0.20** | | **−0.09** | **0.46** | **−0.27** | **0.21** | **0.16** | **−0.36** |
| $MB_{t-1}$ | **0.25** | **−0.09** | **0.13** | **−0.10** | **0.09** | **0.04** | **−0.09** | **−0.05** | **−0.14** | **−0.09** | | **−0.33** | **0.15** | **−0.16** | **−0.08** | **0.15** |
| $Sales_{t-1}$ | **0.22** | **−0.28** | −0.01 | **−0.12** | **−0.04** | **0.01** | **0.20** | **0.14** | **−0.15** | **0.46** | **−0.33** | | **−0.49** | **0.31** | **0.10** | **−0.29** |
| $FCFs_{t-1}$ | **0.14** | **−0.09** | **0.06** | **−0.13** | **0.04** | **0.04** | **−0.04** | **−0.03** | 0.02 | **−0.27** | **0.15** | **−0.49** | | **0.05** | **−0.13** | **0.08** |
| $Leverage_{t-1}$ | **−0.05** | **−0.02** | **−0.05** | **0.04** | **−0.04** | **−0.02** | 0.01 | 0.00 | −0.02 | **0.21** | **−0.16** | **0.31** | **−0.33** | | **0.05** | **−0.09** |
| $Older_{t-1}$ | **−0.02** | **0.03** | −0.01 | 0.01 | **0.04** | **−0.05** | **0.18** | **0.13** | **−0.10** | **0.16** | **−0.08** | **0.10** | **−0.13** | **0.05** | | **−0.26** |
| $Stdret_{t-1}$ | 0.00 | **0.05** | **0.03** | **0.02** | **−0.03** | 0.00 | **−0.19** | **−0.14** | **0.16** | **−0.31** | **0.12** | **−0.25** | **0.05** | **−0.09** | **−0.19** | |

Pearson correlation coefficients appear in the lower diagonal and Spearman rank correlation coefficients appear in the upper diagonal. Bold numbers represent correlations that are significant at the 10% level for two-tailed tests. Variable definitions are in appendix A.

In order to control for the various asset pricing factors, we include as controls returns on the Fama–French three factors ($Mkt\_Rf_t$, $SMB_t$, $HML_t$, Fama and French [1993]), the momentum factor ($MOM_t$), and industry returns ($Indret_t$) during firm-year $t$ (from time 1 to time 2). Furthermore, in order to allow these risk factors to vary cross-sectionally and over time, we multiply each factor return by a firm's beta relative to that factor in each year.[15] We also control for the beginning-of-the-year (time 1) public float. To account for any nonlinear effects of public float, we follow Iliev [2007] and include the squared and cubic terms of public float in the regression.[16]

Table 6 reports the regression results of model (1). The coefficient on the interactive term, $Event_tNA_t$, is positive (0.767) as predicted and significant at less than the 1% level. All three Fama–French factors and the market and industry indexes are negative as expected and statistically significant at the 1% level. Following Norton, Wang, and Ai [2004], who call for caution when interpreting interactive terms in logit models, we calculate the corrected marginal effect on our main interactive test variables in all logit models and report the results in table 7. The corrected marginal effect (table 7) on $Event_tNA_t$ is 8.5%, significant at less than the 1% level. The unconditional probability of staying below \$75 million for our sample firms is 77%. The evidence therefore supports H1 and is consistent with our prediction that post-SOX nonaccelerated filers are more likely to remain small.

## 6. *Actions Undertaken by Nonaccelerated Filers to Stay Small*

H2 and H3 predict various actions undertaken by nonaccelerated filers to stay small. This section presents the related evidence. In particular, we analyze nonaccelerated filers' decisions regarding their net investments (section 6.1), dividend payments and share repurchases (section 6.2), and nonaffiliated shares (section 6.3). We also investigate their news disclosures (section 6.4), reported earnings (section 6.5), and insider trading (section 6.6) in the second fiscal quarter relative to control firms. Finally, in section 6.7, we take a portfolio approach and investigate the number of actions taken by a firm and the possible tradeoffs among the actions.

In order to isolate the effect of SOX and remove the potential impact from other factors on the dependent variables of firm actions, we model each dependent variable as the residual from a prediction model. For example, we use the change in investment, change in cash payouts, change in nonaffiliated shares, and change in earnings as dependent variables

[15] For example, if the excess market return is 10% for year $t$, for a firm with a market beta of 1.1 in that year, $Mkt\_Rf_t$ is 11%. The beta for firm-year $t$ is the average of the beta estimates for the 12 months during that year. In order to allow the loadings on the five factors to vary across time and across firms, for each firm-month we use the prior 24 and the subsequent 24 monthly returns, while requiring at least 12 nonmissing monthly returns to estimate the factor loadings. Industry effects is measured based on the Fama-French 48 industry classifications. The information on the factor returns is obtained from Kenneth French's website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).

[16] The cubic term is significant only in model (1). We exclude the cubic term from all subsequent regressions. Including this term in all regressions does not affect our inferences.

**TABLE 6**

*Test on the Likelihood of Staying Small*

$$probx(Less75_{t+1} = 1) = Logit\left(\beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \sum_j \beta_j Controls\right) \quad (1)$$

| Dependent Variable | | $\Pr(Less75_{t+1} = 1)$ |
|---|---|---|
| Variable | Predicted Sign | Coeff. (Std. Err.) |
| Intercept | | 5.894*** |
| | | (0.234) |
| $NA_t$ | | −0.114 |
| | | (0.132) |
| $Event_t$ | | −1.258*** |
| | | (0.120) |
| **$Event_t * NA_t$** | + | **0.767*** |
| | | **(0.164)** |
| $Mkt\_Rf_t$ | | −1.393*** |
| | | (0.211) |
| $SMB_t$ | | −2.312*** |
| | | (0.239) |
| $HML_t$ | | −1.239*** |
| | | (0.128) |
| $MOM_t$ | | −1.077*** |
| | | (0.206) |
| $Indret_t$ | | −1.655*** |
| | | (0.084) |
| Include $Pf_t$ (linear, squared, and cubic terms) | | Yes |
| $N$ | | 6,314 |
| Pseudo $R^2$ | | 0.525 |

Results are based on a logit regression. Standard errors are in parentheses. Pseudo $R^2$ (also called max-rescaled $R^2$) is the original $R^2$ value divided by its upper bound, to account for the fact that the upper bound of the generalized $R^2$ is less than 1 because the dependent variable is discrete (binary).

Significance tests for test variables are based on one-tailed tests, and those for other variables are based on two-tailed tests.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The main test variables are bolded. Variable definitions are in appendix A.

assuming that the expected levels of investment, cash payouts, nonaffiliated shares, and earnings are the same as those from the previous period. We use the estimated residual from the insider trading model in Cheng and Lo [2006] as the dependent variable in our insider trading analysis. For the analysis of acquisitions, we use the level, not the change, as the dependent variable because these events are relatively infrequent and include control variables that likely influence firms' acquisition decisions.

### 6.1 NET INVESTMENTS

In this section we test H2a that post-SOX nonaccelerated filers undertake less investment to stay small. We estimate the following ordinary least squares (OLS) regression model:

$$Chinv_t = \beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls \quad (2)$$

**TABLE 7**
*Summary of Marginal Effects in Logit Models*

| Model and Dependent Variable | Unconditional Probability Mean (Std. Dev.) | Independent Variable | Marginal Effect (Std. Err) |
|---|---|---|---|
| Outcome (staying small): model (1) | 0.771 | $Event_t*NA_t$ | 0.085*** |
| $Pr(Less75_{t+1} = 1)$ | (0.421) | | (0.019) |
| Acquisition test: model (2′) | 0.098 | $Event*NA$ | −0.022* |
| $Pr(Acq_t = 1)$ | (0.297) | | (0.017) |
| | | $Event_t*NALrg_t$ | −0.019 |
| | | | (0.023) |
| Cash payout test: model (3) | 0.098 | $Event*NA$ | 0.019** |
| $Pr(Cashpay_t = 1)$ | (0.300) | | (0.012) |
| | | $Event_t*NALrg_t$ | 0.032** |
| | | | (0.018) |
| Cash payout test: model (3′) | 0.066 | $Event*NA$ | 0.012 |
| $Pr(Chcashpay_t = 1)$ | (0.248) | | (0.012) |
| | | $Event_t*NALrg_t$ | 0.037** |
| | | | (0.019) |
| Quarterly earnings test: model (6) | 0.506 | $2ndqtr*Event*NA$ | −0.054* |
| $Pr(Pst\_UE_q = 1)$ | (0.500) | | (0.037) |

The marginal effects and standard errors for interacted variables in the logit models are obtained with the Stata command INTEFF, which uses formulas derived in Norton, Wang, and Ai [2004]. Significance tests are based on one-tailed tests.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The dependent variable $Chinv_t$ measures the change in investment over firm-year $t$ (one-year period between time 1 and time 2 in fig. 2) deflated by lagged total assets. Investment is defined as the sum of annual capital expenditures (excluding acquisition expenses), research and development (R&D), and advertising expense, minus the sale of property, plant, and equipment.

Since firms can also invest through acquisitions, we separately model acquisitions with the following logit model:

$$prob(Acq_t = 1) = Logit(\beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls) \quad (2')$$

The dependent variable $Acq_t$ is one if the firm has any acquisition activity in firm-year $t$, and zero otherwise. The right-hand side variables include $NA_t$, $Event_t$, and their interactive term $Event_t NA_t$. Since H4 predicts that nonaccelerated filers' incentives to undertake actions to stay small are stronger when they are close to the $75 million threshold, we also include an indicator variable for larger nonaccelerated filers, $NALrg_t$, which is one if a firm's public float at time 1 is at least $45 million and zero otherwise.[17] The

[17] In responding to the discussant (Hayes [2009]), we note that an earlier version of the paper uses a continuous measure of a firm's distance from the $75 million threshold (*Dist75*) in the regressions and finds similar results. In addition, to control for the probability of a

coefficient on the interactive term $Event_t NA_t (\beta_4)$ captures the difference in the differences between the small nonaccelerated filers and accelerated filers over the two time periods. Similarly, the $\beta_5$ coefficient on the interactive term $Event_t NALrg_t$ captures the difference in the differences between the *large* and *small* nonaccelerated filers over the two time periods.

Model (2) and model (2′) above and the subsequent models on cash payouts and nonaffiliated shares share a number of control variables. We include lagged information on return on assets (*ROA*), market-to-book ratio (*MB*), *Sales*, free cash flows (*FCF*), *leverage*, an indicator for older firms (*Older*), and stock return standard deviation (*Stdret*) because these characteristics are likely related to investment, payout, financing, and ownership decisions.[18] We also include the linear and squared terms of public float measured at time 1 to control for any nonlinear effects of public float.

H2a predicts that post-SOX nonaccelerated filers have lower rates of investment compared to control firms. Therefore, the coefficient on the interactive term $Event_t NA_t$ is predicted to be negative. H4 further predicts that nonaccelerated filers' incentives to undertake actions in order to stay small are stronger when they are closer to the $75 million threshold. The coefficient on the interactive term $Event_t NALrg_t$ is also predicted to be negative.

The regression results of model (2) on changes in investments are reported in table 8 column (1). The coefficient on $Event_t NA_t$ is insignificant. However, the coefficient on $Event_t NALrg_t$ is negative ($-0.033$) and significant at the 1% level. This suggests that post-SOX larger nonaccelerated filers reduce investment by 3.3% of total assets relative to smaller nonaccelerated filers, who in turn show no significant difference from the accelerated filers (the mean change in investments is $-0.1\%$ of total assets for our sample firms). These results support H4 (post-SOX, the nonaccelerated filers at the greatest risk of crossing the threshold are the most aggressive in reducing their investments to stay small). In an untabulated analysis, we remove $NALrg_t$ and $Event_t NALrg_t$ from the right-hand side of the regression and find a significant negative coefficient on $Event_t NA_t$, suggesting that nonaccelerated filers *as a group* also have lower investments than accelerated filers in the event period, supporting H2a. Regarding the control variables, we find that firms with higher *ROA*, firms with more growth options (*MB*), and those that are older have larger changes in investments. Larger firms

---

nonaccelerated filer crossing the $75 million threshold in the coming year we deflate *Dist75* by the product of a firm's market value and the standard deviation of its stock returns over the prior year. This procedure converts *Dist75* in dollars into the number of standard deviations a particular firm's public float differs from $75 million. Holding constant the distance from $75 million, higher expected return volatility can lead to higher probability of crossing the threshold. Replacing *Dist75* with the deflated measure leads to stronger results in some of our regression analyses, but weaker results in others. We note that our historical measure of stock return volatility is likely a noisy proxy for the expected return volatility.

[18] Our definition of free cash flows follows Blouin, Raedy, and Shackelford [2004]. We use nine years as the cutoff for defining older firms following Grullon and Michaely [2002]. In order to reduce the influence from extreme observations, we include in the regressions decile ranks for ROA, the market-to-book ratio, sales, free cash flows, and leverage.

**TABLE 8**

*Tests on Changes in Investments and Cash Payout*

$$Chinv_t = \beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls \quad (2)$$

$$prob(Acq_t = 1) = Logit\left(\beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls\right) \quad (2')$$

$$prob(Cashpay_t = 1) = Logit\left(\beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls\right) \quad (3)$$

$$prob(Chcashpay_t = 1) = Logit\left(\beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls\right) \quad (3')$$

| Dependent Variable | | $Chinv_t$ (1) | $\Pr(Acq_t = 1)$ (2) | | $\Pr(Cashpay_t = 1)$ (3) | $\Pr(Chcashpay_t = 1)$ (4) |
|---|---|---|---|---|---|---|
| Variable | Predicted Sign | Coeff. (Std. Err.) | Coeff. (Std Err.) | Predicted Sign | Coeff. (Std. Err.) | Coeff. (Std. Err.) |
| Intercept | | −0.055*** | −3.752*** | | −5.900*** | −4.950*** |
| | | (0.009) | (0.322) | | (0.575) | (0.518) |
| $NA_t$ | | 0.026*** | 0.439** | | 0.675** | 0.374 |
| | | (0.005) | (0.192) | | (0.297) | (0.285) |
| $NALrg_t$ | | 0.014** | 0.112 | | −0.564 | −0.351 |
| | | (0.007) | (0.196) | | (0.386) | (0.359) |
| $Event_t$ | | 0.010** | 0.146 | | −0.055 | 0.525** |
| | | (0.005) | (0.152) | | (0.240) | (0.212) |
| **$Event_t * NA_t$** | − | **−0.002** | **−0.256*** | + | **0.425*** | **0.067** |
| | | **(0.006)** | **(0.190)** | | **(0.293)** | **(0.261)** |
| **$Event_t * NALrg_t$** | − | **−0.033***** | **−0.115** | + | **0.731**** | **0.716**** |
| | | **(0.008)** | **(0.241)** | | **(0.430)** | **(0.384)** |
| $ROA_{t-1}$ | | 0.006*** | 0.096*** | | 0.268*** | 0.223*** |
| | | (0.001) | (0.017) | | (0.033) | (0.029) |

*(Continued)*

**TABLE 8**—*Continued*

| Dependent Variable | | $Chinv_t$ | $\Pr(Acq_t = 1)$ | | $\Pr(Cashpay_t = 1)$ | $\Pr(Chcashpay_t = 1)$ |
|---|---|---|---|---|---|---|
| | | (1) | (2) | | (3) | (4) |
| | Predicted | Coeff. | Coeff. | Predicted | Coeff. | Coeff. |
| Variable | Sign | (Std. Err.) | (Std Err.) | Sign | (Std. Err.) | (Std. Err.) |
| $MB_{t-1}$ | | 0.001** | 0.013 | | −0.148*** | −0.132*** |
| | | (0.001) | (0.018) | | (0.032) | (0.029) |
| $Sales_{t-1}$ | | −0.004*** | 0.001 | | 0.039 | 0.052 |
| | | (0.001) | (0.023) | | (0.040) | (0.036) |
| $FCFs_{t-1}$ | | 0.000 | 0.055*** | | 0.060* | 0.004 |
| | | (0.001) | (0.019) | | (0.032) | (0.029) |
| $Leverage_{t-1}$ | | −0.001 | −0.008 | | −0.061** | −0.062*** |
| | | (0.000) | (0.016) | | (0.025) | (0.022) |
| $Older_{t-1}$ | | 0.005* | −0.277*** | | 0.444*** | 0.473*** |
| | | (0.003) | (0.086) | | (0.145) | (0.134) |
| $Stdret_{t-1}$ | | −0.004 | 0.301 | | −3.541*** | −2.665*** |
| | | (0.009) | (0.266) | | (0.881) | (0.778) |
| *lag(dependent variable)* | | −0.108*** | 0.546*** | | 4.576*** | 3.152*** |
| | | (0.012) | (0.121) | | (0.138) | (0.127) |
| *Include* $Pf_t$ *(linear and squared terms)* | | Yes | Yes | | Yes | Yes |
| $N$ | | 6,946 | 6,946 | | 6,946 | 6,946 |
| Adj. $R^2$ (OLS); pseudo $R^2$ (logit) | | 0.050 | 0.040 | | 0.666 | 0.407 |

Results with $Chinv_t$ as the dependent variable are based on an OLS regression. The regressions for column (2) to column (4) are based on binary logit regressions. Standard errors are in parentheses. Pseudo $R^2$ (also called max-rescaled $R^2$) is the original $R^2$ value divided by its upper bound, to account for the fact that the upper bound of the generalized $R^2$ is less than one because the dependent variable is discrete (binary).

Significance tests for test variables are based on one-tailed tests, and those for other variables are based on two-tailed tests.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The main test variables are in bold. The control variables are decile ranks of lagged *ROA, MB, Sales, FCF, Older, Stdret*, and the lagged dependent variables. Variable definitions are in appendix A.

(*Sales*) have smaller changes in investments as a percentage of total assets. The coefficient on lagged change in investment is negative and significant, suggesting a partially mean-reverting process in investment.

The regression results from model (2′) on acquisitions are reported in table 8, column (2). The coefficient on $Event_t NA_t$ is negative (−0.256) and marginally significant at the 10% level, supporting H2a. The coefficient on $Event_t NALrg_t$ is insignificant. The corrected marginal effect on $Event_t NA_t$ (table 7) is −2.2%, marginally significant at the 10% level. This suggests that the probability of acquisitions by the smaller nonaccelerated filers post-SOX is 2.2% lower relative to accelerated filers (the unconditional probability of acquisitions for our sample firms is 9.8%). Taken together, the evidence in the first two columns of table 8 is consistent with our predictions that post-SOX nonaccelerated filers reduce investment relative to accelerated filers in order to remain small.

### 6.2 CASH DIVIDENDS AND SHARE REPURCHASES

We next test H2b that post-SOX nonaccelerated filers pay out more cash to shareholders via regular and special dividends and share repurchases. We estimate the following two logistic models.

$$prob(Cashpay_t = 1) = Logit\Big(\beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls\Big) \quad (3)$$

$$prob(Chcashpay_t = 1) = Logit\Big(\beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls\Big) \quad (3')$$

The dependent variable in model (3), $Cashpay_t$, is one if the firm makes any cash payout (regular or special dividend, or share repurchases) during firm-year $t$ (the one-year period from time 1 to time 2 in fig. 2), and zero otherwise. Model (3′) analyzes the *change* in cash payout to shareholders, where $Chcashpay_t$ is one if the sum of all cash payouts to shareholders in firm year $t$ is larger than in the previous firm-year, and zero otherwise. The independent variables in the two models are the same as those in the investment models.

H2b predicts that post-SOX nonaccelerated filers make more cash payouts relative to control firms. We analyze both the occurrence of cash payouts (model 3) and the frequency of cash payout increases (model 3′) and expect the coefficient on $Event_t NA_t$ to be *positive* in both models. Furthermore, H4 predicts that nonaccelerated filers' incentives to undertake actions in order

to stay small strengthen when they are closer to the $75 million threshold. Thus, we expect *positive* coefficients on $Event_t NALrg_t$.

The results for model (3) on $Cashpay_t$ are reported in column (3) of table 8. Consistent with H2b, the coefficient on $Event_t NA_t$ is positive (0.425) and marginally significant at the 10% level. The coefficient on $Event_t NALrg_t$ is also positive (0.731) and significant at the 5% level, supporting H4. The corrected marginal effect on $Event_t NA_t$ (table 7) is 1.9%, significant at the 5% level. This suggests that the probability of cash payouts by smaller nonaccelerated filers post-SOX is 1.9% higher relative to accelerated filers (the unconditional probability of cash payouts for our sample firms is 9.8%). The corrected marginal effect on $Event_t NALrg_t$ is 3.2% and significant at the 5% level. This indicates that the probability of cash payouts by larger nonaccelerated filers post-SOX is an additional 3.2% higher than that of smaller nonaccelerated filers.

The results in column (4) of table 8 on $Chcashpay_t$ produce overall similar inferences to those from column (3). The coefficient on $Event_t NALrg_t$ is positive (0.716) and significant at the 5% level, supporting H4. The coefficient on $Event_t NA_t$ is insignificant. The corrected marginal effect (table 7) on $Event_t NALrg_t$ suggests that the probability of an increase in cash payouts by larger nonaccelerated filers post-SOX is 3.7% higher relative to smaller nonaccelerated filers (the unconditional probability of an increase in cash payouts for our sample firms is 6.6%).

The results on the control variables in column (3) and column (4) suggest that firms with better accounting performance and more free cash flows and older firms are more likely to make cash payouts to shareholders. On the other hand, more growth opportunities, higher leverage, and more volatile stock returns are associated with a lower likelihood of cash payouts. The significant and positive coefficient on the lagged dependent variables is consistent with the stickiness in dividend payouts (e.g., Lintner [1956]). One factor that likely impacts corporate payout decisions during our event period is the Jobs and Growth Tax Relief Reconciliation Act of 2003, which reduces the maximum statutory personal tax rate on dividends from 38.1% to 15%. Prior studies find that the Act leads to larger corporate payouts since 2003 (e.g., Chetty and Saez [2006], Blouin, Raedy, and Shackelford [2004]). However, the dividend tax cut is unlikely to explain our results because we benchmark nonaccelerated filers in each time period against accelerated filers and there is no ex ante reason to expect that they should react differently to the tax cut.

### 6.3 NONAFFILIATED SHARES

In this section we test H2c that post-SOX nonaccelerated filers decrease the number of nonaffiliated shares. We estimate the following OLS regression model:

$$\Delta \ln(NonAffl_t) = \beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls \quad (4)$$

The dependent variable $\Delta\ln(NonAffl_t)$ is the change in the natural log of the number of nonaffiliated shares over firm-year $t$ (one-year period between time 1 and time 2 in fig. 2). Nonaffiliated shares are measured by dividing the disclosed public float by the firm's closing stock price on the public float measurement date.[19] The independent variables are the same as those in the previous models.

H2c predicts that post-SOX nonaccelerated filers have smaller changes in nonaffiliated shares compared to control firms. Therefore, the coefficient on the interactive term $Event_tNA_t$ in model (4) is predicted to be negative. H4 further predicts that nonaccelerated filers' incentives to undertake actions in order to stay small are stronger when they are closer to the \$75 million threshold. Therefore, the coefficient on the interactive term $Event_tNALrg_t$ is also predicted to be negative.

Table 9 reports the regression results of model (4). The coefficient on $Event_tNA_t$ is negative but insignificant, while the coefficient on $Event_tNALrg_t$ is negative (−0.043) and significant at the 5% level. This suggests that post-SOX large nonaccelerated filers have a smaller change in their number of nonaffiliated shares by about 4% relative to small nonaccelerated filers, supporting H4 that nonaccelerated firms closer to the size threshold are more aggressive at taking actions to stay small.[20] Regarding the control variables, we find that firms with higher growth, higher leverage, and more volatile returns have larger changes in the number of nonaffiliated shares. Profitability, firm size (measured by sales), free cash flows, and firm age are negatively associated with changes in nonaffiliated shares. The coefficient on lagged changes in nonaffiliated shares is negative and significant, suggesting a partially mean-reverting process.

### 6.4 NEWS DISCLOSURES

In section 6.1 to section 6.3, we document that post-SOX nonaccelerated filers' change their investment and payout decisions and nonaffiliated shares in order to stay small. In addition to the actions documented in the previous sections, which likely permanently reduce firm public float, a nonaccelerated filer can also engage in activities that exert temporary downward pressure on its share price before the filing status testing date at the

[19] Stock prices are adjusted for stock splits. We exclude 18 firm-year observations with multiple classes of common shares from this analysis due to complications caused by different prices for different classes of shares.

[20] Large nonaccelerated filers can reduce the number of nonaffiliated shares through various actions, such as share repurchases. Such events are rare in our sample (occurring in 42 of the 6,946 firm-years); however, this can be due in part to SDC's incomplete coverage of these transactions (Pontiff and Woodgate [2008]). In untabulated results, we find that post-SOX large nonaccelerated filers reduce their total shares outstanding relative to small nonaccelerated filers. The reduction in nonaffiliated shares can also come from increases in affiliated shares. Again, in untabulated results, we find that the change in nonaffiliated shares and the change in affiliated shares are negatively correlated in our sample (Pearson correlation of −0.19), and such negative correlations are especially strong for nonaccelerated filers in the event period.

**TABLE 9**

*Tests on Nonaffiliated Shares*

$$\Delta \ln(NonAffl_t) = \beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls \quad (4)$$

| Dependent Variable | | $\Delta \ln(NonAffl_t)$ (1) |
|---|---|---|
| Variable | Predicted Sign | Coeff. (Std. Err.) |
| Intercept | | 0.079*** |
| | | (0.028) |
| $NA_t$ | | −0.002 |
| | | (0.016) |
| $Event_t$ | | 0.081*** |
| | | (0.016) |
| $NAlrg_t$ | | 0.031 |
| | | (0.021) |
| **$Event_t * NA_t$** | − | **−0.003** |
| | | **(0.019)** |
| **$Event_t * NALrg_t$** | − | **−0.043**** |
| | | **(0.026)** |
| $ROA_{t-1}$ | | −0.012*** |
| | | (0.002) |
| $MB_{t-1}$ | | 0.011*** |
| | | (0.002) |
| $Sales_{t-1}$ | | −0.006*** |
| | | (0.002) |
| $FCFs_{t-1}$ | | −0.005*** |
| | | (0.002) |
| $Leverage_{t-1}$ | | 0.005*** |
| | | (0.001) |
| $Older_{t-1}$ | | −0.045*** |
| | | (0.008) |
| $Stdret_{t-1}$ | | 0.188*** |
| | | (0.029) |
| *lag(dependent variable)* | | −0.060*** |
| | | (0.015) |
| Include $Pf_t$ (linear and squared terms) | | Yes |
| $N$ | | 4,056 |
| Adj. $R^2$ | | 0.090 |

Results are based on an OLS regression. Standard errors are in parentheses. Significance tests for test variables are based on one-tailed tests, and those for other variables are based on two-tailed tests.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The main test variables are bolded. Variable definitions are in appendix A.

end of the second fiscal quarter. H3a predicts more bad news disclosures during the second fiscal quarter as a vehicle to temporarily depress the stock price. We collect company press releases from the Factiva database. In order to keep the data collection process manageable, we focus on the second and third fiscal quarters and on firms with market values in the range of $30 million to $120 million to limit the sample to those firms for which the $75 million threshold is most relevant. We select 50 firm-quarter observations under these restrictions in each of the four groups: nonaccelerated

filers in the event and control periods and accelerated filers in the event and control periods. This results in 200 firm-quarter observations.[21] For each firm-quarter, we then download all company press releases from Factiva and classify them as good news, bad news, or neutral news, based on the headline. (The news classification scheme is described in appendix B.) We calculate the proportion of bad news relative to the sum of good and bad news for each quarter ($Badnews_q$) and estimate the following regression model:

$$\begin{aligned} Badnews_q = {} & \beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q \\ & + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t \\ & + \sum_j \beta_j Controls \end{aligned} \tag{5}$$

Similar to earlier regression models, we also include the linear and squared terms of public float measured at time 1 in figure 2 as control variables. Twenty-five of the 200 observations are lost due to missing public float information, resulting in 175 observations used in the regression. Since H3a predicts that post-SOX nonaccelerated filers make *more* bad news disclosures in the second fiscal quarter, we focus on $2ndqtr_q Event_t NA_t$. The coefficient on this variable is predicted to be *positive*. The regression results are presented in column (1) of table 10. We find that $2ndqtr_q Event_t NA_t$ has a positive coefficient (0.289) and is significant at the 5% level. This is the only statistically significant coefficient in the model (except the intercept) and is consistent with H3a. Post-SOX nonaccelerated filers make 28.9% more bad news disclosures in the second fiscal quarter relative to control firms (the mean percentage of bad news disclosures for our sample firms is 22.2%). In untabulated regressions of news disclosures and accounting earnings and insider trading (in the next two sections), we also include in the regression models $NALrg_t$, $Event_t NALrg_t$, and $2ndqtr_q Event_t NALrg_t$. The coefficient on $2ndqtr_q Event_t NALrg_t$ is insignificant in these regressions and the inclusion/exclusion of the $NALrg_t$-related terms does not affect our inferences on the other variables. For brevity, these variables are excluded from the regressions reported in table 10 and table 11.

### 6.5 REPORTED ACCOUNTING EARNINGS

H3b predicts that nonaccelerated filers exert downward pressure on their share prices post-SOX by reporting lower earnings in the second fiscal

[21] We randomly select 25 firm-years from the accelerated filers in the event period and keep the second and third fiscal quarters for each firm-year. For each of these 50 firm-quarters, we then select a matching fiscal quarter observation with the closest market value of equity for each of the following three subsamples: accelerated filers in the control period, nonaccelerated filers in the event period, and nonaccelerated filers in the control period. In response to the discussant's comment (Hayes [2009]), we verify that most of the 200 firm-quarter observations (65%) are pairs of second fiscal quarter and third fiscal quarter observations from the same firm-year.

**TABLE 10**

*Tests on News Disclosure and Reported Accounting Earnings*

$$Badnews_q = \beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t \quad (5)$$

$$prob(Pst\_UE_q = 1) = Logit(\beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t) \quad (6)$$

| Dependent Variable | | $Badnews_q$ (1) | | $\Pr(Pst\_UE_q = 1)$ (2) |
|---|---|---|---|---|
| Variable | Predicted Sign | Coeff. (Std. Err.) | Predicted Sign | Coeff. (Std. Err.) |
| Intercept | | 0.167* | | 0.033 |
| | | (0.097) | | (0.057) |
| $NA_t$ | | 0.014 | | −0.070 |
| | | (0.069) | | (0.052) |
| $Event_t$ | | −0.076 | | 0.215*** |
| | | (0.062) | | (0.058) |
| $Event_t * NA_t$ | | −0.047 | | 0.096 |
| | | (0.084) | | (0.068) |
| $2ndqtr_q$ | | 0.049 | | 0.044 |
| | | (0.077) | | (0.074) |
| $2ndqtr_q * NA_t$ | | −0.066 | | −0.065 |
| | | (0.097) | | (0.088) |
| $2ndqtr_q * Event_t$ | | 0.027 | | 0.263** |
| | | (0.095) | | (0.129) |
| **$2ndqtr_q * Event_t * NA_t$** | + | **0.289**** | − | **−0.226*** |
| | | **(0.127)** | | **(0.152)** |
| Include $Pf_t$ (linear and squared terms) | | Yes | | Yes |
| $N$ | | 175 | | 23,179 |
| Adj. $R^2$ (OLS); pseudo $R^2$ (logit) | | 0.112 | | 0.008 |

Results for column (1) are based on an OLS regression and column (2) uses a logit regression. Standard errors are in parentheses. Significance tests for test variables are based on one-tailed tests, and those for other variables are based on two-tailed tests.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The main test variables are bolded. Variable definitions are in appendix A.

quarter before the filing status testing date. The following regression tests this prediction:

$$prob\left(Pst\_UE_q = 1\right) = Logit(\beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t + \sum_j \beta_j Controls) \quad (6)$$

The dependent variable in model (6), *Pst_UEq*, is one for positive unexpected earnings in quarter $q$ (*UEq*), defined as the quarter $q$ earnings-per-share (*EPS*) minus the *EPS* from the same quarter last year, and zero otherwise. The independent variables are the same as those in the previous section's news disclosure model. We again focus on the variable $2ndqtr_q Event_t NA_t$. The coefficient on this variable is predicted to be *negative*.

**TABLE 11**
*Tests on Insider Trading*

**Panel A: Tests on insider trading**

$$Netpercent\_r_q = \beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t \quad (7)$$

$$Buypercent\_r_q = \beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t \quad (7')$$

$$Sellpercent\_r_q = \beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t + \beta_7 2ndqtr_q Event_t NA_t \quad (7'')$$

| Dependent Variable | | *Netpercent_r*$_q$ (1) | *Buypercent_r*$_q$ (2) | | *Sellpercent_r*$_q$ (3) |
|---|---|---|---|---|---|
| Variable | Predicted Sign | Coeff. (Std. Err.) | Coeff. (Std. Err.) | Predicted Sign | Coeff. (Std. Err.) |
| Intercept | | 0.038** | 0.016 | | −0.022** |
| | | (0.017) | (0.012) | | (0.010) |
| $NA_t$ | | −0.050*** | −0.030*** | | 0.019** |
| | | (0.016) | (0.011) | | (0.009) |
| $Event_t$ | | −0.052*** | −0.015 | | 0.036*** |
| | | (0.018) | (0.012) | | (0.010) |
| $Event_t$*$NA_t$ | | 0.009 | 0.004 | | −0.005 |
| | | (0.021) | (0.014) | | (0.012) |
| $2ndqtr_q$ | | 0.009 | 0.010 | | 0.001 |
| | | (0.022) | (0.015) | | (0.013) |
| $2ndqtr_q$*$NA_t$ | | 0.047* | 0.035* | | −0.013 |
| | | (0.027) | (0.018) | | (0.015) |
| $2ndqtr_a$*$Event_t$ | | 0.123*** | 0.066** | | −0.057*** |
| | | (0.039) | (0.027) | | (0.022) |
| **$2ndqtr_q$*$Event_t$*$NA_t$** | − | **−0.105**** | **−0.054*** | + | **0.051**** |
| | | **(0.046)** | **(0.032)** | | **(0.026)** |
| Include $Pf_t$ (linear and squared terms) | | Yes | Yes | | Yes |
| $N$ | | 23,274 | 23,274 | | 23,274 |
| Adj. $R^2$ | | 0.004 | 0.003 | | 0.003 |

*(Continued)*

Table 10 column (2) provides the estimation results. The interactive term $2ndqtr_q Event_t NA_t$ has a negative coefficient (−0.226) and is marginally significant at the 10% level. The corrected marginal effect on $2ndqtr_q Event_t NA_t$ (table 7) suggests that the probability of an earnings increase by nonaccelerated filers post-SOX is 5.4% lower relative to control firms (the unconditional probability of an earnings increase for our sample firms is 50.6%). The results therefore support H3b.[22]

[22] The second fiscal quarter earnings announcement likely occurs during the next fiscal quarter and after the filing status testing date. However, researchers have long documented that price leads earnings (Beaver, Lambert, and Morse [1980], Kothari and Sloan [1992]),

**TABLE 11**—*Continued*

**Panel B: Prediction model for insider trading**

$$Netpercent_q = \alpha_0 + \alpha_1 option\_shrout_{q-1} + \alpha_2 ret_{q-1} + \alpha_3 roe_{q-1} + \alpha_4 size_{q-1} + \alpha_5 mktbk_{q-1} + \alpha_6 netpercent_{q-1}$$

$$Buypercent_q = \alpha_0 + \alpha_1 option\_shrout_{q-1} + \alpha_2 ret_{q-1} + \alpha_3 roe_{q-1} + \alpha_4 size_{q-1} + \alpha_5 mktbk_{q-1} + \alpha_6 buypercent_{q-1} + \alpha_7 sellpercent_{q-1}$$

$$Sellpercent_q = \alpha_0 + \alpha_1 option\_shrout_{q-1} + \alpha_2 ret_{q-1} + \alpha_3 roe_{q-1} + \alpha_4 size_{q-1} + \alpha_5 mktbk_{q-1} + \alpha_6 buypercent_{q-1} + \alpha_7 sellpercent_{q-1}$$

| Dependent Variable | $Netpercent_q$ Coeff. | $Buypercent_q$ Coeff. | $Sellpercent_q$ Coeff. |
|---|---|---|---|
| Variable | (Std. Err.) | (Std. Err.) | (Std. Err.) |
| Intercept | 0.200*** | 0.189*** | −0.010 |
| | (0.015) | (0.010) | (0.008) |
| $option\_shrout_{q-1}$ | 0.321* | 0.338*** | 0.020 |
| | (0.190) | (0.131) | (0.106) |
| $Ret_{q-1}$ | −0.052*** | −0.019*** | 0.034*** |
| | (0.008) | (0.005) | (0.004) |
| $Roe_{q-1}$ | 0.000 | 0.000 | 0.000 |
| | (0.001) | (0.000) | (0.000) |
| $Size_{q-1}$ | −0.024*** | 0.017*** | 0.042*** |
| | (0.004) | (0.003) | (0.002) |
| $Mktbk_{q-1}$ | 0.000 | 0.000 | 0.000 |
| | 0.000 | (0.000) | (0.000) |
| $Netpercent_{q-1}$ | 0.239*** | | |
| | (0.006) | | |
| $Buypercent_{q-1}$ | | 0.274*** | 0.271*** |
| | | (0.007) | (0.007) |
| $Sellpercent_{q-1}$ | | 0.036*** | 0.031*** |
| | | (0.008) | (0.005) |
| $N$ | 23,274 | 23,274 | 23,274 |
| Adj. $R^2$ | 0.065 | 0.077 | 0.106 |

Results are based on OLS regressions. Standard errors are in parentheses. Significance tests are based on two-tailed tests.

*, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The dependent variables are residuals from prediction models for insider trading from panel B. Main test variables are bolded. Variable definitions are in appendix A.

Results are based on OLS regressions following the models in Cheng and Lo [2006]. Standard errors are in parentheses. Significance tests are based on two-tailed tests.

$Option\_shrout_{q-1}$ is the shares of options granted in quarter $q-1$ deflated by the number of shares outstanding in quarter $q-1$. $Ret_{q-1}$ is the buy-and-hold return for quarter $q-1$. $Roe_{q-1}$ is income before extraordinary items (data 25) for quarter $q-1$ from Compustat quarterly files deflated by the beginning book value of assets (data 59) at the beginning of quarter $q-1$. $Size_{q-1}$ is the market value measured at the beginning of quarter $q$. $Mktbk_{q-1}$ is the market-to-book ratios at the beginning of quarter $q$. The dependent variables are defined in appendix A.

If managers exploit their accounting discretion to report lower earnings in the second fiscal quarter, we expect to observe a larger than usual increase in the third quarter earnings due to the reversal of accruals. In untabulated results, we find evidence consistent with this prediction. Specifically, we regress

which suggests that a substantial portion of the price impact from lower earnings in the second fiscal quarter likely occurs prior to the quarter-end.

earnings changes from quarter $q-1$ to quarter $q$ on $Event_t$, $NA_t$, $Event_t NA_t$, and the interactive terms of these variables with a dummy variable for the third fiscal quarter (indicating earnings change from the second to the third quarter). As expected, the coefficient on $3rdqtr_q Event_t NA_t$ is positive and significant at the 5% level. This suggests that post-SOX nonaccelerated filers have larger than usual earnings increases in the third fiscal quarter, consistent with the lower earnings in the second fiscal quarter reversing in the subsequent quarter.

### 6.6 INSIDER TRADING

Our discussion in section 3 raises the possibility that nonaccelerated filers may exert downward pressure on their share prices post-SOX by engaging in more insider selling in the second fiscal quarter before the filing status testing date, although we do not offer a formal prediction because insider selling can also increase the number of nonaffiliated shares leading to ambiguous predictions for the change in public float.[23] In this section, we investigate insider trading behavior in the second fiscal quarter using the following regression:

$$\begin{aligned} InsiderTrading\_r_q = {} & \beta_0 + \beta_1 NA_t + \beta_2 Event_t + \beta_3 Event_t NA_t \\ & + \beta_4 2ndqtr_q + \beta_5 2ndqtr_q NA_t + \beta_6 2ndqtr_q Event_t \\ & + \beta_7 2ndqtr_q Event_t NA_t + \sum_j \beta_j Controls \end{aligned} \tag{7}$$

$InsiderTrading_q$ is measured in three different ways: (1) $Netpercent_q$, defined as (buy − sell)/(buy + sell), where "buy" is the sum of all shares that insiders buy over fiscal quarter $q$ and "sell" is the sum of all shares that insiders sell over fiscal quarter $q$; (2) $Buypercent_q$, defined as (buy)/(buy + sell); and (3) $Sellpercent_q$, defined as (sell)/(buy + sell). We obtain residuals of the above variables from the insider trading prediction model in Cheng and Lo [2006] ($Netpercent\_r_q$, $Buypercent\_r_q$, and $Sellpercent\_r_q$) and use the residuals as the dependent variables in model (7). The estimated Cheng and Lo [2006] models are presented in table 11 panel B. The independent variables in the model include options granted, the firm's stock and accounting returns, firm size, market-to-book ratio, and the lagged dependent variable.

The regression estimation results of model (7) are presented in table 11 panel A, in column (1) through column (3) for $Netpercent\_r_q$, $Buypercent\_r_q$, and $Sellpercent\_r_q$, respectively. In column (1), on insider net purchase, $2ndqtr_q Event_t NA_t$ has a negative coefficient (−0.105) and is significant at the 5% level. This suggests that post-SOX insiders in nonaccelerated filers purchase 10.5% fewer shares in the second fiscal quarter (the mean insider

[23] The SEC defines corporate insiders as company officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities. Although the concepts of "insiders" and "affiliates" (see footnote 4) overlap, they are not equivalent to each other.

net purchase for our sample firms is 14.3%). As the next two columns indicate, both less insider purchase and more insider selling contribute to this result. The coefficient on $2ndqtr_q Event_t NA_t$ is negative (−0.054) and significant at the 10% level in column (2) for insider purchase, and positive (0.051) and significant at the 5% level in column (3) for insider selling. Our results therefore contradict those in Nondorf, Singer, and You [2008]. They find more insider buying/less insider selling in the second fiscal quarter for their "threshold" firms relative to control firms. However, as discussed earlier, their "threshold" firms include both accelerated and nonaccelerated filers, making their findings difficult to interpret.

### 6.7 PORTFOLIO OF ACTIONS TAKEN TO REMAIN SMALL

Section 6.1 to section 6.6 analyze the individual actions undertaken by firms to stay small. In this section, we adopt a portfolio approach and investigate the number of actions taken by a firm and the possible tradeoffs among the actions.

*6.7.1. A Composite Index of the Actions.* We construct a variable, $Count_t$, as the number of actions taken in year $t$ by the firm to stay small and include it as the dependent variable in the following regression model.[24]

$$Count_t = \beta_0 + \beta_1 NA_t + \beta_2 NALrg_t + \beta_3 Event_t + \beta_4 Event_t NA_t + \beta_5 Event_t NALrg_t + \sum_j \beta_j Controls \quad (8)$$

The control variables are the same as those from model (2) through model (4). The mean (median) of $Count_t$ is 2.16 (2) actions per year, and can range between zero and seven. In untabulated results, we find that the coefficient on $Event_t NA_t$ is positive (0.133) and significant at the 10% level and that the coefficient on $Event_t NALrg_t$ is also positive (0.215) and significant at the 5% level. This suggests that post-SOX nonaccelerated filers, and especially large nonaccelerated filers, undertake more actions to remain small.[25]

---

[24] We convert the continuous variables $Chinv_t$ and $\Delta\ln(NonAffl_t)$ into indicators by regressing the continuous variable on the control variables in model (2) and model (4), respectively, and then defining the indicator variable as one if the residual from the regression is in the bottom 25% of the distribution, and zero otherwise. An indicator variable is set to one if $Acq_t$ equals zero, and zero otherwise. The dividend-related indicators are the same as those defined earlier, $Cashpay_t$ and $Chcashpay_t$. An indicator variable of nonpositive accounting earnings in the second fiscal quarter is set to one if $Pst\_UE_q$ equals zero, and zero otherwise. An indicator variable of large insider selling in the second fiscal quarter is one if $Netpercent\_r_q$ is in the bottom 25% of the distribution, and zero otherwise. $Count_t$ is the sum of the seven indicator variables. The nature of news releases is not included in this analysis due to the limited number of observations.

[25] In response to the discussant's comment (Hayes [2009]), we also define an indicator variable as one if a firm undertakes *any* action to remain small, and zero if no action is taken. We use this indicator as the dependent variable in a logistic regression and include the same independent variables as those in model (8). Our inferences remain unchanged. Specifically,

*6.7.2. Tradeoffs among the Actions.* As the previous analysis indicates, a firm wishing to stay small usually does not adopt all the actions at the same time. The choice among the actions depends on the cost and effectiveness of each action given the firm's circumstances. An important variable that can affect a firm's decision is the availability of cash. Some of the actions require cash, for example, paying cash dividends and increasing cash dividends, while others may not, for example, reporting negative accounting earnings and insider selling in the second fiscal quarter. In this section, we investigate how a firm's cash position affects its choice of actions to remain small. We classify firms into 10 deciles based on lagged cash availability, measured at the end of fiscal year $t-1$ as (cash + marketable securities − current liabilities)/lagged sales. We find that nonaccelerated filers post-SOX with less cash (bottom decile of cash availability) have significantly higher frequencies of insider selling in the second fiscal quarter and decreases in nonaffiliated shares relative to firms with more cash (top decile of cash availability). The low cash nonaccelerated filers post-SOX also are more likely to report lower earnings in the second fiscal quarter and less likely to pay or increase cash dividends than high cash firms, although these differences are not significant at conventional levels (one-sided $p$-values between 11% and 14%).[26] Overall, there is weak evidence that post-SOX nonaccelerated filers trade off the various actions to remain small.[27]

## 7. *Motives for Staying Small*

In this section, we conduct tests to differentiate between the two motives behind firms' actions to remain small: (1) preservation of insider private control benefits and (2) shareholder value maximization. We analyze the corporate governance of firms that stay below the $75 million public float threshold by $10 million or less ("stayers") and firms that cross the threshold by $10 million or less ("crossers"). In the event period we identify 88 stayers and 39 crossers. Likewise, in the control period there are 50 stayers and 41 crossers. If firms stay small to maintain the managers' private control benefits, we expect the stayers to be poorly governed compared to the crossers in the post-SOX period. Following Leuz, Triantis, and Wang [2008], we measure corporate governance via block holdings, institutional holdings,

---

the coefficient on $Event_t NALrg_t$ is positive and significant at the 1% level and that on $Event_t NA_t$ is positive and marginally significant.

[26] We also find that among nonaccelerated filers, post-SOX high cash firms are significantly more likely to cut investments than low cash firms. This can be due to lower growth opportunities at high cash firms. There is no significant difference in the likelihood of acquisitions between high and low cash firms.

[27] No such pattern of tradeoffs exists for the other three groups of firms: accelerated filers post-SOX, nonaccelerated filers pre-SOX, and accelerated filers pre-SOX. Since the analysis focuses on the subsamples of high and low cash deciles, to avoid further reducing the sample size we do not separately analyze large nonaccelerated filers.

and board governance. We collect the following data from firms' proxy statements: *block holdings* at 5% of equity ownership or more and its components, *institutional block holdings* and *individual block holdings*, *board size*, and the *percentage of independent directors*. In untabulated results, we find that, in the pre-SOX period, the stayers have lower block holdings than the crossers (40% vs. 48%). However, the difference reverses in the post-SOX period (45% for the stayers and 42% for the crossers). This results in a statistically and economically significant 11% difference in differences between the stayers and crossers. Furthermore, most of the 11% difference (8%) is due to the difference in institutional holdings. Regarding board governance, the stayers go from having larger boards pre-SOX (6.94 vs. 6.07 for the crossers) to having smaller boards post-SOX (6.77 vs. 6.95 for the crossers). The percentage of independent directors increases substantially for both groups from below 60% pre-SOX to over 70% post-SOX, with the stayers having a slightly (2%) larger increase than the crossers, although the difference is not statistically significant. Therefore, we find no evidence that so-called poorly governed firms stay small post-SOX. On the contrary, the evidence suggests that firms that do not cross the $75 million threshold have stronger governance than firms that cross the threshold.

To test the shareholder value maximization motive, we assume that firms with foreign operations and with more segments face higher Section 404 compliance costs and, ceteris paribus, are more likely to stay small. We find a higher likelihood of having foreign operations for the stayers post-SOX (50% likelihood vs. 38% for the crossers); the difference is larger than that in the pre-SOX period (38% likelihood of foreign operations for the stayers vs. 32% for the crossers). The stayers also go from having fewer *numbers* of foreign operations than the crossers pre-SOX (0.58 vs. 0.68) to having more foreign operations post-SOX (1.11 vs. 0.95). In addition, the stayers have fewer segments than the crossers pre-SOX (1.70 vs. 1.76), but the difference narrows in the post-SOX period (2.14 vs. 2.17). The above differences in differences all suggest higher Section 404 compliance costs for the stayers post-SOX; however, none of them are statistically significant, possibly due to the tests' low power. Overall, we cannot reject shareholder value maximization as a motive, but can reject the protection of insider private control benefits as a motive for staying small (the statistically significant results in the corporate governance tests suggest power is not an issue in these tests).

## *8. Robustness Tests*

### 8.1 STOCK RETURNS

We predict, in H3, that in the event period, nonaccelerated filers are likely to undertake actions in the second fiscal quarter to temporarily depress share prices before the filing status testing date. These actions include: accelerating bad news into the second fiscal quarter, delaying good news

**TABLE 12**
*Mean Quarterly Abnormal Returns*

| Post-SOX Event Period | Qtr 1 | Qtr 2 | Qtr 3 | Qtr 4 | Qtr2 − Qtr3 | *p*-Value Qtr 2 − Qtr 3 |
|---|---|---|---|---|---|---|
| Small nonaccelerated filers (*NALrg* = 0) | 0.036 | 0.006 | 0.034 | 0.017 | **−0.028** | **0.06** |
| Large nonaccelerated filers (*NALrg* = 1) | 0.047 | −0.017 | 0.026 | −0.016 | **−0.043** | **0.07** |
| Accelerated filers | −0.018 | −0.016 | −0.005 | −0.008 | **−0.011** | **0.55** |

| Pre-SOX Control Period | Qtr 1 | Qtr 2 | Qtr 3 | Qtr 4 | Qtr2 − Qtr3 | *p*-Value Qtr 2 − Qtr 3 |
|---|---|---|---|---|---|---|
| Small nonaccelerated filers (*NALrg* = 0) | 0.066 | −0.013 | 0.001 | −0.01 | **−0.014** | **0.38** |
| Large nonaccelerated filers (*NALrg* = 1) | −0.004 | −0.038 | −0.026 | −0.003 | **−0.012** | **0.78** |
| Accelerated filers | −0.001 | 0.008 | 0.015 | −0.05 | **−0.007** | **0.75** |

The quarterly abnormal returns are averages of individual firm's abnormal quarterly returns, which are measured excluding dividends and after adjustments for the Fama–French three factors, the momentum factor, and the industry effect.

into the third fiscal quarter, and lowering earnings in the second quarter, which then reverse in the third fiscal quarter. If these actions are effective, we expect that in the event period, nonaccelerated filers, and especially large nonaccelerated filers, should have lower stock returns in the second fiscal quarter than in the third fiscal quarter. On the other hand, we do not expect this to be the case for accelerated filers in the event period or for accelerated or nonaccelerated filers in the control period.

Table 12 reports results of the above predictions. The quarterly abnormal returns are measured excluding dividends and after adjustments for the Fama–French three factors, the momentum factor, and the industry effect.[28] Dividends are excluded because returns inclusive of dividends do not reflect firms' actions to remain small through dividend payments.[29] Consistent with our predictions, during the *event* period the abnormal returns in the second quarter are significantly lower than those in the third quarter (Q2 − Q3) for small nonaccelerated filers (the mean difference is −2.8%) and for large nonaccelerated filers (the mean difference is −4.3%). The accelerated filers experience negative abnormal returns in each quarter during the event period, consistent with Section 404 compliance costs adversely affecting these firms (also documented in Iliev [2007]). However, consistent with

[28] We include delisted firms (there are 154 such cases in our sample) and their delisting returns in our return calculations. Delisting returns are obtained from CRSP. In two cases the CRSP delisting returns are missing and we follow Beaver, McNichols, and Price [2007] and use a replacement value of 55%.

[29] In response to the discussant's comment (Hayes [2009]), we also conduct the analysis with returns inclusive of dividends and find similar results.

our predictions, the accelerated filers' Q2 − Q3 return difference is not significantly different from zero. Furthermore, during the *control* period the Q2 − Q3 return differences are also insignificant for both the nonaccelerated and the accelerated filers.[30] Overall, these quarterly return results are consistent with nonaccelerated filers taking actions during the event period to temporarily dampen their share prices before the filing status testing date.

### 8.2 OTHER ROBUSTNESS CHECKS

As robustness checks, we exclude very small firms (public float below $25 million) from our sample, cluster the regression standard errors by firm, include year fixed effects, and analyze the various actions using seemingly unrelated regressions. Our inferences remain unchanged.[31]

Finally, another mechanism for firms to remain small is to issue fewer shares. Accordingly, we analyze the frequency of seasoned equity offerings. In a univariate analysis, we find that post-SOX nonaccelerated filers have a lower likelihood of seasoned equity offerings than control firms. However, the difference is no longer significant in a multiple regression that controls for firm characteristics such as growth, leverage, and firm age. One possible reason for the lack of significant findings involves the low power of our tests due to SDC's incomplete coverage of share issuance events (Pontiff and Woodgate [2008]), which is likely more severe for small firms.

## *9. Conclusions*

We document an unintended consequence of SOX and its subsequent implementation. In particular, we find that this regulation creates incentives for firms to remain small. The SEC has on various occasions from

[30] The difference in the Q2–Q3 differences in abnormal returns between small nonaccelerated filers and accelerated filers in the event period (−0.028 + 0.011, or −0.017) is not significantly different from that in the control period (−0.014 + 0.007, or −0.007). In addition, the difference in the Q2–Q3 differences in abnormal returns between large nonaccelerated filers and small nonaccelerated filers in the event period (−0.043 + 0.028, or −0.015) is not significantly different from that in the control period (−0.012 + 0.014, or 0.002).

[31] Following the discussant's suggestions (Hayes [2009]), we conduct additional robustness checks. First, for regression model (2) to model (4), we test the statistical significance of the *sum* of the coefficients on $Event_t NA_t$ and $Event_t NALrg_t$, which represents the difference between large nonaccelerated filers and accelerated filers. We find that, in all cases, the sum of these two coefficients is statistically significant at the 5% level or better and has the predicted sign. Second, we restrict our sample to accelerated filers with time 1 public float less than $75 million (they account for 39% of all accelerated filers observations) and to large nonaccelerated filers and rerun model (1) to model (8). The coefficients on $Event_t NA_t$ are significant and have the predicted signs in all regressions, except for model (2′) on acquisitions and model (5) on bad news disclosure, where the coefficients are insignificant, possibly due to low test power, although they have the correct signs. Note that the *NALrg*-related terms are excluded from this analysis because small nonaccelerated filers are dropped.

2003 to 2008 postponed compliance with Section 404 of SOX for "nonaccelerated filers" (firms with public floats less than $75 million). We find that these firms are more likely to remain below this bright-line threshold. Moreover, we document that, compared to control firms, nonaccelerated filers remain small by undertaking less investment, making more cash payouts through dividends and share repurchases, and reducing the number of nonaffiliated shares (shares used to compute public float), and by releasing more bad news disclosures, reporting lower earnings, and engaging in more insider selling in the second fiscal quarter than control firms. One would not expect *every* nonaccelerated filer to undertake actions post-SOX to remain small; only firms that believe the costs of Section 404 compliance outweigh the benefits of the future growth opportunities are likely to do so. Ex ante, it is difficult to identify these firms, which lowers the power of our tests but also makes our findings even more interesting and compelling. Finally, we reject the hypothesis that firms remaining small (and hence avoiding Section 404 compliance) do so to maintain insiders' private control benefits.

Our findings provide evidence on the economic consequences of exempting small companies from regulations or postponing compliance deadlines for these firms. This has implications beyond SOX. Regulations granting small firms exemptions date back to the initial federal securities laws of the 1930s. Moreover, the SEC is considering exempting small filers from a variety of regulations regarding capital formation, corporate governance, disclosure, and financial reporting. Other government regulations, such as those enforced by the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and the Small Business Administration, and the enforcement of antitrust, contain implicit and explicit firm size tests and hence generate similar incentives.

Our evidence suggests that, when regulations entail large costs for small businesses, one of the unintended consequences of these size-based exemptions is that some firms have incentives to remain below the bright-line thresholds. While this result is consistent with firms having incentives to avoid costly regulation, it does not address the broader question of whether exempting small firms from regulation is socially beneficial.

We also document a heretofore unrecognized consequence of SOX—namely, the efforts by certain nonaccelerated filers to keep their public float below $75 million. Prior studies suggest SOX alters a firm's cost–benefit tradeoff of participating in U.S. public capital markets. Our results indicate that, for firms that do remain public, SOX can also alter their incentives to grow.

Finally, we provide additional evidence on the economic consequences of SOX, particularly, Section 404 on internal controls, for small public companies. Our findings add to the previous literature and are consistent with the view that Section 404 imposes costs on small businesses.

## APPENDIX A

*Variable Definitions*

**Panel A: Dependent variables**

**Test on the likelihood of staying small**

$Less75_{t+1}$ Indicator variable that equals one if a firm's public float at the end of firm-year $t$ (time 2 in fig. 2) is less than 75 million, and zero otherwise.

**Change in investment**

$Chinv_t$ The change in investment between firm-year $t$ and $t-1$. Investment is measured by annual capital expenditure (Compustat data 128) + R&D expenditure (data 46) + advertising expenses (data 45) − sale of PP&E (data 107). The change in investment is then deflated by lagged total assets.

**Acquisition**

$Acq_t$ Equals one if a firm has any acquisition activity in firm-year $t$, and zero otherwise.

**Cash payout**

$Cashpay_t$ Equals one if there is any type of cash payout to shareholders in firm-year $t$ (regular dividend, special dividend, and share repurchases), and zero otherwise. (Note: Few dividends in the sample are coded as "special.")

$Chcashpay_t$ Equals one if the sum of all three types of cash payout (regular dividend, special dividend, and share repurchases) in firm-year $t$ is larger than the previous year, and zero otherwise.

**Change in nonaffiliated shares**

$\Delta\ln(NonAffl_t)$ The change in the natural log of nonaffiliated shares from time 1 to time 2 (fig. 2). The number of nonaffiliated shares (in millions) is the disclosed public float divided by the closing price on the public float measurement date.

**News disclosure**

$Badnews_q$ Equals bad news/(good news + bad news), where good (bad) news is the number of good (bad) news disclosures for a quarter.

**Quarterly earnings**

$Pst\_UE_q$ An indicator variable equal to one if $UE_q$ is positive, and zero otherwise. $UE_q$, the unexpected earnings per share in quarter $q$, is calculated as earnings per share for fiscal quarter $q$ minus earnings per share from the same quarter last year, i.e., $EPS_q - EPS_{q-4}$. Earnings per share comes from data 19 in the Compustat quarterly file.

**Insider trading**

$Netpercent\_r_q$ The residual net insider purchases in quarter $q$ from the insider trading prediction model in Cheng and Lo [2006].

$Netpercent_q$ equals (buy − sell)/(buy + sell), where the variable "buy" is the sum of all shares that insiders buy over a fiscal quarter, and the variable "sell" is the sum of all shares that insiders sell over a fiscal quarter.

$Buypercent\_r_q$ The residual insider purchases in quarter $q$ from the insider trading prediction model in Cheng and Lo [2006].

$Buypercent_q$ equals (buy)/(buy + sell).

$Sellpercent\_r_q$ The residual insider selling in quarter $q$ from the insider trading prediction model in Cheng and Lo [2006].

$Sellpercent_q$ equals (sell)/(buy + sell).

*(Continued)*

**APPENDIX A**—*Continued*

**Panel B: Main test variables**

| | |
|---|---|
| $NA_t$ | An indicator variable for nonaccelerated filers at time 1 (fig. 2). For event years, $NA_t$ equals one if a firm's filing status from its 10-K for fiscal year $t$ is nonaccelerated or if a firm files a 10-KSB as a small business issuer, and zero otherwise. For control years, $NA_t$ equals one if the public float is less than \$75 million at time 1 in firm-year $t$ and at all the previous second fiscal quarter-ends in the sample period, or if a firm files a 10-KSB as a small business issuer, and zero otherwise. |
| $NALrg_t$ | An indicator variable for large nonaccelerated filers at time 1 (fig. 2). It equals one if a firm is classified as a nonaccelerated filer ($NA_t = 1$) and its public float is at least \$45 million, and zero otherwise. |
| $Event_t$ | Indicator variable that equals one if an observation belongs to the event period, and zero for the control period. |
| $2ndqtr_q$ | Indicator variable that equals one for the second fiscal quarter, and zero otherwise. |

**Panel C: Control variables**

**Test on the likelihood of staying small**

Factor betas are estimated with the Fama–French three factors, the momentum factor, and the industry effect. The beta for firm-year $t$ is the average of the beta estimates for the 12 months during that year. To calculate the factor betas for each firm-month, we use the prior 24 and the subsequent 24 monthly returns, while requiring at least 12 nonmissing monthly returns for the estimations.

| | |
|---|---|
| $Mkt\_Rf_t$ | The product of the firm's average monthly loadings on the excess market return and the excess market returns over firm-year $t$. |
| $SMB_t$ | The product of the firm's average monthly loadings on the size factor and the return on the size factor over firm-year $t$. |
| $HML_t$ | The product of the firm's average monthly loadings on the market-to-book factor and the return on the market-to-book factor over firm-year $t$. |
| $MOM_t$ | The product of the firm's average monthly loadings on the momentum factor and the return on the momentum factor over firm-year $t$. |
| $Indret_t$ | The product of the firm's average monthly loadings on the Fama–French 48 industry factor and the return on the industry factor over firm-year $t$. |

**Tests on investment, acquisition, cash payout, and unaffiliated shares**

| | |
|---|---|
| $ROA_{t-1}$ | The decile rank of return on assets as of the beginning of fiscal year $t$. The return on assets is defined as operating income before depreciation (data 13)/total assets (data 6). |
| $MB_{t-1}$ | The decile rank of market-to-book ratios as of the beginning of fiscal year $t$. Market-to-book is measured as common shares outstanding (data 25) $*$ closing price (data 199)/common equity (data 6). |
| $Sales_{t-1}$ | The decile rank of total sales (data 12) at the beginning of the fiscal year $t$. |
| $FCF_{t-1}$ | The decile rank of total asset-deflated free cash flow for a firm as of the beginning of fiscal year $t$. Free cash flow is calculated as cash and marketable securities (data 1) − accounts payable (data 70) − other current liabilities (data 72). |
| $Leverage_{t-1}$ | The decile rank of leverage for a firm as of the beginning of fiscal year $t$. Leverage is calculated as long-term debt (data 9) divided by total assets (data 6). |
| $Older_{t-1}$ | Equals one if a firm has been on CRSP for at least nine years, and zero otherwise. |
| $Stdret_{t-1}$ | The standard deviation of monthly return of the 12 months prior to the second fiscal quarter-end of fiscal year $t$. |
| $Pf_t$ | The public float (in millions) for a firm as of the end of the second fiscal quarter of fiscal year $t$ (time 1 in fig. 2). |

**APPENDIX B**

*News Disclosure Categories*

| News | Proportion of all news | |
|---|---|---|
| Good News | | |
| New contracts/products | 19.28% | |
| Sales amount announcement | 10.68% | |
| Earnings increase | 7.08% | |
| Sales increase | 5.06% | |
| Positive earnings | 4.87% | |
| Receiving new orders | 4.74% | |
| Corporation or executive win award/honor | 3.41% | |
| Product performance | 1.64% | |
| Other | 4.30% | 61.06% |
| Bad News | | |
| Negative earnings | 5.82% | |
| Sales decrease | 5.56% | |
| Earnings decrease | 3.41% | |
| Filing 10-K amendments/accounting restatements | 3.35% | |
| Other | 1.01% | 19.15% |
| Neutral News | | |
| To hold conference call | 4.74% | |
| Appointment of management | 3.92% | |
| Company (executive) to present at conference (trade show, other public event) | 3.60% | |
| Change of directors | 2.09% | |
| Receiving notice from exchange about listing standards | 1.26% | |
| Settling litigation | 1.01% | |
| Other | 3.16% | 19.78% |
| Total | | 100% |

There are 1,582 news items for the 200 sample firm-quarter observations, including good news, bad news, and neutral news, classified based on news headlines. Categories with more than 1% of the total news are listed separately, while those with less than 1% of the total news are grouped in the category "other."

## REFERENCES

ADVISORY COMMITTEE ON SMALLER PUBLIC COMPANIES (ACSPC). *Final Report of the Advisory Committee on Smaller Public Companies to the U.S. Securities and Exchange Commission.* Washington, DC: U.S. Securities and Exchange Commission, April 23, 2006.

A.R.C. MORGAN. "Sarbones-Oxley Implementation Costs: What Companies Are Reporting in Their SEC Filings." Aubrey, Texas, 2005.

ASHBAUGH-SKAIFE, H.; D. COLLINS; AND W. KINNEY. "The Discovery and Consequences of Internal Control Deficiencies Prior to SOX-Mandated Audits." *Journal of Accounting & Economics* 44 (2007): 166–92.

AVERCH, H., AND L. JOHNSON. "Behavior of the Firm Under Regulatory Constraint." *The American Economic Review* 52 (1962): 1052–69.

BARGERON, L.; K. LEHN; AND C. ZUTTER. "Sarbanes-Oxley and Corporate Risk-Taking." Working paper, University of Pittsburgh, 2007.

BEAVER, W., R. LAMBERY; AND D. MORSE. "The Information Content of Security Prices." *Journal of Accounting and Economics* 2 (1980): 3–28.

BEAVER, W.; M. MCNICHOLS; AND R. PRICE. "Delisting Returns and Their Effect on Accounting-Based, Market Anomalies." *Journal of Accounting & Economics* 43 (2007): 341–68.

BLOUIN, J.; J. S. RAEDY; AND D. SHACKELFORD. "Did Dividends Increase Immediately After the 2003 Reduction in Tax Rates?" Working paper, NBER, 2004.

BRADFORD, S. "Does Size Matter? An Economic Analysis of Small Business Exemptions from Regulation." *The Journal of Small & Emerging Business Law* 8 (2004): 1–37.

CHENG, Q., AND K. LO. "Insider Trading and Voluntary Disclosures." *Journal of Accounting Research* 44 (2006): 815–48.

CHETTY R., AND E. SAEZ. "Dividend Taxes and Corporate Behavior: Evidence from the 2003 Dividend Tax Cut." *American Economic Review: Papers and Proceedings* 96 (2006):124–9.

COATES, J. "The Goals and Promise of the Sarbanes-Oxley Act." *Journal of Economic Perspectives* 21 (2007): 91–116.

COHEN, D.; A. DEY; AND T. LYS. "The Sarbanes Oxley Act of 2002: Implications for Compensation Structure and Risk-Taking Incentives of CEOs." Working paper, NYU, University of Chicago, and Northwestern University, 2005.

DEFOND, M.; M. HUNG; E. KARAOGLU; AND J. ZHANG. "Was the Sarbanes-Oxley Act Good News for Corporate Bondholders?" Working paper, University of Southern California, 2007.

DOYLE, J.; W. GE; AND S. MCVAY. "Determinants of Weaknesses in Internal Control over Financial Reporting." *Journal of Accounting & Economics* 44 (2007): 193–223.

ELORIDGE, S. W., AND B. T. KEALEY. "Sox Costs: Auditor Atlestation under Section 404." Working Paper, University of Nebraska at Omaha, 2005.

ENGEL, E.; R. HAYES; AND X. WANG. "The Sarbanes-Oxley Going-Private Decisions." *Journal of Accounting & Economics* 44 (2007): 146–65.

FAMA, E., AND K. FRENCH. "Common Risk Factors in the Returns on Stocks and Bonds." *Journal of Financial Economics* 33 (1993): 3–56.

GAO, Y. "The Sarbanes-Oxley Act and the Choice of Bond Market by Foreign Firms." Working paper, University of Chicago, 2007.

GRULLON, G., AND R. MICHAELY. "Dividends, Share Repurchases, and the Substitution Hypothesis." *Journal of Finance* 57 (2002): 1649–84.

HAYES, R. M. "Discussion of Unintended Consequences of Granting Small Firms Exemptions from Securities Regulation: Evidence from the Sarbanes-Oxley Act." *Journal of Accounting Research* 47 (Supplement 2009), this issue.

HOLMSTROM, B., AND S. KAPLAN. "The State of U.S. Corporate Governance: What's Right and What's Wrong?" *Journal of Applied Corporate Finance* 15 (2003): 8–20.

HOSTAK, P.; E. KARAOGLU; T. LYS; AND Y. YANG. "An Examination of the Impact of the Sarbanes-Oxley Act on the Attractiveness of US Capital Markets for Foreign Firms." Working paper, University of Massachusetts at Dartmouth, 2007.

ILIEV, P. "The Effect of the Sarbanes-Oxley Act (Section 404)." Working paper, Brown University, December 25, 2007.

KOTHARI, S. P., AND R. SLOAN. "Information in Prices about Future Earnings: Implications for Earnings Response Coefficients." *Journal of Accounting and Economics* 15(1992): 143–71.

LAKONISHOK, J., AND I. LEE. "Are Insider Trades Informative?" *The Review of Financial Studies* 14 (2001): 79–111.

LARCKER, D.; S. RICHARDSON; I. TUNA. "Corporate Governance, Accounting Outcomes, and Organizational Performance." *The Accounting Review* 82 (2007): 913–1008.

LEUZ, C. "Was the Sarbanes-Oxley Act of 2002 Really This Costly? A Discussion of Evidence from Event Returns and Going-Private Decisions." *Journal of Accounting & Economics* 44 (2007): 146–65.

LEUZ, C.; A. TRIANTIS; AND T. WANG. "Why Do Firms Go Dark? Causes and Economic Consequences of Voluntary SEC Deregistrations." *Journal of Accounting & Economics* 45 (2008): 181–208.

LI, H.; M. PINCUS; AND S. REGO. "Market Reaction to Events Surrounding the Sarbanes-Oxley Act of 2002 and Earnings Management." *Journal of Law and Economics* 51 (2008): 111–34.

LINCK, J.; J. NETTER; AND T. YANG. "The Effects and Unintended Consequences of the Sarbanes-Oxley Act, and Its Era, on the Supply and Demand for Directors." *Review of Financial Studies* 2008: Forthcoming.

LINTNER, J. "Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes." *The American Economic Review* 46 (1956): 97–113.

MERTON, R. "The Unanticipated Consequences of Purposive Social Action," *American Sociological Review* 1 (1936): 894–904.

NONDORF, M.; Z. SINGER; AND H. YOU, "A Study of Forms Surrounding the Threshold of Sarbanes-Oxley Section 404 Compliance." Working paper, University of California, Berkeley, 2008.

NORTON, E.; H. WANG; AND C. AI. "Computing Interaction Effects and the Standard Errors in Logit and Probit Models." *The Stata Journal* 4 (2004): 154–67.

PIOTROSKI, J., AND S. SRINIVASAN. "Regulation and Bonding: The Sarbanes-Oxley Act and the Flow of International Listings." *Journal of Accounting Research* 46 (2008): 383–425.

PONTIFF, J., AND A. WOODGATE. "Share Issuances and Cross-Sectional Returns." *The Journal of Finance* LXIII (2008): 921–45.

PUBLIC COMPANY ACCOUNTING OVERSIGHT BOARD (PCAOB). "An Audit of Internal Control Over Financial Reporting Performed in Conjunction with An Audit of Financial Statements." Audit Standard No. 2. Washington, DC: PCAOB, 2004.

RIBSTEIN, L. "Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002." *Journal of Corporation Law* 28 (2002): 1–67.

ROMANO, R. "The Sarbanes-Oxley Act and the Making of Quack Corporate Governance." *Yale Law Journal* 114 (2005): 1521–611.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Proposed Rule: Acceleration of Periodic Report Filing Dates and Disclosure Concerning Website Access to Reports." SEC Release No. 33-8089. Washington, DC: SEC, 2002a.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Acceleration of Periodic Report Filing Dates and Disclosure Concerning Website Access to Reports." SEC Release No. 33-8128. Washington, DC: SEC, 2002b.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Final Rule: Management's Reports on Internal Control over Financial Reporting and Certification of Disclosure in Exchange Act Periodic Reports." SEC Release No. 33-8238. Washington, DC: SEC, 2003a.

SECURITIES AND EXCHANGE COMMISSION (SEC). "SEC Implements Internal Control Provisions of Sarbanes-Oxley Act; Adopts Investment Company R&D Safe Harbor." SEC press release No. 2003-66. Washington, DC: SEC, 2003b.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Extension of Compliance Dates Regarding Internal Control over Financial Reporting Requirements." SEC press release No. 2004-21. Washington, DC: SEC, 2004.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Revisions to Accelerated Filer Definition and Accelerated Deadlines for Filing Periodic Reports." SEC Release No. 33-8644 and No. 34-52989. Washington, DC: SEC, 2005a.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Extension of Compliance Dates for Nonaccelerated Filers and Foreign Private Issuers Regarding Internal Control over Financial Reporting." SEC press release No. 2005-25. Washington, DC: SEC, 2005b.

SECURITIES AND EXCHANGE COMMISSION (SEC). "SEC Votes to Propose Changes in Filing Deadlines and Accelerated Filer Definition; Postpone 404 Compliance Date for Nonaccelerated Filers; Propose Issuing Section 28(e) Interpretive Guidance." SEC press release No. 2005-134. Washington, DC: SEC, 2005c.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Internal Control over Financial Reporting in Exchange Act Periodic Reports of Foreign Private Issuers That Are Accelerated Filers." SEC Release No. 33-8730A and No.34-54294A. Washington, DC: SEC, 2006a.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Internal Control over Financial Reporting in Exchange Act Periodic Reports of Non-Accelerated Filers and Newly Public Companies." SEC Release No. 33-8731. Washington, DC: SEC, 2006b.

SECURITIES AND EXCHANGE COMMISSION (SEC). "SEC Offers Further Relief from Section 404 Compliance for Smaller Public Companies and Many Foreign Private Issuers." SEC press release No. 2006-136. Washington, DC: SEC, 2006c.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Revisions to the Eligibility Requirements for Primary Securities Offerings on Forms S-3 and F-3." SEC Release No. 33-8812. Washington, DC: SEC, 2007a.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Smaller Reporting Company Regulatory Relief and Simplification." SEC Release No. 33-8819. Washington, DC: SEC, 2007b.

SECURITIES AND EXCHANGE COMMISSION (SEC). "Rule 144: Selling Restricted and Control Securities." Washington, DC: SEC, 2008a.

SECURITIES AND EXCHANGE COMMISSION (SEC). "SEC Approves One-Year Extension for Small Businesses from Auditor Attestation Requirement in Sarbanes-Oxley Act." SEC press release No. 2008-116. Washington, DC: SEC, 2008b.

SEYHUN, H. "Insiders' Profits, Costs of Trading, and Market Efficiency." *Journal of Financial Economics* 16 (1986): 189–212.

SPATT, C. Financial Regulation: Economic Margins and "Unintended Consequences." Speech at George Washington University, March 17, 2006. Web site, http://www.sec.gov/news/speech/spch031706css.htm, 2006.

STIGLER, G. "The Theory of Economic Regulation." *The Bell Journal of Economics and Management Science* 2 (1971): 3–31.

ZHANG, I. "Economic Consequences of the Sarbanes-Oxley Act of 2002." *Journal of Accounting & Economics* 44 (2007): 74–115.