The Sarbanes-Oxley Act and Firms' Going-Private Decisions*

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Abstract

We investigate firms' going-private decisions in response to the passage of the Sarbanes-Oxley Act of 2002 (SOX). The Act has the potential to bring both benefits, in terms of more transparent disclosure and improvement in corporate governance, and costs, in terms of complying with the new regulation. We argue that firms go private in response to SOX only if the SOX-imposed costs to the firm exceed the SOX-induced benefits to shareholders, and this difference swamps the net benefit of being a public firm prior to the passage of SOX. By examining a sample of all going-private firms from 1998 to 2004, we find: (1) the quarterly frequency of going private has modestly increased after the passage of SOX; (2) the abnormal returns associated with the passage of SOX were positively related to firm size and share turnover; (3) smaller firms and firms with greater inside ownership have experienced higher going-private announcement returns in the post-SOX period compared to the pre-SOX period. Our empirical evidence is broadly consistent with the notion that SOX has affected firms' going-private decisions.

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1 Introduction

The 2002 enactment of the Sarbanes-Oxley Act (hereafter, SOX) marked a significant milestone for corporate governance in the U.S. The Act, which was the legislative response to a series of high-profile financial scandals, was intended to rebuild investors' confidence in the capital markets.[1]

Like all regulation, however, SOX has the potential to bring both costs and benefits. The period since the Act's passage has seen a vigorous debate over the law's merits. SOX proponents have asserted that increased disclosure requirements and stiffer penalties for corporate malfeasance will lead to greater transparency, and thus generate gains for investors. Critics argue the costs of complying with SOX — forty-eight percent of companies will spend at least $500,000 to comply in the first year, according to *CFO Magazine* (Nyberg (2003)) — will dwarf the benefits for many smaller firms.

One concern regarding increases in the regulatory burden on public companies is that such regulation may deter firms from seeking financing in public equity markets. To the extent that some firms are then forced to fund their operations with higher-cost sources of capital, profitable investment projects will be foregone, reducing economic efficiency. This possibility is especially salient in light of recent findings by Bushee and Leuz (2003). In their study of the 1999 expansion of SEC disclosure regulations for firms traded on over-the-counter bulletin boards, they find a striking willingness on the part of these small firms to evade securities regulation by selecting less liquid forms of organization. They report that nearly three-quarters of affected firms elected to leave the bulletin boards to trade on pink sheets or go private, rather than remain on the bulletin boards and comply with the new disclosure rules.

In this paper, we provide evidence on the effect of SOX on firms that are close to the public/private margin; that is, firms for which the net benefits of being public are relatively small. Specifically, we examine firms' *going-private* decisions, and ask how this choice was affected by SOX.[2] We pose three main questions regarding SOX and the going-private decision.

[1] See http://www.aicpa.org/info/sarbanes_oxley_summary.htm for an overview of the provisions of SOX.

[2] One could also explore the effect of SOX on the *going-public* decision, but such an analysis would be complicated by the fact that the IPO market is quite sensitive to overall economic conditions. (See Ritter (1998).) Any pre/post-SOX differences in IPO activity are likely to reflect changes in the overall IPO market, rather than the

First, to what extent was SOX associated with an increase in the number of firms electing to go private? Second, did the factors associated with firms' decisions to go private change around the passage of SOX? Third, did the determinants of going-private announcement returns change around the passage of SOX?

To answer these questions, we collect a detailed data set covering 353 firms that filed Schedule 13E-3 with the SEC between January 1998 and January 2004. Rule 13e-3 going-private transactions are initiated by affiliates of the company, and the participants in a Rule 13e-3 transaction must comply with the disclosure requirements of SEC Rule 13e-3. Starting from the Schedule 13E-3 filings, we create a sample of going-private transactions to use in our analyses.

Applying standard economic reasoning, we argue that it is value-maximizing for a firm to go private in response to SOX only if the SOX-imposed costs to the firm exceed the SOX-induced benefits to shareholders, *and* this difference swamps the net benefit of being a public firm prior to the passage of SOX. Thus, one would expect the post-SOX going-private firms to be those where (1) SOX compliance costs are relatively high, (2) SOX-related benefits to shareholders are small, and (3) net benefits to being public are relatively small prior to the passage of SOX. Notably, many authors have pointed out that SOX compliance costs are likely to have a fixed component, which suggests its effects will be more negative for small companies. (See, for example, Holmstrom and Kaplan (2003).) However, SOX-related benefits to shareholders may vary considerably across firms. For example, Holmstrom and Kaplan (2003) argue that firms that were well governed prior to SOX are unlikely to receive a large boost from passage of the Act. Holmstrom and Kaplan (2003) also point out that many aspects of SOX appear directed at making insiders' shareholdings less liquid; thus, firms where insiders' holdings were relatively illiquid prior to the passage of the Act will receive smaller SOX-induced benefits. Finally, net benefits from being public are likely smallest among small firms, firms with a limited need for external funding, and firms that are thinly traded.

Broadly, our evidence suggests that SOX has affected firms' going-private decisions. Further, these effects appear consistent with the notion that firms compare SOX compliance costs with both the SOX-induced benefits and the pre-SOX net benefit of being public when making

effect of SOX *per se*.

going-private decisions. We highlight three main empirical findings. First, we find a modest but statistically significant increase in the rate at which firms go private in the post-SOX period compared to the pre-SOX period. Second, we find that abnormal returns around events that increased the likelihood of SOX passage were positively related to firm size and share turnover, suggesting that SOX compliance costs are more burdensome for smaller and less liquid firms. Third, while factors that predict the decision to go private do not appear to have changed from the pre-SOX to post-SOX periods, the determinants of *market reaction* to going-private announcements did change. Specifically, smaller firms and firms with greater inside ownership see higher going-private announcement returns in the post-SOX period compared to the pre-SOX period. Further, the interaction among size, inside ownership and a post-SOX indicator variable is highly significant, suggesting that small firms with substantial inside ownership garner substantially higher premiums upon going private in the post-SOX period compared to the pre-SOX period.

We interpret our results as follows: First, it does appear that SOX compliance costs weighed more heavily on smaller firms. This assertion is supported by the facts that the rate of going-private transactions increases after SOX, that SOX announcement returns were positively related to firm size, and that going-private announcement returns for small firms increase after SOX. Second, the finding that going-private event responses were larger for firms with highly concentrated ownership structures suggests that SOX-induced benefits were smaller for these firms. Two mechanisms could explain this. It is possible that firms with large manager and director ownership interests were well governed even prior to SOX. Alternatively, recall that one important objective of SOX was to make insiders' shareholdings less liquid; if large inside ownership stakes were largely illiquid even prior to SOX, then the benefits of the law may have been relatively muted for these firms.

Our analysis adds to the disclosure literature in two ways. First, our study is among the first to document how firms respond to increased compliance costs associated with new disclosure regulation. To date, the large literature in accounting on disclosure has focused primarily on other costs (including agency costs and proprietary costs — see Verrecchia (2001)) of disclosure rules. Second, our findings complement Bushee and Leuz (2003) by offering another setting in which firms may choose to evade disclosure regulation by selecting a less liquid form of corporate

organization. While they report that nearly three-fourths of eligible firms elect to switch to pink sheets or go private rather than adopt more stringent disclosure rules and remain traded on bulletin boards, we report only a modest increase in the rate at which firms go private in response to SOX. That our study yields a smaller effect on this dimension is not surprising — their analysis features a more substantial change in the disclosure regime. However, comparing the magnitudes of the effects is instructive, in that it provides a way to assess the sensitivity of firms' willingness to adopt less-liquid organizational forms to the nature of the change in disclosure regime.

The remainder of the paper proceeds as follows: In Section 2, we discuss the provisions of SOX in some detail, describe how these provisions may lead to both benefits and costs for public companies, and explain why SOX may shift firms across the public/private margin. We describe our data set in Section 3, and present our main empirical analyses in Section 4. Section 5 concludes.

2 SOX and the Public/Private Margin

2.1 The Sarbanes-Oxley Act of 2002

On July 30, 2002, President Bush signed the Public Accounting Reform and Investor Protection Act (the Sarbanes-Oxley Act) into law. SOX mandates a series of changes in corporate financial reporting and corporate governance for public companies. SOX was passed in response to several high-profile financial scandals in corporate America, which resulted in billions of dollars of losses for investors.

We highlight five main provisions of the Act. First, SOX requires CEOs and CFOs to certify firms' financial reports, and demands more timely and extensive financial disclosures. Companies must disclose transactions on a "rapid and current" basis and provide more detail regarding off-balance sheet transactions and special-purpose entities. Second, SOX requires all public companies to establish and maintain an internal control system for financial reporting, and requires management to evaluate the effectiveness of these systems in their annual reports. In addition, external auditors of the company must attest to management's evaluation.

Third, SOX sets more stringent standards for audit committee membership. All members

of the audit committee must be independent, and at least one of them should be a financial expert. Fourth, SOX affects the ability of corporate insiders to earn profits from trades of the firms' shares. CEOs and CFOs must disgorge bonuses and stock-sale profits during any twelve-month period following a financial report that is subsequently restated due to managerial misconduct. Further, executives must report insider trades within two days, rather than ten. Finally, the Act defines some new criminal offenses and increases criminal penalties attached to existing offenses. New offenses are related to the destruction of documents with intent to obstruct justice. Executives who knowingly certify false financial reports are subject to a fine of $5 million, a 20-year prison term, or both. Criminal penalties are increased for mail fraud, violation of ERISA reporting and disclosure rules, and violation of the 1934 Securities Exchange Act of 1934.[3]

2.2 Securities Regulation and the Public/Private Margin

2.2.1 Effects of Mandated Disclosure and Limits on Insider Trading

A large theoretical literature in accounting argues that firms can benefit by committing to certain types of disclosure prior to the realization of the information to be disclosed. Verrecchia (2001) refers to this as the "efficiency-based disclosure" literature, and outlines the standard reasoning. Entrepreneurs who commit their firms to disclose information will command higher per-share prices at an initial public offering. Investors will be willing to pay these higher share prices because disclosure mitigates certain costs that shareholders must pay subsequent to the IPO. Among these costs are those of adverse selection in capital markets and those due to agency. (See Healy and Palepu (2001) for a discussion of these costs.) Adverse selection arises

[3]Coincident with the passage of SOX, the NYSE and NASDAQ also proposed changes in listing standards for member firms with the goal of improving corporate governance, particularly in the areas of board and shareholder monitoring. As highlighted above, the SOX requirements additionally emphasize the financial reporting process, including the roles of audit committees, independent auditors, and firms' internal control systems. While the NYSE and NASDAQ proposals and SOX have many elements in common, we focus on the explicit costs and benefits of SOX as it impacts firms' going-private decisions. We acknowledge that it is likely that the new corporate governance requirements under the exchange proposals also impact the costs and benefits of being a public firm and thus may impact the going-private decision for firms listed on those exchanges. See Klein (2003) for a detailed comparison of the timing and requirements under the exchange proposals and SOX.

in capital markets if there is trade among agents with different levels of informedness. A firm that commits to disclosure mitigates the potential for differential informedness among traders, thus reducing the liquidity premiums its shareholders expect to pay when they sell their shares. Agency problems arise due to the separation of ownership and control; disclosure may reduce management's ability to consume agency goods (i.e., shirking or perquisites) at the expense of shareholders. Restrictions on insider trading can benefit shareholders in much the same way. Such restrictions may have the effect of limiting liquidity premiums (which presumably arise due to the greater informedness of insiders who trade). Further, such restrictions can limit management's incentive to take inefficient actions in order to maintain high share prices in the short run (see Stein (1989)).

Note that if entrepreneurs fully internalize the benefits of disclosure, then it is unclear why government *mandates* for disclosure are needed. That is, in order for legislation like SOX to be beneficial, it must be that privately chosen levels of disclosure differ from socially optimal levels. If private contracts cannot put in place sufficiently severe penalties for malfeasance, then government-mandated disclosure can lead to better outcomes. Consider, for example, a setting where a firm's CEO fails to disclose certain information that the entrepreneur had committed to disclose. Assuming bonding is imperfect, then the greatest punishment a firm's shareholders can impose using private contracts only would perhaps be firing the CEO. If this punishment is insufficiently severe, then the entrepreneur's *ex ante* commitment to disclose may not be credible. Limits on the punishments feasible under private contracts may therefore limit disclosure. If the legal system permits criminal and/or civil penalties to be imposed *in addition* to any sanctions allowable under private contracts, then firms may be better off with such regulation. As the model in Shleifer and Wolfenzon (2002) demonstrates, the ease with which a nation's legal system can impose such criminal or civil penalties is a key determinant of the extent of expropriation by corporate insiders.

To link this discussion specifically to SOX, note that the Act pairs increased reporting requirements with increased criminal penalties for willful misrepresentation. The Act also limits the ability of corporate insiders to profit from trading activity. If private contracts were unable to enforce disclosure or mitigate insider trading prior to SOX, then this legislative change could lead to increases in firm value.

2.2.2 Effects of SOX Compliance Costs

These potential benefits must be weighed, on a firm-by-firm basis, with the costs of complying with SOX. The business press has identified many aspects of the Act that may lead to increased costs of doing business for public firms. Our aim here is to discuss potential sources of costs that could cause firms to re-assess whether to remain public in the post-SOX period.

First, many corporate executives cite the internal control report as a key driver of costs. A survey by PriceWaterhouseCoopers[4] finds that executives believe 76% of direct SOX costs will stem from additions to internal resources, including documentation, legal requirements, policy development, self-assessment, staff training, and new tools and technology.

Second, the requirement that external auditors certify the internal control report will require more intensive audits, raising fees paid to auditors. The PWC survey reports that executives believe 24% of direct SOX costs will stem from increased need for "external assistance" in preparing financial statements.

Third, CEO and CFO certification of financial statements may divert the attention of these decision-makers from other aspects of the business. Thirty-five percent of the executives who participated in the *CFO Magazine* survey cited earlier estimate they will spend at least 10% of their total time on complying with SOX. This may lead to increased corporate staffing needs.

Fourth, the increased criminal and civil penalties associated with corporate malfeasance may lead managers and directors to demand higher wages in order to compensate for increased risk premiums. Directors' and Officers' Insurance premiums seem likely to rise as well.

The exact costs associated with SOX compliance, including both out-of-pocket and opportunity costs, are difficult to estimate. The survey from *CFO* magazine reports executive estimates of average annual SOX compliance costs to be $500,000. A more recent survey by the Financial Executive Institute of 321 public company members of varying sizes estimates the incremental annual auditor attestation fees alone to average $590,100 and initial implementation costs (including external consulting, software and other vendor charges but excluding internal employee time) to average $732,100.[5] If we capitalize the annual costs in perpetuity at a conservative

[4]See Collins, Pete, "Senior Executives Divided on Cost of Complying with Sarbanes-Oxley Act," *PWC Management Barometer,* July 2, 2003.

[5]See FEI Survey on Sarbanes-Oxley Section 404 Implementation, January, 2004 (http://www.fei.org).

10%, these estimates suggest the total cost to a firm of complying with SOX are in excess of $5 million.[6] Note also that these cost estimates exclude the more difficult to estimate opportunity costs such as management and board member time and attention, and potential shifts in project risk evaluation.

2.2.3 Net Effects of SOX

The net effect of SOX on firms' public/private choices will depend on the interplay among these two effects. If SOX compliance costs exceed the increase in shareholder value arising from improved governance, then it may be efficient for the firm to change its organizational form by going private.

To illustrate algebraically, let $\text{Value}_{\text{public}}^{\text{Pre-SOX}}$ be the value of a firm as a public corporation in the pre-SOX period. By revealed preference, this quantity is greater than $\text{Value}_{\text{private}}$ for our sample firms, as these firms were all public prior to SOX. SOX may lead to both benefits and costs, so let

$$\text{Value}_{\text{public}}^{\text{Post-SOX}} = \text{Value}_{\text{public}}^{\text{Pre-SOX}} + b - k,$$

where b and k are firm-specific benefits and compliance costs, respectively. It is efficient for the firm to go private post-SOX if

$$\text{Value}_{\text{public}}^{\text{Post-SOX}} < \text{Value}_{\text{private}},$$

or, equivalently, if

$$k > b + \left(\text{Value}_{\text{public}}^{\text{Pre-SOX}} - \text{Value}_{\text{private}}\right). \tag{1}$$

We use the inequality in (1) to derive our main hypotheses. It is clear that any of the three parameters in this inequality — compliance cost k, value of SOX-related governance improvements b, and the net benefit of being public prior to SOX $\text{Value}_{\text{public}}^{\text{Pre-SOX}} - \text{Value}_{\text{private}}$)

[6]Estimates of incremental annual auditor attestation fees range from an average of $52,200 for companies with less than $25 million in revenues to $1,531,400 for companies with over $5 billion in revenues, while initial implementation cost estimates range from an average of $170,000 for companies with less than $25 million in revenues to $1,390,100 for companies with over $5 billion in revenues. See FEI Survey on Sarbanes-Oxley Section 404 Implementation, January, 2004 (http://www.fei.org).

— are likely to vary considerably across firms. Thus, the effect of SOX on any given firm will depend on the interplay among these three effects.[7]

Firms with small b are those that benefit least from the governance reforms associated with SOX. According to (1), these firms are, *ceteris paribus*, more likely to go private post-SOX. Following the discussion in Holmstrom and Kaplan (2003), we argue that two groups of firms are likely to benefit least from SOX-related reforms: those that were well governed prior to SOX, and those for whom insiders' ownership stakes were relatively illiquid prior to SOX. While "governance quality" is notoriously difficult to measure, this discussion does suggest two ways that the magnitude of insiders' ownership shares may impact the going-private decision. Insiders with very high ownership face a high cost of consuming agency goods such as perquisites or shirking, and thus their firms may not benefit from reduction in agency costs as a result of SOX.[8] Large ownership stakes are also likely to be relatively illiquid. As noted above, SOX appears intended to make it more difficult for corporate insiders to profit from efforts to boost short-run share prices through accounting manipulations. Insiders with large ownership stakes are unlikely to be able to profit from such activity even in the absence of SOX, as it will be relatively difficult for them to sell large equity positions in response to artificially high short-run share prices. Thus, in our empirical analysis below, we examine whether higher inside ownership is positively related to firms' post-SOX going-private decisions.

We further expect going private to be more attractive post-SOX for firms where the pre-SOX net benefit of being public is small. One way the public form of organization benefits shareholders is by providing a liquid market into which shareholders may sell. Thus, we expect the net benefit of being public is smaller for firms that are relatively thinly traded, and that these firms will be more likely to go private after SOX.

Finally, we expect going private to be more attractive post-SOX for firms where the pre-SOX net benefit of being public is small relative to SOX compliance costs. The net benefits

[7]The legal and transaction costs of going private also likely affect firms' going-private decisions. These costs are one-time, rather than ongoing, but can be incorporated in the expression above as a reduction in the value of the firm as a private entity.

[8]Note, however, that governance quality is not believed to be monotonically increasing in insiders' ownership shares. See Morck, Shleifer and Vishny (1988) for evidence of a U-shaped relation.

of being public are likely to be smallest for relatively small firms. This statement is implied by the fact that most firms go public as smaller enterprises and remain public as they grow. As we have argued, SOX compliance costs appear to contain a substantial fixed cost, along with some other costs that are increasing with firm size. The presence of this substantial fixed cost suggests that SOX should make going private a more attractive option for relatively small firms.

2.3 Related Literature

Our paper is related to two strands of literature. First, we add to the literature on firms' going-private decisions by considering the effects of disclosure-regulation compliance costs on this choice. Prior work includes DeAngelo, DeAngelo and Rice (1984), Lehn and Poulsen (1989), and Marais, Schipper and Smith (1989). DeAngelo et al. (1984) study a sample of 81 going-private transactions between 1973 and 1980, and find that minority shareholders appear to benefit from such transactions. This result stands in contrast to the concern expressed by early 1980s securities regulators that such shareholders were "frozen out" in these transactions, and thereby suffered losses. DeAngelo et al. (1984) argue that minority shareholders were able to protect their interests using both voting rights and the threat of litigation.

Lehn and Poulsen (1989) examine a sample of 263 going-private deals from the 1980s, and search for evidence consistent with Jensen's (1986) free-cash flow hypothesis. Under this hypothesis, going private in a leveraged recapitalization improves managerial decision-making regarding free cash flow in two ways: leverage commits management to pay free cash flow to debt-holders, and going private increases insiders' equity ownership percentages, causing managers to internalize a greater share of any agency costs. They report that firms with greater free cash flow are more likely to go private, and that shareholders earn greater premiums in going-private deals when there is more free cash flow.

Marais et al. (1989) focus on the impact of going-private transactions on the value and default risk of senior securities by examining a sample of 264 firms going private from 1974 to 1985. They document positive announcement returns for public convertible securities and nonconvertible preferred stocks, minimal price effects for nonconvertible debt securities, and downgradings for debt securities after successful buyouts. They interpret their results as not

supportive of the view that bond values were reduced during the going-private process.

We also add to the empirical literature on the effects of disclosure regulation. Recent work in this area focuses primarily on the effects of extensions of the 1934 Securities Exchange Act, and exploits the fact that this Act was extended to apply to different groups of firms at different times. This differential treatment allows for straightforward construction of comparison groups and aids with identification of effects of disclosure. Greenstone, Oyer and Vissing-Jorgensen (2003), for example, study the 1964 Securities Acts Amendments, which extended the 1934 Act to cover smaller firms. They find that increased disclosure led to substantial positive cumulative abnormal returns for affected firms. As we discussed above, Bushee and Leuz (2003) examine the 1999 application of the 1934 Act to firms trading on over-the-counter bulletin boards. They report increases in liquidity for those firms that adopted the new rules, but find that nearly three-fourths of firms elected to delist rather than comply.

3 Sample Selection and Descriptive Analysis

The SEC defines going private as "when the company reduces the number of its shareholders to fewer than 300 and is no longer required to file reports with the SEC." We use this concept to construct our going-private sample. The exemption from filing reports with the SEC means the firm is also exempted from SOX compliance.

We restrict our sample to Rule 13e-3 going-private transactions, which are transactions initiated by affiliates of the company. We use this restriction because it yields a strict criterion for what it means to "go private," and because firms that go private under this rule must disclose complete information with the SEC in their Schedule 13E-3 and other filings.[9] Our sample is most comparable to that used in DeAngelo et al. (1984), in which going-private transactions are also defined within Rule 13e-3.

We construct our sample by retrieving all SEC Schedule 13E-3 filings from the first quarter

[9] According to the SEC's website, "The Schedule 13E-3 requires a discussion of the purposes of the transaction, any alternatives that the company considered, and whether the transaction is fair to all shareholders. The Schedule also discloses whether and why any of its directors disagreed with the transaction or abstained from voting on the transaction and whether a majority of directors who are not company employees approved the transaction."

of 1998 through the end of January 2004. We also retrieve SEC Form 15 and Form 25 to make sure that the deal is completed.[10] As our interest is in the decision to go private, our regression sample also includes nine pending deals. We verify the nature of each transaction by reading Schedule 13E-3, the related proxy filings, and related press releases. We exclude cases in which: (i) either the issuer or the acquiror is a foreign company, (ii) the going-private firm is in bankruptcy, and (iii) the going-private firm sells its assets and then liquidates.

Our sample selection process identifies 353 going-private transactions. Table 1 shows the frequency of these transactions by quarter, according to the filing date of the initial Schedule 13E-3. The data show a substantial increase in the number of firms filing going-private documents with the SEC after the enactment of SOX. In particular, in the 18 months since SOX was passed, a total of 142 firms filed going-private forms, while just 93 filed in the 19 months prior to SOX. When we consider all quarters in Table 1, a differences-in-means test rejects, at the 3% level, the hypothesis that the per-quarter mean number of going-private deals is the same before and after SOX. This finding is consistent with the notion that SOX is associated with an increase in the number of firms electing to go private. While this analysis does not control for overall market conditions and other factors that might impact a firm's decision to go private, we observe that most market indices displayed an increasing trend in the months since the passage of SOX, in contrast to the downward or more volatile pattern in the period just preceding SOX passage. All else equal, these market conditions would appear to provide an attractive reason for firms to stay public in the post-SOX period. We consider the effects of other firm-specific factors on the firm's decision to go private in our subsequent analyses.

Our sample covers a wide range of industries both before and after SOX, as evidenced by Table 2. The two industries with the greatest representation in our sample are depository institutions (2-digit SIC 60) and business service firms (2-digit SIC 73), representing 11.90% and 9.63% of the going-private firms, respectively. These figures are roughly in line with the representation of these industries among all Compustat firms. One notable pattern is in the computer and electrical industries (2-digit SIC 35 and 36): of the 23 going-private transactions,

[10] According to the SEC, Form 15 is "certification of termination of registration of a class of security," while Form 25 filed by a "National Securities Exchange to report the removal from listing and registration of matured, redeemed or retired securities".

19 took place before the passage of SOX. This suggests that stock market conditions might play a role in those firms' going-private decisions. As a sensitivity test, we conduct regressions that control for industry clustering among our sample firms.

The sample of 353 going-private transactions decreases markedly when we impose the data requirements for our regression analyses below. Table 3 provides details of how we arrived at our regression samples. As the table shows, nearly half of the transactions are missing accounting or stock return data. Most of the firms eliminated by the lack of data are small, and are either traded on the OTC Bulletin Board or are not traded on an established public trading market. Since our tests require sufficient data to calculate abnormal returns, our regression sample includes 182 going-private transactions for which complete accounting and returns data is available. Given our expectations about the effects of size and liquidity on the going-private decision, we expect this data constraint to work against finding an effect of SOX on going-private decisions for small firms.

The process of going private can take several forms, as firms can adopt different techniques to reduce the number of shareholders to less than 300. As discussed in some detail by DeAngelo et al. (1984), the conventional methods are merger, tender offer, and reverse stock split. In a going-private merger, the public company usually establishes a shell company. After satisfying all conditions to merge, the shell company is merged into the public firm, and the surviving entity is typically left with only one shareholder. In a going-private tender offer, the acquirors purchase shares from other stockholders. After acquiring at least 90% of the shares, the acquirors can execute a short-form merger and go private. Tender offers can be executed by a buyout group or by the company itself ("self tender offer"). Another type of tender offer, an odd-lot tender offer, involves the company's purchase of "odd lots," lots of fewer than 100 shares. For companies with relatively few large shareholders, an odd-lot tender offer can bring the number below 300. In a going-private reverse stock split, the company typically sets up a split ratio such as 1 for 1,000 shares. Shareholders holding fractional shares after the split are required to exchange them for cash, so this form of deal eliminates small shareholders, and allows the firm to go private. Reverse stock splits require an amendment of the company's charter, so the company must prepare a proxy statement and conduct a shareholder meeting

where shareholders vote on the amendment.[11]

Table 4 provides a breakdown of the types of going-private transactions for our sample. Panel A shows this breakdown for all going-private transactions, while Panel B includes only the 182 firms that are used in our regressions. Each panel is further divided according to the date a going-private proposal was first announced publicly. As in Lehn and Poulsen (1989), the information contained in these announcements varies from expressions of interest in taking the company private to announcements that the board has approved a going-private transaction. (Note that these dates usually differ from the filing dates of Schedule 13E-3 presented in Table 1.) We note that going-private firms increasingly use reverse stock splits rather than traditional buyouts (mergers and tender offers): nearly 13% of firms went private through reverse stock splits pre-SOX, while the percentage of firms using reverse stock splits to leave the public market nearly tripled to 37% post-SOX. We perform a binomial test and find that this difference is statistically significant (p-value < 0.01). The recent increase in reverse stock splits as a mechanism for going private may reflect companies' interest in avoiding the reporting requirements of SOX — unlike mergers and tender offers, reverse stock splits typically do not result in the company's recapitalization; instead, the result is simply the elimination of minority shareholders to reduce the total number to less than 300.[12] The reverse-stock-split firms are less likely to appear in our final sample; this is consistent with this group being comprised of smaller firms that are not traded on a major exchange.

Table 5 presents summary statistics for going-private firms in the fiscal year prior to the going-private announcement. While we do not tabulate summary statistics for the overall CRSP/Compustat sample used in the SOX-passage-dates event study below, we note that the

[11]The voting requirements for a reverse stock split may be less than for a long-form merger. Further, in contrast to mergers and tender offers, appraisal rights (the right of dissenting shareholders to demand a judicial review in order to determine a fair value for their shares) are generally not available for reverse stock splits. These features may be determinants of how a going-private transaction is structured. (See Borden and Yunis (1982).)

[12]For example, the 12/31/2003 proxy statement soliciting votes for The Seibels Bruce Group's reverse stock split states "the purpose behind the proposal and the benefits of going private include: eliminating the costs associated with filing documents under the 1934 Act with the SEC; eliminating the costs of compliance with the Sarbanes-Oxley Act of 2002 and related regulations..." (p. 7).

going-private firms, with a mean (median) market value of $157.48 ($37.82) million, are considerably smaller than the CRSP/Compustat firms, whose mean and median are over $2.5 billion and $175 million, respectively. Likewise, monthly share volume and share turnover (share volume/shares outstanding) are also smaller for the going-private sample than the CRSP/Compustat sample. We also find that adjusted book-to-market, measured as book value of assets divided by book assets minus book equity plus market value of equity (following Griffin and Lemmon (2000)) is larger (mean = 1.025, median = 0.995) than the CRSP/Compustat sample (mean = 0.788, median = 0.819). These statistics are broadly consistent with the notion that larger, more actively traded firms receive greater net benefits from being public.

When we compare the pre-SOX and post-SOX going-private firms, we find a number of differences. Post-SOX going-private firms tend to be smaller, whether we measure size using market value, sales, or assets, and the difference is generally significant. Post-SOX firms have a higher adjusted book-to-market and lower sales growth, which may suggest fewer growth opportunities for these firms. Free cash flow appears to be lower for the post-SOX firms, but the difference is significant only using the medians test.[13] The two trading measures, share turnover and share volume, both indicate that the post-SOX firms are less liquid than their pre-SOX counterparts. Finally, manager and director ownership, which we collect from the most recent filing prior to the going-private announcement, is significantly higher for going-private transactions that take place after SOX.

We also note that the abnormal returns to going-private announcements are positive, with a mean (median) of 25.6% (20.6%) for the pre-SOX sample, and a mean (median) of 32.4% (19.7%) for the post-SOX sample. The returns for the pre- and post-SOX periods are not significantly different. These announcement returns are somewhat higher than the going-private announcement returns in prior research; for example, Lehn and Poulsen (1989) report a mean

[13]We follow Lehn and Poulsen (1989) in constructing the free cash flow variable:

$$\text{CF} = \text{OpInc} - \text{Tax} - \text{IntExp} - \text{PfdDiv} - \text{ComDiv}. \tag{2}$$

where OpInc is operating income (Compustat data13), Tax is current income taxes (Compustat data16 minus the change in Compustat data35), IntExp is interest expense (Compustat data15), PfdDiv is preferred dividends (Compustat data19), and ComDiv is dividends declared on common stock (Compustat data21). The variable is deflated by beginning-of-year book value of assets.

abnormal return of 16.3%.

4 Regression Analysis

In this section, we present the results of our regression analyses. We first examine whether the market response to SOX-passage-related events is related to firm characteristics hypothesized to relate to the net benefit of SOX. We then investigate whether the factors predicting the going-private decision differ pre- and post-SOX, and whether SOX-passage-related announcement returns can predict the going-private decision. Finally, we examine the stock price response to firms' going-private announcements.

4.1 Abnormal Stock Returns around the Key Events Leading to the Passage of SOX

We begin by examining cross-sectional variation in the stock price response to events that appeared to increase the likelihood of corporate-governance legislation. Several existing studies have probed valuation impacts of SOX-related events. Bhattacharya, Groznik and Haslem (2003) find no market reaction associated with the CEO and CFO certification or non-certification of financial reports required by SOX. Li, Pincus and Rego (2003) and Rezaee and Jain (2003) examine abnormal returns surrounding dates associated with events leading to the passage of SOX, noting both increases and decreases at various key event dates. Rezaee and Jain (2003) also examine cross-sectional determinants of the abnormal positive cumulative announcement returns for four key dates immediately preceding the passage of SOX. Our analysis in this section is similar in spirit to that of Rezaee and Jain (2003). The key differences between the two analyses are our consideration of a broader time horizon of SOX-passage-related events and our inclusion of size and trading activity as independent variables hypothesized to be associated with net costs of SOX across firms. Further, while we are interested in documenting firm-level factors associated with abnormal event returns in general, we are also interested in calculating firm-level abnormal returns in order to examine the association between the SOX-passage-related event response and firms' going-private decisions in our next set of tests.

Following prior literature, we first identify the key events leading to the passage of SOX by examining press releases using *Factiva*. Similar to Rezaee and Jain (2003) and Li et al. (2003),

we identify a series of events starting from February 13, 2002, when the SEC announces that it intends to propose several rules designed to improve the financial reporting disclosure system, and ending on July 25, 2002, when Congress passes SOX. We do not consider July 30, 2002 to be a major event because once SOX is passed in Congress, presidential approval was viewed as a foregone conclusion. The timeline of corporate governance reform events we consider is listed in the appendix.

As with other event studies, we face the potential problem of other business and economic events occurring during the event period, which might make it difficult to separate the effects of SOX from other events. To increase the power of our tests, we use a set of event dates that concentrate on the key SOX-related events in the month before the final passage of SOX. We begin with June 12, 2002, when the SEC proposed a rule requiring executives to vouch for the information in their companies' quarterly and annual reports. Sarbanes' bill was approved by the Senate Banking Committee the following week, and a week later, the Worldcom accounting scandal broke. This event greatly increased the likelihood of stringent regulation aimed at improving financial reporting transparency and corporate governance.

Specifically, we look at the (-1, +1) short window cumulative abnormal returns around each of the following days in 2002: June 12, June 18, June 26-27, July 8-12, July 15-16, and July 24-25.[14] We refer to this cumulative abnormal return as AR_SOX. We also examine the (-1, +1) cumulative abnormal return (AR_SOXPASS) for all days in the period beginning with the passage of Sarbanes' bill in the Senate (July 15, 2002) and ending with the passage of SOX (July 25, 2002). To avoid including any SOX-related events in the estimation period for our market model, we use the 200 days before February 13, 2002 to estimate the market model parameters. We use the CRSP valued-weighted return as the market return, using all firms in the CRSP database. All other variables used in the regressions are for fiscal year 2001.[15]

We use a multivariate regression framework to examine the cross-sectional variation in

[14]We obtain similar results using identified events from February 13, 2002 through the passage of SOX.

[15]Other return measures have been used to examine firm responses to market-wide regulation, including raw returns and constant-mean abnormal returns. Following Lo (2003), we elect to use market-model abnormal returns because there were large, likely non-SOX related market movements throughout our SOX-passage event window, and these market movements are unlikely to have affected all firms equally.

abnormal announcement returns during those key dates. Our earlier discussion suggests that LogMV (log of market value) and trading variables (Turnover) may capture some of the costs and benefits of SOX, as well as the net benefits of being public. We also include several other control variables in the regression: BM (adjusted book-to-market), leverage (Lev, total liabilities deflated by assets), free cash flow (CF), accounting profitability (ROA), and stock return volatility (StdRet). The results are shown in Table 6. Both measures of abnormal returns are positively and significantly related to the magnitude of firm size and share turnover. Consistent with our expectations, these results suggest that smaller and less actively traded firms reacted less favorably to events increasing the likelihood of SOX passage.

4.2 Predicting Going-Private Actions

We now turn to our sample of going-private firms. Given our interest in how SOX has changed the public/private margin, we examine whether the characteristics related to the likelihood of firms going private differ in the pre- and post-SOX periods. Further, in light of our findings that abnormal stock returns around the key events leading to the passage of SOX are less favorable for smaller and less actively traded firms, a natural question is whether those announcement returns can predict the subsequent incidence of going private. If the firm-specific SOX-passage-related announcement returns are the market's evaluation of the net effect of SOX on each firm, those announcement returns might be related to the likelihood of going private.

To test these questions, we construct a control sample of firms that do not go private, matched by four-digit SIC industry code and market value of equity in the fiscal year prior to the going-private announcement.[16] For the 136 (46) firms with trading and accounting data that go private before (after) SOX, we are able to find 132 (45) matches. Table 7 presents summary statistics for our sample firms and the control firms. Note that the SOX passage announcement returns are only available for the post-SOX going-private firms, as the pre-SOX firms were no longer trading publicly during those events.

We conduct logit regressions relating the going-private decision to firm characteristics. We

[16]We match by four-digit SIC code and log of market value, where $|\ln(\text{firm market value}) - \ln(\text{control firm market value})| < \ln(4)$. If a match using four-digit SIC codes is not available, we use three-digit or two-digit SIC codes. We find matches using four-digit SIC codes for 122 (43) firms in our pre-SOX (post-SOX) sample.

include variables we expect to relate to the costs and benefits of being public, such as inside ownership (MgrDirOwn) and share turnover (Turnover), and control variables. Following Lehn and Poulsen (1989), we also include free cash flow (CF), sales growth (SalesGr), and cash taxes (Tax) as explanatory variables. These variables are intended to capture the free cash flow hypothesis, opportunities for profitable reinvestment of cash flow, and tax considerations, all of which were found by Lehn and Poulsen (1989) to help explain the likelihood of going private. We conduct the regressions on the whole sample, and also on each subperiod (pre- and post-SOX) to examine whether the determinants of the going-private decision appear to have changed. For the post-SOX subperiod, we also include the SOX-passage-related abnormal returns. Although our earlier discussion suggests that firm size is one of the most important predictors of the going-private decision, we do not include size in our regression, since our control firms are matched on size. As the going-private firms are on average smaller than other public firms, this will likely limit our ability to explain the going-private decision in our regressions.

In Table 8, we present the results of the logit regressions. Parameters presented are the partial derivatives with respect to the independent variable of the probability of going private, evaluated at the medians of the other explanatory variables. Column (1) includes all firms, Column (2) includes pre-SOX firms only, and Columns (3)-(5) include post-SOX firms only. Two explanatory variables are consistently significant: a higher ownership percentage by managers and directors and a higher adjusted book-to-market value are positively related to the likelihood of a firm going private, both pre- and post-SOX. For example, a ten percentage point increase in inside ownership increases the likelihood of going private by 3.01 percentage points pre-SOX, while the same increase in inside ownership has a 7.98 percentage point effect post-SOX. In unreported alternate specifications, we find that the differences between pre- and post-SOX coefficients are not significant (the p-value for the difference in MgrDirOwn is 0.13).

Finally, we find that the SOX-passage-related announcement returns do not have predictive power for the going-private decision. A possible explanation for this finding is that firm-specific abnormal returns reflect not only the net effects of SOX but also the market's assessment of the likelihood the firm will choose to go private in response to SOX.

4.3 Going-Private Announcement Returns

Finally, we turn to our analysis of the abnormal stock return around the going-private announcement. The announcement returns reflect the resolution of uncertainty regarding the firm's willingness to go private, and are indicative of the expected value changes from going private. In terms of our earlier discussion, the announcement returns provide a measure of $\text{Value}_{\text{private}} - \text{Value}_{\text{public}}$. We relate the announcement return to firm characteristics intended to capture the costs and benefits of SOX and the net benefit of being public.

We use the traditional event study framework to estimate the (-1, +1) window cumulative abnormal stock returns surrounding the firm's going-private announcement. We define the event day to be the first date that a going-private proposal was announced publicly. We use an estimation period of 200 days before the going-private proposal to estimate the market model parameters.[17] Given that our firms tend to be small, we use the NASDAQ valued-weighted return as the market return.[18]

Our discussion of the firm-specific costs and benefits of SOX leads us to focus our attention on size and inside ownership in these analyses. Table 9 presents our results. For ease of interpretation, we subtract the median value from each continuous variable in these regressions. This means that the correct interpretation of, for example, the coefficient on the PostSOX indicator is the predicted difference in the pre- and post-SOX abnormal return when all continuous variables take their median values.[19] We also include an indicator variable for the form of the going-private transaction. We define MGR to equal one if the transaction is a merger, third-party tender offer, or self tender-offer, and zero otherwise. This classification reflects our earlier findings that reverse stock splits and odd-lot tender offers tend to involve smaller firms

[17] We note that MacKinlay (1997) suggests OLS is appropriate for calculating abnormal returns for thinly traded firms such as many in our sample, since the difference between the distribution of abnormal returns computed from more refined approaches such as Scholes-Williams and that from OLS is minimal.

[18] Similar results were obtained from using other indices, including CRSP value- and equal-weighted indices, and the NASDAQ equal-weighted index.

[19] Recall that if we had not subtracted the medians from the continuous variables, then the coefficient on PostSOX would be the y-intercept; that is, the predicted difference in pre- and post-SOX abnormal returns when all continuous variables take value *zero*. This value is difficult to interpret economically.

and often appear to be used simply to exempt the company from reporting requirements, rather than to recapitalize the firm.

Column (1) presents our first regression, which examines the relation between going-private announcement returns and size. We include size directly and also interacted with PostSOX, an indicator for whether the transaction was initiated after SOX. We find that the interaction of PostSOX and size is significantly negative, implying that going-private announcement returns were significantly higher for smaller firms after SOX was passed. The coefficient estimates suggest that a reduction of logMV by one (corresponding to a reduction in actual market value of about 65 percent) increases going-private announcement returns by only 1.5 percentage points before SOX, but 9.1 percentage points after. The MGR variable is also significantly positive, with the magnitude indicating that mergers and tender offers tend to produce abnormal returns that are higher by 20.8 percentage points. A possible explanation for this finding is the lack of appraisal rights in reverse stock splits; appraisal rights in the other types of transactions may have the effect of increasing the premium.

Column (2) presents a similar regression that includes manager and director ownership and its interaction with PostSOX. Our point estimates suggest that announcement returns are associated with an increase in inside ownership after the passage of SOX, but this effect is not statistically significant at conventional levels (p-value = 0.13). Point estimates indicate that a ten percentage point increase in manager and director ownership leads to a 0.02 percentage point reduction in abnormal return before SOX, but a 3.6 percentage point increase after. These results are consistent with the notion that the value of being public post-SOX, relative to the value of being private, is lower for smaller firms and those with greater inside ownership, although the ownership result is not statistically strong.

In Columns (3)-(5), we include both size and inside ownership. The relation between announcement returns and both inside ownership and size is weakened somewhat when both variables are included, as the two variables are negatively correlated. The two variables are, however, jointly significant at the 5% level. Columns (4) and (5) include the interaction effect of size and managerial ownership, both directly and interacted with PostSOX. To interpret these interaction effects, note first that this specification allows us to assess how the derivative of announcement returns with respect to managerial ownership varies with firm size, both before

and after SOX. Consider, for example, a firm in the 25th percentile of log market value (2.53). Using the estimates in Column (4), we can compute that, before SOX, a ten percentage point increase in manager and director ownership is predicted to lead to a 2.0 percentage point decrease in abnormal return. After SOX, a ten percentage point increase in manager and director ownership leads to a 4.8 percentage point *increase* in abnormal return. That is, for small firms, SOX appears to have markedly increased the beneficial effect of manager and director ownership on going-private abnormal returns. The reverse conclusion holds for large firms. Consider a firm in the 75th percentile of log market value (4.88). Before SOX, a ten percentage point increase in manager and director ownership leads to a 0.2 percentage point increase in abnormal return. After SOX, a ten percentage point increase in manager and director ownership leads to a 1.3 percentage point decrease in abnormal return. For large firms, SOX does not appear to have altered the effect of manager and director ownership on going-private announcement returns. These results support the assertion of Holmstrom and Kaplan (2003) that going private post-SOX should be most attractive to small firms, and firms where managers' and directors' ownership stakes are least liquid.

In Column (5), we add sales growth and free cash flow variables, and interact these with our PostSOX indicator. Our result regarding the interaction of size and ownership is unaffected by the addition of these variables. Additionally, we find that firms with stronger sales growth and lower free cash flow receive higher going-private announcement returns before SOX. This finding is opposite that reported by Lehn and Poulsen (1989), suggesting that Jensen's free cash flow hypothesis was less relevant for explaining going-private transactions in the early 2000s compared to the mid-1980s. We find a positive interaction between free cash flow and our PostSOX indicator.

As a robustness check, we estimated specifications similar to those in Table 9 using abnormal premiums — that is, the market-adjusted return from the date of the going-private announcement until delisting — as the dependent variable. Note that while Lehn and Poulsen (1989) conduct their analyses using raw (that is, non-market adjusted) premiums, the large market movements over our sample period suggest that abnormal premiums are likely a better measure of the value created as a result of the transaction. One difficulty with this approach in our context is the recency of our sample events. Some deals are still pending, so it is not possible

to construct a premium; in other cases, CRSP data is not yet available up to the transaction date. Nonetheless, this analysis yields very similar results.[20]

5 Conclusion

In this paper, we have examined the effect of the Sarbanes-Oxley Act of 2002 on firms' going-private decisions. This Act, which was passed in response to a number of high-profile financial scandals, puts in place new disclosure rules and auditing standards, and adds significantly to the penalties attached to certain forms of corporate fraud. While proponents of Act argued it was necessary to increase corporate transparency, critics focused on costs of complying with these new requirements.

In light of these new and potentially costly rules, some public firms may reconsider their choice of organizational form. Specifically, we argued that going private may be an attractive response to SOX for some firms. Applying standard economic logic, we reasoned that going private may be optimal for those firms where the SOX-induced benefits to shareholders are small, and those firms where the net benefits of being public were small even prior to SOX.

To examine these assertions, we collected a sample of firms that went private both just before and just after the passage of SOX. Our empirical analysis yielded three main findings: (1) the quarterly frequency of going private increased modestly after the passage of SOX; (2) the abnormal returns associated with the passage of SOX were positively related to firm size and share turnover; (3) smaller firms experienced higher going-private announcement returns in the post-SOX period compared to the pre-SOX period, and this effect was especially pronounced for firms with high inside ownership.

We interpret this evidence as being broadly consistent with the notion that SOX affected firms' going-private decisions. Smaller firms are likely those where the pre-SOX net benefit of being a public corporation is small. Further, firms with large inside ownership may be those where insiders' shareholdings were relatively illiquid even before SOX. Given that one apparent aim of SOX was to make insiders' shareholdings less liquid, these are firms where the beneficial

[20] As an additional robustness check, we added all variables from Table 8 to the regression in Table 9. Our results were not markedly affected. We also reran the regression controlling for industry cluster, and the results are qualitatively similar to those reported in Table 9.

effects of the Act were relatively more muted.

In ongoing work, we are continuing to examine our sample firms, specifically those very small firms that went private in reverse-stock-split transactions. While it is instructive that there was a large increase in such deals in the post-SOX period, a careful examination of these transactions awaits additional data gathering. Examination of data from very small firms will also permit us to differentiate the effects of SOX from those of governance changes mandated by stock exchanges. While the NYSE and NASDAQ altered governance rules around the time of SOX, many smaller public firms would not be subject to these changes.

Appendix

Timeline of corporate governance reform events

- 2/13/2002: SEC "intends to propose several rules designed to improve the financial reporting disclosure system"
- 2/13/2002: Oxley (Republican) introduces legislation in House to "toughen oversight of accountants, require prompt disclosure of corporate information and put more cops on the stock-fraud beat"
- 2/28/2002: House Democrats introduce legislation to "curb accountants, Wall Street analysts and corporate boards, while increasing funding for securities regulators"
- 3/7/2002: Bush announces 10-point plan "aimed at improving the financial disclosures of corporations and the financial responsibility of chief executives and accountants"
- 4/16/2002: House Financial Services Committee approves legislation to "toughen oversight of corporate accounting and financial reports in the wake of the Enron debacle" (Oxley's bill)
- 4/24/2002: House approves legislation to "toughen oversight of corporate accounting and financial reports in the wake of the Enron debacle" (Oxley's bill)
- 5/8/2002: Senate Banking Committee Chairman Sarbanes proposes legislation "to address issues raised by Enron's downfall by imposing broad new responsibilities on corporate officers and directors, changing the way accountants are regulated, and strengthening financial disclosure to investors"
- 6/12/2002: SEC proposes "rule requiring executives to vouch for the information in their companies' quarterly and annual reports"
- 6/18/2002: Senate Banking Committee approves bill to "tighten oversight of accountants, strengthen independence on Wall Street and increase funding for securities regulators" (Sarbanes' bill)

- 6/26/2002: Worldcom announces $3.8 billion of expenses were improperly booked as assets
- 6/27/2002: SEC orders corporate executives at firms with revenues of more than $1.2 billion to file sworn statements, starting August 14, that the company's financial reports are true
- 7/8/2002: Bush gives another speech about corporate reform
- 7/8/2002 — 7/12/2002: Senate debates legislation
- 7/15/2002: Senate approves Sarbanes' bill
- 7/16/2002: House passes bill
- 7/19/2002: House and Senate begin negotiations to merge bills
- 7/24/2002: House and Senate negotiators sign off on bill
- 7/25/2002: Congress passes corporate reform bill (Sarbanes-Oxley)
- 7/30/2002: Bush signs Sarbanes-Oxley bill

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Table 1: Going-Private Frequency (1998-2004)

Filing Quarter	Frequency	Percentage	Cumulative Frequency	Cumulative Percentage
1998q1	8	2.27	8	2.27
1998q2	9	2.55	17	4.82
1998q3	4	1.13	21	5.95
1998q4	4	1.13	25	7.08
1999q1	12	3.39	37	10.48
1999q2	17	4.82	54	15.30
1999q3	14	3.97	68	19.26
1999q4	9	2.55	77	21.81
2000q1	9	2.55	86	24.36
2000q2	13	3.68	99	28.05
2000q3	10	2.83	109	30.88
2000q4	9	2.55	118	33.43
2001q1	12	3.40	130	36.83
2001q2	27	7.65	157	44.48
2001q3	14	3.97	171	48.44
2001q4	12	3.40	183	51.84
2002q1	12	3.40	195	55.24
2002q2	13	3.68	208	58.92
July 2002	3	0.85	211	59.77
Aug., Sept. 2002	7	1.98	218	61.76
2002q4	24	6.80	242	68.56
2003q1	18	5.10	260	73.65
2003q2	28	7.93	288	81.59
2003q3	22	6.23	310	87.82
2003q4	33	9.35	343	97.17
Jan. 2004	10	2.83	353	100.00

Table includes all firms that filed Schedule 13E-3 and either Form 15 or Form 25 with the SEC from 1998 through January 2004. Table also includes firms that filed Schedule 13E-3 for transactions that are still pending.

Table 2: Going-Private Transactions by Two-Digit SIC Industry (1998-2004)

		Number			Percentage		
SIC	Industry	All	Pre-SOX	Post-SOX	All	Pre-SOX	Post-SOX
1	Agriculture Production-Crops	4	1	3	1.13	0.46	2.24
7	Agricultural Services	2	1	1	0.57	0.46	0.75
13	Oil and Gas Extraction	8	3	5	2.27	1.37	3.73
15	Building Construction-Gen Contr, Op Bldr	3	2	1	0.85	0.91	0.75
16	Heavy Construction	2	1	1	0.57	0.46	0.75
17	Construction-Special Trade	1	0	1	0.28	0.00	0.75
20	Food and Kindred Products	10	8	2	2.83	3.65	1.49
21	Tobacco Products	1	1	0	0.28	0.46	0.00
22	Textile Mill Products	5	5	0	1.42	2.28	0.00
23	Apparel and Other Finished Products	3	2	1	0.85	0.91	0.75
24	Lumber and Wood Products, Ex Furniture	4	3	1	1.13	1.37	0.75
25	Furniture and Fixtures	6	5	1	1.70	2.28	0.75
26	Paper and Allied Products	2	1	1	0.57	0.46	0.75
27	Printing, Publishing and Allied	8	6	2	2.27	2.74	1.49
28	Chemicals and Allied Products	6	4	2	1.70	1.83	1.49
29	Petroleum Refining and Related Industries	2	1	1	0.57	0.46	0.75
30	Rubber and Miscellaneous Plastics Products	2	1	1	0.57	0.46	0.75
32	Stone, Clay, Glass, Concrete Products	2	0	2	0.57	0.00	1.49
33	Primary Metal Industries	1	0	1	0.28	0.00	0.75
34	Fabricated Metal, Ex Machinery, Trans Eq	7	3	4	1.98	1.37	2.99
35	Indl, Comml Machinery, Computer Eq	11	10	1	3.12	4.57	0.75
36	Electronic, Other Electrical Eq, Ex Comp Eq	12	9	3	3.40	4.11	2.24
37	Transportation Equipment	5	5	0	1.42	2.28	0.00
38	Measurement Instr, Photo Goods, Watches	9	6	3	2.55	2.74	2.24
39	Miscellaneous Manufacturing Industries	6	5	1	1.70	2.28	0.75
42	Motor Freight Transportation, Warehouse	4	2	2	1.13	0.91	1.49
48	Communications	9	6	3	2.55	2.74	2.24
49	Electric, Gas, Sanitary Service	4	4	0	1.13	1.83	0.00
50	Durable Goods-Wholesale	13	10	3	3.68	4.57	2.24
51	Nondurable Goods-Wholesale	5	2	3	1.42	0.91	2.24
52	Building Material, Hardware, Garden-Retail	4	1	1	1.13	0.46	2.24
54	Food Stores	2	2	0	0.57	0.91	0.00
55	Apparel and Accessory Stores	2	1	1	0.57	0.46	0.75
58	Eating and Drinking Places	17	13	4	4.82	5.94	2.99
59	Miscellaneous Retail	8	6	2	2.27	2.74	1.49
60	Depository Institutions	34	13	21	9.63	5.94	15.67

Table 2: Going-Private Transactions by Two-Digit SIC Industry (Continued)

		Number			Percentage		
SIC	Industry	All	Pre-SOX	Post-SOX	All	Pre-SOX	Post-SOX
61	Nondepository Credit Institutions	4	1	3	1.13	0.46	2.24
62	Security and Commodity Brokers	2	1	1	0.57	0.46	0.75
63	Insurance Carriers	11	5	6	3.12	2.28	4.48
64	Insurance Agents, Brokers and Service	1	1	0	0.28	0.46	0.00
65	Real Estate	19	12	7	5.38	5.48	5.22
67	Holding, Other Investment Offices	16	12	4	4.53	5.48	2.99
70	Hotels, Other Lodging Places	3	1	2	0.85	0.46	1.49
72	Personal Services	1	1	0	0.28	0.46	0.00
73	Business Services	42	21	21	11.90	9.59	15.67
75	Auto Repair, Services, Parking	1	1	0	0.28	0.46	0.00
76	Miscellaneous Repair Services	1	1	0	0.28	0.46	0.00
78	Motion Pictures	2	2	0	0.57	0.91	0.00
79	Amusements and Recreation	7	4	3	1.98	1.83	2.24
80	Health Services	6	5	1	1.70	2.28	0.75
82	Educational Services	1	0	1	0.28	0.00	0.75
83	Social Services	3	2	1	0.85	0.91	0.75
86	Membership Organizations	1	0	1	0.28	0.00	0.75
87	Engr, Acc, Resh, Mgmt, Rel Svcs	7	5	2	1.98	2.28	1.49
99	Nonclassifiable Establishment	1	1	0	0.28	0.46	0.00
	Total	353	219	134	100.00	100.00	100.00

Table includes all firms that filed Schedule 13E-3 and either Form 15 or Form 25 with the SEC from 1998 through January 2004. Table also includes firms that filed Schedule 13E-3 for transactions that are still pending.

Table 3: Sample Selection

Going-private firms	353
Less:	
Missing GVKEY	(57)
Missing PERMNO	(24)
Missing returns data	(17)
No returns after going-private announcement	(21)
Not enough data in market model estimation period	(46)
Missing Compustat data	(6)
Firms included in going-private announcement regression	182
Less:	
No control firm available	(5)
Firms included in going-private logit regression	177

Table 4: Going-Private Transaction Types

	Merger	Third-Party Tender Offer	Self Tender Offer	Reverse Stock Split	Odd-Lot Tender Offer	Total
Panel A: All transactions						
4/1/1997 - 7/31/2002	144	31	13	28	3	219
	65.75%	14.16%	5.94%	12.79%	1.37%	100%
8/1/2002 - 2/28/2004	69	6	4	50	5	134
	51.49%	4.48%	2.99%	37.31%	3.73%	100%
Total	213	37	17	78	8	353
	60.34%	10.48%	4.82%	22.10%	2.27%	100%
Panel B: Regression sample						
4/1/1997 - 7/31/2002	97	25	9	4	1	136
	71.32%	18.38%	6.62%	2.94%	0.74%	100%
8/1/2002 - 2/28/2004	35	4	2	3	2	46
	76.09%	8.70%	4.35%	6.52%	4.35%	100%
Total	132	29	11	7	3	182
	72.53%	1.65%	6.04%	3.85%	15.93%	100%

Table lists the types of going-private transactions. Transaction date is the first date a going-private proposal was announced. Panel A includes all transactions, while Panel B includes only transactions included in our regression sample. Time periods are divided into pre- and post-Sarbanes-Oxley passage.

Table 5: Summary Statistics: Going-Private Firms Pre- and Post-SOX

	Full sample (N=182)			Pre-SOX sample (N=136)			Post-SOX sample (N=46)			Difference	
	Mean	Median	St. Dev.	Mean	Median	St. Dev.	Mean	Median	St. Dev.	Mean	Median
MV	157.48	37.82	482.35	185.79	53.30	531.87	73.79	21.34	278.48	112.01^{c}	31.96^{a}
Sales	250.94	99.32	597.44	281.97	109.48	671.58	159.20	78.64	266.66	122.77^{c}	30.84^{b}
Assets	270.45	97.32	639.05	307.18	102.66	715.08	161.88	86.01	304.04	145.30^{b}	16.65
MgrDirOwn	0.408	0.390	0.246	0.375	0.333	0.244	0.503	0.536	0.227	-0.128^{a}	-0.203^{a}
Vol	14,764	2,827	51,738	14,678	4,233	49,818	15,019	1,460	57,632	-34	2,773^{a}
Turnover	0.774	0.360	1.632	0.888	0.468	1.807	0.436	0.191	0.872	0.453^{a}	0.277^{a}
BM	1.025	0.995	0.408	0.976	0.957	0.425	1.169	1.089	0.317	-0.193^{a}	-0.132^{a}
SalesGr	0.162	0.065	0.504	0.237	0.123	0.537	-0.057	-0.033	0.304	0.294^{a}	0.156^{a}
Lev	0.497	0.500	0.237	0.487	0.492	0.230	0.528	0.549	0.257	-0.042	-0.057
CF	-0.221	0.067	3.627	-0.301	0.083	4.196	0.015	0.018	0.091	-0.316	-0.101^{a}
Ret	-0.004	-0.001	0.058	-0.007	-0.001	0.057	0.006	0.005	0.059	-0.013	-0.006
AR_GP	0.275	0.206	0.283	0.258	0.206	0.252	0.324	0.197	0.354	-0.066	0.009

Full sample includes both Pre-SOX and Post-SOX observations. Pre-SOX (Post-SOX) sample includes firms with announcement of going-private transactions before (after) July 30, 2002. Difference is difference between Pre- and Post-SOX values. All variables measured in year prior to going-private announcement. Size measures are in $millions. MV = firm market value. MgrDirOwn = manager and director ownership percentage prior to going-private announcement. Vol = average monthly stock trading volume (in hundreds). Turnover = average monthly share turnover. BM = assets/(assets − equity + market value). SalesGr = prior year sales growth. Lev = total liabilities/assets. CF = (operating income before depreciation − income tax expense + deferred taxes − dividends to preferred and common)/assets. Ret = fiscal year stock return. AR_GP = cumulative abnormal return to going-private announcement, over (-1,+1) window. a, b, and c denote significant differences at the 1%, 5%, and 10% levels, respectively.

Table 6: SOX Passage Returns and Firm Characteristics

	AR_SOX	AR_SOXPASS
Intercept	-0.086^a	-0.036^b
	(-3.47)	(-2.30)
LogMV	0.008^a	0.004^a
	(3.26)	(2.63)
Turnover	0.017^a	0.006^a
	(4.84)	(2.81)
BM	0.008	-0.018^b
	(0.65)	(-2.26)
Lev	-0.051^a	-0.033^a
	(-3.09)	(-2.88)
CF	-0.031	-0.034^b
	(-1.22)	(-2.24)
ROA	-0.041^a	-0.020^b
	(-2.58)	(-2.18)
StdRet	-0.081^b	0.033
	(-1.98)	(1.26)
N	5,011	5,011
R^2	0.03	0.02

t-statistics computed using heteroskedastic-consistent standard errors. AR_SOX = cumulative event response for all dates included in appendix, beginning June 12, 2002, with each event measured from (-1,+1). AR_SOXPASS = cumulative event response from July 12-26, 2002. logMV = log of firm market value. Turnover = average monthly share turnover. BM = assets/(assets − equity + market value). Lev = total liabilities/assets. CF = (operating income before depreciation − income tax expense + deferred taxes − dividends to preferred and common)/assets. StdRet = standard deviation of firm stock returns over prior year. a, b, and c denote significance of coefficients at the 1%, 5%, and 10% levels, respectively.

Table 7: Summary Statistics: Going-Private Firms and Control Firms

Panel A: All transactions	GP sample (N=177)			Control sample (N=177)		
	Mean	Median	St. Dev.	Mean	Median	St. Dev.
MV	164.42	36.26	498.78	150.68	43.30	360.53
MgrDirOwn	0.4086	0.3900	0.2443	0.3129	0.2868	0.2122
Turnover	0.6927	0.3665	1.2655	1.0864	0.5336	3.2637
BM	1.0319	0.9994	0.4034	0.8796	0.8649	0.3758
SalesGr	0.1465	0.0629	0.4354	0.3458	0.0578	2.0994
Lev	0.5006	0.5019	0.2374	0.5588	0.5265	0.4113
CF	0.0456	0.0657	0.1630	-0.0012	0.0415	0.2069
ROA	0.0068	0.0475	0.1945	-0.0448	0.0283	0.2648
Tax	0.0232	0.0095	0.0413	0.0179	0.0039	0.0447
Panel B: Pre-SOX transactions	GP sample (N=132)			Control sample (N=132)		
	Mean	Median	St. Dev.	Mean	Median	St. Dev.
MV	185.35	50.64	539.26	171.92	48.93	385.63
MgrDirOwn	0.3809	0.3500	0.2444	0.3032	0.2600	0.2136
Turnover	0.7714	0.4675	1.3659	1.2632	0.5987	3.7149
BM	0.9860	0.9609	0.4203	0.8467	0.8358	0.3541
SalesGr	0.2159	0.1199	0.4518	0.4282	0.0997	2.3951
Lev	0.4870	0.4922	0.2298	0.5495	0.5068	0.4533
CF	0.0575	0.0842	0.1805	0.0076	0.0536	0.2070
ROA	0.0274	0.0625	0.2082	-0.0290	0.0350	0.2743
Tax	0.0306	0.0176	0.0430	0.0247	0.0059	0.0464
Panel C: Post-SOX transactions	GP sample (N=45)			Control sample (N=45)		
	Mean	Median	St. Dev.	Mean	Median	St. Dev.
MV	103.03	21.30	352.34	88.38	21.7744	268.06
MgrDirOwn	0.4898	0.5080	0.2276	0.3418	0.3710	0.2078
Turnover	0.4618	0.2079	0.8821	0.5677	0.3305	1.0723
BM	1.1666	1.0776	0.3165	0.9758	0.9770	0.4228
SalesGr	-0.0571	-0.0352	0.3061	0.1040	-0.0181	0.6862
Lev	0.5406	0.5575	0.2570	0.5860	0.6192	0.2529
CF	0.0107	0.0156	0.0877	-0.0271	0.0278	0.2069
ROA	-0.0535	-0.0166	0.1314	-0.0909	0.0053	0.2315
Tax	0.0015	0.0013	0.0258	-0.0021	0.0002	0.0318
AR_SOX	-0.0829	-0.0756	0.2191	-0.1339	-0.1166	0.2947
AR_SOXPASS	-0.0519	-0.0375	0.1792	-0.0760	-0.0704	0.1423

MV = firm market value ($million). MgrDirOwn = manager and director ownership percentage prior to going-private announcement. Turnover = average monthly share turnover. BM = assets/(assets − equity + market value). SalesGr = prior year sales growth. Lev = total liabilities/assets. CF = (operating income before depreciation − income tax expense + deferred taxes − dividends to preferred and common)/assets. ROA = return on assets. Tax = current tax expense. AR_SOX = cumulative event response for all dates included in appendix, beginning June 12, 2002, with each event measured from (-1,+1). AR_SOXPASS = cumulative event response from July 12-26, 2002.

Table 8: Determinants of Going-Private Decision

	Pre- and Post-Sox Samples	Pre-Sox Sample Only	Post-SOX Sample Only		
	(1)	(2)	(3)	(4)	(5)
MgrDirOwn	0.382[a]	0.301[b]	0.798[a]	0.847[a]	0.806[a]
	(3.06)	(2.74)	(2.73)	(2.78)	(2.74)
Turnover	-0.008	-0.011	0.032	0.038	0.034
	(-0.53)	(-0.62)	(0.47)	(0.55)	(0.50)
BM	0.261[a]	0.234[b]	0.354[c]	0.374[c]	0.364[c]
	(3.04)	(2.41)	(1.75)	(1.76)	(1.76)
SalesGr	-0.005	-0.001	-0.122	-0.106	-0.108
	(-0.15)	(-0.03)	(-0.82)	(-0.69)	(-0.71)
Lev	-0.078	-0.087	0.013	0.042	0.026
	(-0.72)	(-0.72)	(0.05)	(0.16)	(0.10)
CF	0.453	0.420	0.654	0.798	0.688
	(1.46)	(1.21)	(0.89)	(1.06)	(0.92)
ROA	-0.124	-0.092	-0.463	-0.619	-0.499
	(-0.52)	(-0.35)	(-0.69)	(-0.91)	(-0.74)
Tax	1.099	0.769	4.128	4.840[c]	4.116
	(1.41)	(0.90)	(1.52)	(1.75)	(1.50)
AR_SOX				0.351	
				(1.26)	
AR_SOXPASS					0.220
					(0.58)
N	354	264	90	90	90

Dependent variable = 1 for going-private firms, 0 for control firms. Parameters are estimates of the marginal effect on the probability of going private of an increase in the independent variable. MgrDirOwn = manager and director ownership percentage prior to going-private announcement. Turnover = average monthly stock turnover. BM = assets/(assets − equity + market value). SalesGr = prior year sales growth. Lev = total liabilities/assets. CF = (operating income before depreciation − income tax expense + deferred taxes − dividends to preferred and common)/assets. ROA = return on assets. Tax = current tax expense. AR_SOX = cumulative event response for all dates included in appendix, beginning June 12, 2002, with each event measured from (-1,+1). AR_SOXPASS = cumulative event response from July 12-26, 2002. *a*, *b*, and *c* denote significance of coefficients at the 1%, 5%, and 10% levels, respectively.

Table 9: Determinants of Going-Private Announcement Returns

	(1)	(2)	(3)	(4)	(5)
Intercept	0.060	0.118	0.068	0.080	0.065
	(0.57)	(1.14)	(0.67)	(0.88)	(0.68)
MGR	0.208^c	0.141	0.200^c	0.193^b	0.188^c
	(1.84)	(1.33)	(1.85)	(2.02)	(1.86)
PostSOX	0.027	0.038	0.002	-0.021	0.067
	(0.56)	(0.80)	(0.03)	(-0.46)	(1.16)
LogMV	-0.015		-0.016	-0.013	-0.018
	(-0.97)		(-0.91)	(-0.82)	(-1.15)
PostSOX*LogMV	-0.076^c		-0.065	-0.055^c	-0.055^c
	(-1.73)		(-1.48)	(-1.69)	(-1.72)
MgrDirOwn		-0.002	-0.022	-0.099	-0.057
		(-0.02)	(-0.22)	(-0.80)	(-0.48)
PostSOX*MgrDirOwn		0.362	0.290	0.300	0.325
		(1.54)	(1.34)	(1.56)	(1.54)
LogMV*MgrDirOwn				0.093	0.093
				(1.49)	(1.54)
PostSOX*LogMV*MgrDirOwn				-0.353^a	-0.337^b
				(-2.55)	(-2.33)
SalesGr					0.098
					(1.43)
PostSOX*SalesGr					0.180
					(0.84)
CF					-0.016^a
					(-3.12)
PostSOX*CF					0.891^b
					(2.12)
N	182	182	182	182	182
R^2	0.067	0.045	0.079	0.116	0.258

t-statistics computed using heteroskedastic-consistent standard errors. Dependent variable is cumulative abnormal return measured in the (-1,+1) window around going-private announcement. Medians are subtracted from continuous independent variables in the regression to ease interpretation. PostSOX = 1 if announcement of going-private transaction occurred after July 30, 2002. MGR = 1 if transaction type is merger, third-party tender offer, or self tender offer; 0 if reverse stock split or odd-lot tender offer. logMV = log of firm market value. MgrDirOwn = manager and director ownership percentage prior to going-private announcement. SalesGr = prior year sales growth. CF = (operating income before depreciation − income tax expense + deferred taxes − dividends to preferred and common)/assets. a, b, and c denote significance of coefficients at the 1%, 5%, and 10% levels, respectively.