

**Do Post-restatement Firms Care about Financial Credibility? Evidence from the
Pre- and Post-SOX Eras**

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Abstract

This study examines whether negative-market-reaction firms in the year following restatement announcements adopt more conservative financial reporting to respond to their financial reporting credibility crisis, especially in the post-SOX era. Using Basu's (1997) measure of conservatism, we find that negative-market-reaction firms in the year following restatement announcements report their financial statements more conservatively in the post-SOX era, as the market reaction following restatement announcements becomes more severe. We also find that as the negative market restatement reaction becomes more severe, negative-market-reaction firms using a Big N auditor in the year following financial restatements report their financial statements more conservatively in the post-SOX era.

Keywords: Financial restatements, credibility crisis, accounting conservatism, Sarbanes-Oxley Act.

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I. INTRODUCTION

The recent spate of financial statement restatements during the past few years has shaken public confidence in the existing U.S. systems of financial reporting and capital markets (GAO-03-138; GAO-06-678; Scholz 2008), which has caused significant concern among academics, practitioners, and regulators. An earnings restatement, unlike bankruptcy and firm failures, represents a financial credibility crisis for the firm in that it constitutes a more direct breach of stakeholders' trust. Because it is "a purposeful intervention of the external financial reporting process, with the intention of obtaining some private gain" (Schipper 1989, 92), it clearly signals that the prior financial statements are not credible, and it fails to ensure the integrity of public disclosures to help investors make informative investment decisions (GAO-03-138, 9). Prior studies on restatements well document that restating firms suffer negative market reaction to restatement announcements (e.g., Kinney and McDaniel 1989; GAO-03-138; GAO-06-678; Hribar and Jenkins 2004; Palmrose et al. 2004; Wu 2002). How post-restatement firms respond to the financial credibility crisis is an important research question for further investigation, especially for those firms that suffer negative stock market reactions following the restatement announcement.

Prior studies document that restating firms normally will face adverse economic consequences, such as a negative stock price reaction immediately following the restatement announcement (e.g., Anderson and Yohn 2002; Palmrose et al. 2004; Wu 2002), increased cost of capital (e.g., Hribar and Jenkins 2004); management turnover (e.g., Arthaud-Day et al. 2006; Desai et al. 2006), replacement of board and audit committee members (e.g., Srinivasan 2005), and increased litigation risk (e.g., Palmrose and Scholz 2004). Given information asymmetry exists between restating

firms and their shareholders, and agency problems between managers and shareholders creates a demand for accounting conservatism (LaFond and Roychowdhury 2008), post-restatement firms should have strong incentives to take actions to enhance perceived credibility of their future financial reports. Therefore, we posit that post-restatement firms will demand accounting conservatism in the year following restatement announcements.

The Sarbanes–Oxley Act of 2002 (hereafter SOX) was passed following a series of high-profile accounting scandals, in part to restore public confidence in financial reporting and audit quality. The aftermath of the passage of the SOX changed the financial reporting environment significantly, with increased financial reporting requirements (e.g., the certification of financial reports required by Section 302 and the internal controls provisions of Section 404), increased scrutiny from the inspections of the Public Company Accounting Oversight Board (PCAOB), and increased staffing and review by the SEC (GAO-06-678). These changes should also induce post-restatement firms to take actions to mitigate their financial credibility crisis. Therefore, we further examine whether post-restatement firms in the year following restatement announcements adopt more conservative financial reporting in the post-SOX era to respond to their financial credibility crisis than firms in the pre-SOX era.

We use negative market reactions immediately following restatement announcements, well documented in the literature in restatements (e.g., GAO-03-138; Palmrose et al. 2004), to proxy for management’s incentives to mitigate their financial credibility crisis. The negative market reaction is the most direct evidence of adverse consequences immediately following earnings restatements, and it reflects the immediate impact of restatement announcements sooner than other consequences suffered such as increased cost of capital, replacement of management and board

members, and increased litigation risk. Therefore, we posit that as the market reaction immediately following restatements becomes more severe, the firm's management should have stronger incentives to demand greater accounting conservatism in the year following restatement announcements to enhance the perceived credibility of its future financial reports.

Specifically, we examine post-restatement firms' responses to their financial credibility crisis in the following two ways. First, we investigate whether negative-market-reaction firms in the year following restatement announcements demand greater accounting conservatism in the post-SOX era than in the pre-SOX era. As the negative-market-reaction immediately following restatement announcements becomes more severe, using the Basu (1997) asymmetric timeliness model of conservatism, we expect negative-market-reaction firms in the year following restatement announcements to demand greater conservatism in the post-SOX period than in the pre-SOX period. Second, based on the higher audit quality provided by a Big N auditor, reputational concerns of the auditor, and the increased financial reporting requirements in the post-SOX era, we expect that as the negative-market-reaction immediately following restatement announcements becomes more severe, the post-restatement firms using a Big N auditor in the year following the restatement announcements are more likely to report their financial statements conservatively in the post-SOX era than in the pre-SOX era.

We select restating firms from the 2003 GAO database which covers the period from January 1, 1997 to June 30, 2002, and from the 2006 GAO database which covers the period from July 1, 2002 to September 30, 2005. Both databases contain firm announcements of restatements involving financial reporting fraud, and exclude those from business transactions such as mergers and acquisitions and those from general accounting changes or bookkeeping errors.

We first test our hypotheses using our total sample of 386 restating firms. The empirical results indicate that post-restatement firms demand greater conservatism in the year following restatement announcements. We further find that as the market reaction immediately following restatement announcements becomes more severe, negative-market-reaction firms in the year following restatement announcements report their financial statements more conservatively in the post-SOX era. We also find that as the negative market reaction immediately following restatement announcements becomes more severe, negative-market-reaction firms using a Big N auditor in the year following restatement announcements report their financial statements more conservatively in the post-SOX era. We then partition our sample of 386 restating firms into 134 pre-SOX firms and 252 post-SOX firms. Tests on the partitioned sample are consistent with increased conservatism for negative-market-reaction firms in the post-SOX period.

Our paper contributes to the restatement literature in the following ways. First, we use accounting conservatism to capture how a post-restatement firm responds to its financial credibility crisis arising from a financial statement restatement. Second, we use the severity of the negative market reaction to the restatement to capture the restating firm's incentive to report its financial statements more conservatively in the year following restatement announcements. In contrast, Jones et al. (2008) use the earnings restatement level (i.e., restated income higher than the median restated income) to capture firms' incentives to increase conservatism in post-fraud periods.¹ Restated income is less likely to capture the immediate negative impact from restatement announcements than our market reaction measure. For example, for the same earnings restatement level, the financial credibility issues for firm a restating its

¹ The restated income is defined as the difference between originally reported earnings and restated earnings in Jones et al. (2008).

year 2003 earnings in year 2004 may be perceived differently from a firm restating its year 2000 financial restatements in year 2004. Therefore, the earnings restatement level is less likely to reflect the potential impact of the financial credibility crisis perceived by the restating firm's management.

This paper proceeds as follows. Section II contains related research and hypothesis development. Section III discusses the research design and sample description. Section IV discusses the empirical test results and additional analyses, and section V summarizes and concludes the study.

II. RELATED RESEARCH AND DEVELOPMENT OF HYPOTHESES

Related Research

A financial restatement is a consequential and trust-destroying event that can reduce management's financial reporting credibility. Recent corporate accounting scandals, such as Enron and WorldCom, resulted in a public outcry for accounting reform. The Sarbanes–Oxley Act (SOX) of 2002 was enacted to respond to corporate failures and financial reporting fraud that resulted in tremendous losses suffered by institutional and individual investors, and was intended to restore public confidence in financial reporting.

In general, prior studies on restatements primarily examine the capital market consequences (e.g., stock price reactions) of the restatement and its relation to firm characteristics.² For example, Kinney and McDaniel (1989) examined the stock price reaction for 73 firms that restated earnings between 1976 and 1985, and found that stock returns, on average, were negative between the issuance of erroneous quarterly reports and their corrections. They also found that restating firms were smaller

² Prior research has identified reasons for earnings restatements such as changes in accounting principles or policies, stock splits, dividend distributions, discontinued operations, mergers and acquisitions, and change of accounting period (e.g., Wu 2002).

(possibly indicating poor internal controls), less profitable, slower growing, with higher debt and more serious uncertainties. DeFond and Jiambalvo (1991) investigated 41 firms that restated their earnings and found they had lower growth in earnings, and were less likely to have audit committees. Palmrose et al. (2004) analyzed the stock price reaction for a sample of 403 restating firms and found significant negative average abnormal returns of -9 percent over a 2-day announcement window in the period of 1995 to 1999.³

Using 254 restatements announced between 1997 and 2000, and total accruals as a measure of financial reporting strategy, Moore and Pfeiffer (2004) find that firms following restatement do not appear to adopt a more conservative financial reporting strategy. Jones et al. (2008) use the Basu (1997) and Ball and Shivakumar (2006) models of conservatism to identify whether fraud firms change their level of conservatism in the year following the fraud's discovery. Their study focuses on comparison of these two models (Basu 1997 vs. Ball and Shivakumar 2006) to see which model identifies fraud (versus non-fraud) firms as conservative or anti-conservative. They find that the Ball and Shivakumar (2006) model is a more powerful test of the firm's conservatism, at least when it comes to distinguishing fraud firms from non-fraud firms. Wilson (2008) examines characteristics of the decline in the information content of earnings following restatements, and finds that the decline in the information content of earnings based on the earnings response coefficient following restatement is temporary and follows a U-shaped pattern over time, which suggests that investors regain confidence in earnings news within a short time period following restatement announcements.

³ For details of other studies on the relation between restatements and market returns, see Palmrose et al. (2004, 62). There are also studies investigating suspicious earnings manipulations subject to SEC enforcement actions. For example, Dechow et al. (1996) found a - 6 percent return for a subset of SEC enforcement actions with restatements from 1981 to 1992.

Our study differs from the related prior studies noted above in that we use negative market reactions following restatements, well documented in the literature in restatements (e.g., GAO-03-138; Palmrose et al. 2004), to proxy for management's incentives to mitigate the financial credibility crisis, and examine whether firms that already suffered a negative market reaction following restatement announcements have incentives to respond by demanding greater accounting conservatism in the year following financial restatements. Wilson (2008) examines whether the decline in earnings response coefficients following restatements is temporary, and thus she looks at the market's perception of earnings following restatements. Jones et al. (2008) examine which conservatism model (Ball and Shivakumar (2006) versus Basu (1997)) identifies fraud firms as anti-conservative, and does not focus on the firm's actions following the restatement to restore credibility.

We use negative market reactions as our proxy for management's incentives to mitigate the credibility crisis for the following reasons: 1) Prior studies suggest that negative news disclosures seem to be more credible than positive news disclosures (Williams 1996; Hutton et al. 2003); 2) Disclosure credibility consists of *investors' perception* of management's disclosures and the *credibility of particular* management's disclosures perceived by investors (Mercer 2004). When the market reaction represents investors' perception of firm's restatement announcements, the credibility portion of financial statements can be isolated from disclosure credibility; 3) Prior studies (e.g., Palmrose et al. 2004; Scholz 2008) suggest that a negative market reaction is the most direct evidence of adverse consequences following earnings restatements, because the stock price decline is most pronounced in a short announcement window, and it reflects the immediate impact of restatement announcements sooner than other consequences such as increased cost of capital, replacement of management and board members, and increased litigation risk.

Development of Hypotheses

Restatements range in seriousness from straightforward accounting errors to widespread frauds. Among the causes of financial restatements, earnings management, the major culprit, demonstrates the agency problems that result from information asymmetry between restating firm's managers and shareholders and suggest that restating firm's managers desired to manage earnings to meet earnings targets or maximize their bonus payouts (Linn and Diehl 2005). Information asymmetry exists for firms following financial restatements, because the firm's managers still have a more complete set of information about the firm than its shareholders. However, in facing the firm's future prospects, post-restating firms may have strong incentives to mitigate the information asymmetry and credibility crisis by reporting financial statements more conservatively.

Under contracting theory, conservatism benefits financial statement users in that conservative accounting has been an enduring qualitative characteristic of financial reporting (Basu 1997), which can be used to mitigate firm's agency costs associated with information asymmetry (Watts and Zimmerman 1986; Watts 2003; LaFond and Watts 2008; LaFond and Roychowdhury 2008) by constraining managerial opportunistic behavior. Even in the absence of the contracting explanation, conservatism is also likely to be an efficient financial reporting mechanism (Watts 2003) in that information asymmetry can be alleviated through conservative accounting. For example, shareholders' litigation concerns may induce firms to understate net assets to reduce firms' expected litigation costs. From a taxation viewpoint, conservatism delays the firm's recognition of revenues and accelerates its recognition of expenses to defer tax payments. Given information asymmetry exists for firms following restatement announcements, a negative stock price reaction immediately following the restatement announcement (e.g., Palmrose et al. 2004), and

agency problems between managers and shareholders creates a demand for accounting conservatism (LaFond and Roychowdhury 2008), we expect that firms immediately following restatement announcements (i.e., negative-market-reaction firms) will demand greater conservatism in the year following financial restatements. This leads to our hypothesis 1.

H1: Negative-market-reaction firms in the year following financial restatements demand greater accounting conservatism.

The aftermath of the passage of the SOX changed the financial reporting environment significantly. For example, Section 302 requires the firm's principal executive officer (CEO) and principal financial officer (CFO) to certify the fairness of the presentation of the annual and quarterly financial reports. Section 404 requires management to report on the adequacy of the company's internal control system, and auditors are required to audit and report on the effectiveness of internal control over financial reporting. Further, the increased scrutiny from PCAOB's inspections, and increased staffing and review by SEC will also prompt firms to restate their financial statements (GAO-06-678).⁴ Collins et al. (2008) find that labor market penalties for former CFOs of restatement firms are more severe in the post-SOX era, which suggests that corporate management has incentives to follow the disciplinary requirements set by SOX in order to avoid penalties imposed on them. Given SOX has influenced financial markets and management's decision-making, we argue that changes in financial reporting requirements still induce negative-market-reaction firms in the year following restatements to take actions to report their financial results

⁴ According to a Glass Lewis & Co. report, there has been a year-over-year decline in the number of restatements filed by public companies in the post-SOX era in, with 1289 restatements for year 2007 versus 1524 restatements for year 2006 (Treasury & Risk 2008). However, Scholz (2008) report that restatement frequencies begin to accelerate in 2001, prior to the passage of SOX. For the post-SOX era, restatement frequencies spike steadily from 2002 to 2005.

conservatively, which will mitigate their financial credibility crisis. As the market reaction following restatement announcements becomes more severe, post-restatement firms have more incentives to take actions to restore their financial credibility crisis, especially in the post-SOX period. Therefore, we expect that negative-market-reaction firms in the year following financial restatements adopt a more conservative financial reporting in the post-SOX era to respond the financial credibility crisis than in the pre-SOX era. This leads to our hypothesis 2.

H2: As the market reaction following restatement announcements becomes severe, negative-market-reaction firms, in the year following financial restatements, demand greater accounting conservatism in the post-SOX era than in the pre-SOX era.

Auditors are an important mechanism that can be used to mitigate agency problems embedded in firms (Jensen and Meckling 1976). Firms using Big N auditors are more likely to alleviate information asymmetry and agency costs than non-Big N auditors because of the quality of audit services provided by Big N auditors (e.g., DeAngelo 1981) and credibility provided by Big N auditors (Dopuch and Simunic 1982) is higher than those of Non-Big N auditors.

SOX also contains many provisions that are intended to improve auditor independence and thus audit quality, which ultimately enhances financial reporting quality. For example, the creation of the Public Company Accounting Oversight Board (PCAOB), the prohibition of non-audit services by the incumbent auditor, and the issuance of an opinion on the client's internal controls over financial reporting provide incentives for client's management to produce financial statements that are free of material misstatements, which might reduce the incidence of financial restatements.

Based on the higher audit quality provided by the Big N auditor, the reputational

concerns of the auditor that can be used to reduce information asymmetry and resulting agency conflicts, and the increased financial reporting requirements in the post-SOX era, we expect that as the market reaction following restatement announcements becomes severe, negative-market-reaction firms using a Big N auditor in the year following financial restatements are more likely to report their financial statements conservatively in the post-SOX era than in the pre-SOX era. Therefore, Hypothesis 2 is as follows.

H3: As the market reaction following restatement announcements becomes severe, negative-market-reaction firms, in the year following financial restatements, using a Big N auditor demand more accounting conservatism in the post-SOX era than in the pre-SOX era.

III. RESEARCH DESIGN AND SAMPLE DESCRIPTION

Research Design

Since this study uses negative market reactions following restatement announcements to proxy for management's incentives to respond its financial credibility crisis, we calculate the three-day cumulative abnormal return, which is most widely used in prior studies (e.g., GAO-06-678; Li 2007). Specifically, the daily stock return is obtained from a CAPM type regression. The daily stock risk premium is regressed on the daily CRSP value-weighted risk-premium during the 3 day period from day -1 to day +1 related to the restatement announcement in the following manner.

$$RET_d - RF_d = \beta_0 + \beta_1(MKT_d - RF_d) + \varepsilon$$

RET_d is the return on day d ($-1 \leq d \leq 1$) relative to the restatement announcement day,

MKT_d is the value-weighted CRSP return on day d relative to the restatement

announcement day t , RF_d is the return on 30 day T bills on day d relative to the restatement announcement, and ε_d is the CAPM residual. β_0 and β_1 are the parameters of the market model around the restatement day t . The three day cumulative abnormal return (CAR) is computed as follows:

$$CAR = \sum_{d=-1}^{d=1} (RET_d - RF_d) - \sum_{d=-1}^{d=1} [(\hat{\beta}_0 + \hat{\beta}_1(MKT_d - RF_d))]$$

Regression Models

We use the following 3 regression models, originated from Basu (1997), to test our hypotheses. We only presents the full specifications below, which includes the one-year Basu (1997) model, research variables, and control variables.⁵ Variations of the model are presented in the empirical results section and related tables. In the regression models and its variations, year t refers to the year of restatement announcement and year $t+1$ refers to the fiscal year following the year of the restatement announcement.

Model 1

$$EARNING_{t+1} = \beta_0 + \beta_1 D_{t+1} + \beta_2 RET_{t+1} + \beta_3 D_{t+1} * RET_{t+1} + \beta_4 SOX_{t+1} + \beta_5 SOX_{t+1} * D_{t+1} * RET_{t+1} + \varepsilon$$

where:

- $EARNING_{t+1}$ = income before extraordinary items in year $t+1$ divided by the beginning-of-period market value of equity
- D_{t+1} = 1 if RET_{t+1} is negative, 0 otherwise
- RET_{t+1} = buy-and-hold return over the fiscal year in year $t+1$
- $D_{t+1} * RET_{t+1}$ = interaction term of D_{t+1} , and RET_{t+1} .
- SOX_{t+1} = 1 if the year $t+1$ is beyond fiscal year 2002, 0 otherwise
- $SOX_{t+1} * D_{t+1} * RET_{t+1}$ = interaction term of SOX_{t+1} , D_{t+1} , and RET_{t+1} .

⁵ Since this study examines whether post-restatement firms demand accounting conservatism in the year following financial restatements, we use the one-year Basu (1997) measure of conservatism, rather than 3-year modified Basu (1997) model suggested by Roychowdhury and Watts (2007) and LaFond and Roychowdhury (2008).

Hypothesis 1 states that post-restatement firms will demand accounting conservatism in the year following restatement announcements. We add SOX_{t+1} and its interaction with $D_{t+1} * RET_{t+1}$ to the Basu (1997) model 1 to further examine conservatism behavior in the pre- and post-SOX periods. In the Basu (1997) model, $EARNING_{t+1}$ is income before extraordinary items in year $t+1$ divided by the beginning-of-period market value of equity. D_{t+1} is an indicator variable set equal to one if RET_{t+1} is negative, and 0 otherwise, where RET_{t+1} is the buy-and-hold return over the year. Since we expect post-restatement firms to demand accounting conservatism in the year following restatement announcements, the coefficient on β_3 , capturing the degree of conditional conservatism, is expected to be significantly positive.

Model 2

$$EARNING_{t+1} = \beta_0 + \beta_1 D_{t+1} + \beta_2 RET_{t+1} + \beta_3 D_{t+1} * RET_{t+1} + \beta_4 RSMR_t + \beta_5 D_{t+1} * RET_{t+1} * RSMR_t \\ + \beta_6 SOX_{t+1} + \beta_7 SOX_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t + \beta_8 SIZE_{t+1} + \beta_9 LEV_{t+1} + \beta_{10} CFO_{t+1} \\ + \beta_{11} GROWTH_{t+1} + \beta_{12} LITIGATION_{t+1} + \beta_{ind} IND_DUMMY_{t+1} + \varepsilon$$

where:

- $RSMR_t$ = negative value of the abnormal return CAR during the announcement period in year t multiplied by -1 ; the sample with positive value of the abnormal return was dropped
- $SOX_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t$ = interaction term of SOX_{t+1} , D_{t+1} , RET_{t+1} , and $RSMR_t$.
- $SIZE_{t+1}$ = natural log of average total assets
- LEV_{t+1} = Total long term liabilities divided by average total assets
- CFO_{t+1} = Cash flow from operations divided by average total assets
- $GROWTH_{t+1}$ = $(SALES_{t+1} - SALES_t) / SALES_t$, whereas $SALES$ equals sales of the firm.
- $LITIGATION_{t+1}$ = 1 if SIC codes 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370-7374 (Francis et al. 1994; LaFond and Roychowdhury 2008); 0 otherwise.
- IND_DUMMY_{t+1} = industry dummy in year $t+1$.

Hypothesis 2 states that negative-market-reaction firms, in the year following financial restatements, demand greater accounting conservatism in the post-SOX era than in the pre-SOX era, as the market reaction following restatement announcements becomes more severe. Since we focus on restating firms with negative market reactions, we drop the restating firms with positive 3-day cumulative abnormal returns. We use *RSMR* to capture the negative market reaction following restatement announcements. To facilitate the interpretation of the relation between restating firm with negative market reaction and its incentive to demand more conservatism, we multiple *RSMR* by -1 so that a positive coefficient on the interaction term with *RSMR* ($D*RET*RSMR$, and $SOX*D*RET*RSMR$) indicates greater conservatism. We expect the coefficient on the interaction term of $SOX*D*RET*RSMR$ to be significantly positive.

We control for firm size (*SIZE*), the natural log of total assets in year $t+1$. Larger firms are likely to use more conservative accounting to reduce higher political costs (Watts and Zimmerman 1978). However, larger firms can produce more public information which, in turn, reduces the demand for conservative accounting (LaFond and Watts 2008). Therefore, we do not predict the sign of the coefficient on *SIZE*. We include debt divided by total assets, *LEV*, as a control variable, because firms with high levels of *LEV* tend to have greater bondholder and shareholder conflicts, which, in turn, affect the contractual demand for conservative accounting. We include profitability as proxied by the cash flow from operations divided by total assets, *CFO*, in that profitable firms tend to use more conservative accounting (Ahmed et al. 2002). We further control for sales growth, *GROWTH*, as proxied by the annual percentage growth in total sales because sales growth is likely to affect conservatism (Ahmed et al. 2002). Finally, we control for *LITIGATION*, an indicator variable that captures

firm membership in a high-litigation-risk industry (Francis et al. 1994; LaFond and Roychowdhury 2008), because higher litigation risk provides management incentives to recognize bad news in earnings sooner than good news. We also control for industry, following the industry definition in Barth et al. (1999).

Model 3

$$\begin{aligned}
EARNING_{t+1} = & \beta_0 + \beta_1 D_{t+1} + \beta_2 RET_{t+1} + \beta_3 D_{t+1} * RET_{t+1} + \beta_4 BIGN_{t+1} + \beta_5 BIGN_{t+1} * D_{t+1} * RET_{t+1} + \beta_6 RSMR_t \\
& + \beta_7 BIGN_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t + \beta_8 SOX_{t+1} + \beta_9 SOX_{t+1} * BIGN_{t+1} * D_{t+1} * RET_{t+1} \\
& + \beta_{10} SOX_{t+1} * BIGN_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t + \beta_{11} SIZE_{t+1} + \beta_{12} LEV_{t+1} + \beta_{13} CFO_{t+1} \\
& + \beta_{14} GROWTH_{t+1} + \beta_{15} LITIGATION_{t+1} + \beta_{ind} IND_DUMMY_{t+1} + \varepsilon
\end{aligned}$$

where:

$BIGN_{t+1}$ = 1 if the company uses a Big-N audit firm in fiscal year $t+1$, 0 otherwise

$BIGN_{t+1} * SOX_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t$ = interaction term of $BIGN_{t+1}$, SOX_{t+1} , D_{t+1} , RET_{t+1} , and $RSMR_t$.

Hypothesis 3 states that negative-market-reaction firms, in the year following financial restatements, using a Big N auditor demand greater accounting conservatism in the post-SOX era than in the pre-SOX era, as the market reaction following restatement announcements becomes severe. Therefore, we expect the coefficient on $SOX * BIGN * D * RET * RSMR$ to be significantly positive.

Sample Description

Table 1 provides details about the sample selection criteria. Panel A of Table 1 describes the sample selection procedures. The sample consists of restating firms from the 2003 GAO database and from the 2006 GAO database, which covers the period from July 1, 1997 to September 30, 2005. We identify 2309 announcements during this period. We limit our sample period from year 1997 to year 2004, because we require full year data for our regression analyses. Therefore, we drop 523 announcements for the period during January 1, 2005 to September 30, 2005. We then

exclude 272 duplicate quarterly or annual restatements, and limit the announcements to the most recent one. For example, if the firm has restatement announcements in year 2000 and year 2002, the year 2000 restatement is dropped following to our sample selection procedures. Financial data of restating firms are selected from COMPUSTAT. The data needed to calculate cumulative abnormal returns of restatement announcements, and the stock return data are selected from CRSP.

[Insert Table 1 about here]

We further delete 291 firms missing COMPUSTAT data, and eliminate 263 firms missing CRSP data. In addition, 267 firms are not included because of missing data to calculate the abnormal returns and monthly returns. After excluding 75 firms from financial industries (i.e., SIC 6000-6999), the sample before partitioning into the pre-SOX and post-SOX period is 618. Since we use a negative market reaction to proxy for the firm's incentives to respond to its financial credibility crisis, we further delete 232 firms with positive cumulative abnormal restatement announcement returns. Therefore, our final sample is 386 restatement firms. As reported in Panel B of Table 1, the sample includes 134 firms in the pre-SOX period and 252 firms in the post-SOX period. Panel C of Table 1 details the industry composition of the negative-market-reaction restating firms for the pre- and post-SOX periods. Negative-market-reaction restating firms are relatively common in the Durable Manufacturers and Computers industries for both the pre- and post-SOX periods.

VI. EMPIRICAL RESULTS

Descriptive Statistics

Table 2 provides the descriptive statistics for the total (386) restating firms in Panel A, the pre-SOX (134) restating sample firms in Panel B, and the post-SOX (252) restating sample firms in Panel C. The mean *EARNING* value in total

negative-market-reaction sample is -4.25% whereas the mean *EARNING* value in the pre-SOX (post-SOX) negative-market-reaction sample is -7.9% (-2.31%). This suggests that restating firms are still unprofitable in the year following the restatement announcement, especially prior to the enactment of SOX, which is different from and complements Scholz (2008) in that restating firms are typically unprofitable even before the restatement. The average buy-and-hold return (RET) in the total sample is 19.40%, whereas the average buy-and-hold return in the pre-SOX (post-SOX) sample is 2.12% (28.59%). The descriptive statistics on the negative return indicator variable, *D*, indicate that approximately 43% of the total sample exhibits a negative buy-and-hold return over the fiscal year in year $t+1$ whereas 60.4% (33.7%) in the pre-SOX (post-SOX) sample does. Approximately 89.64% of the total sample uses a Big N auditor, whereas 96.27% (86.11%) of the pre-SOX (post-SOX) sample does. The mean value of the cumulative abnormal return (CAR) calculated by the CAPM model is -3.76%. Of the total 618 sample, 62.45% (386 firms) reported a negative cumulative abnormal return.

[Insert Table 2 about here]

The correlation matrix among the variables (not reported) indicates that *EARNING* is positively correlated with *RET* (0.309) and negatively correlated with *D* (-0.300), both under the 5% significance level in the post-SOX period, indicating that reported earnings reflect at least a portion of the information reflected in returns. However, these correlations are not significant in the pre-SOX period. As expected, the correlation between *EARNING* and *RSMR* is significantly negative in the post-SOX sample and total sample. However, it is not significantly negative in the pre-SOX sample.

Regression Results

Table 3 provides the regression results for the full sample of 384 negative-market-reaction restating firms to test hypothesis 1. In model 1-1 we present the Basu (1997) model and find $D*RET$ to be significantly positive, indicating that post-restating firms demand conservatism in the year following financial restatements. we add SOX and $SOX*D*RET$ as explanation variables in model 1-4 to understand whether there is significant difference for the conservatism behavior between the pre- and post-SOX periods. We find that the coefficient on $SOX*D*RET$ is insignificantly positive. Collectively, our results indicate that post-restating firms demand conservatism in the year following financial restatements, and thus suggest that conservatism behavior exists in both pre- and post-SOX periods. However, the conservatism behavior in the pre- and post-SOX periods is not significantly different in our sample.

[Insert Table 3 about here]

Table 4 and Table 5 present our tests for the two main hypotheses (hypotheses 2 and 3), because we argue that as the market reaction following restatement announcements becomes more severe, post-restatement firms (including those using a BIGN auditor) in the year following financial restatements demand greater conservatism in the post-SOX period than in the pre-SOX period. We use models 2-1 and 2-2 to test hypothesis 2, where model 2-1 (model 2-2) includes one-year Basu (1997) model of conservatism and explanatory variables without (with) control variables. As expected, the coefficients on $D*RET$ and $RSMR$ are significantly positive and significantly negative, respectively. Our main interest is the coefficient on $SOX*D*RET*RSMR$, which is significantly positive in both models 2-1 and 2-2. The results, consistent with hypothesis 2, suggest that negative-market-reaction firms, in the year following financial restatements, demand greater accounting conservatism

in the post-SOX era than in the pre-SOX era, as the market reaction following restatement announcements becomes severe. For the control variable, the coefficient on CFO is significantly positive, indicating that profitable firms tend to use more conservative accounting (Ahmed et al. 2002).

[Insert Table 4 about here]

We use model 3 and its variations to test hypothesis 3, whereas models 3-1 and 3-3 (models 3-2 and 3-4) includes one-year Basu (1997) model of conservatism and explanatory variables without (with) control variables. The results are presented in Table 5. The difference between models 3-1 (and 3-2) and models 3-3 (and 3-4) is RSMR and its interaction term, which further examines the effect of the degree of negative market reaction on the conservatism behavior in the post-SOX period. The coefficient on $SOX*BIGN*D*RET$ is significantly positive in model 3-1, suggesting post-restatement firms using a Big N auditor adopt a conservative financial reporting, whereas the coefficient on $SOX*BIGN*D*RET$ becomes insignificant when the control variables are added. Our main interest is in the coefficient on $SOX*BIGN*D*RET*RSMR$, because it indicates that negative-market-reaction firms, in the year following financial restatements, using a Big N auditor demand more accounting conservatism in the post-SOX era than in the pre-SOX era, as the market reaction following restatement announcements becomes severe. We find the coefficient on $SOX*BIGN*D*RET*RSMR$ is significantly positive in both models 3-3 and 3-4, which is consistent with our hypothesis 3. The coefficient on CFO remains significantly positive, as reported in Table 4.

[Insert Table 5 about here]

Additional Analyses

Since the study is interested in testing whether negative-market-reaction firms demand greater conservatism in the post-SOX period than in the pre-SOX period, we

partition our total 386 sample firms into the pre-SOX 134 sample firms and the post-SOX 252 sample firms to further examine our hypotheses 2 and 3. Table 6 reports our further analyses for testing hypothesis 2. Our focus is on the coefficient of $D*RET*RSMR$ in both the pre- and post-SOX periods. We find that the coefficient on $D*RET*RSMR$ is significantly positive in the post-SOX period, but is negative and not significant in the pre-SOX period. This result indicates that negative-market-reaction firms adopt a conservative financial reporting in the year following financial restatements in the post-SOX period, which further confirms our results as reported in Table 4.

[Insert Table 6 about here]

Table 7 presents the analyses of Big N auditors on the conservatism behavior of negative-market-reaction firms in the year following financial restatements in both the pre- and post-SOX periods. In all 8 columns reported in Table 7, the coefficients on $BIGN*D*RET$ are insignificant, which suggests that without considering the effect of RSMR, the effect of Big N auditors on conservatism behavior is limited. However, when we incorporate RSMR into our models in Table 7, we find that the coefficients on $BIGN*D*RET*RSMR$ are significantly positive in columns (7) and (8) in the post-SOX period, indicating as the market reaction following restatement announcements becomes severe, negative-market-reaction firms in the year following financial restatements adopt a conservative financial reporting in the post-SOX period, which further confirms our results as reported in Table 5. For the control variables, the coefficients on CFO remain significant. The coefficients on LITIGATION are significantly negative in these models, suggesting that firms in higher litigation risk industries recognize bad news in earnings sooner than good news in the post-SOX period.

[Insert Table 7 about here]

Robustness Tests

We perform a number of additional robustness tests. First, we use the median RSMR to partition our sample firms in both the pre- and post-SOX periods into low RSMR and high RSMR groups to test whether there is incremental timeliness of earnings with respect to a negative market reaction, either in the pre-SOX or in the post-SOX era. The results are reported in Table 8. The coefficients on $D*RET$ are significantly positive in the low RSMR group in the pre-SOX period, and in the high RSMR group in the post-SOX period. In the post-SOX period, as the negative market reaction becomes more severe (high RSMR group), negative-market-reaction firms in the year following restatement announcements are more likely to adopt a conservative financial reporting policy. Interestingly, as the negative market reaction becomes less severe (low RSMR group), negative-market-reaction firms in the year following restatement announcements are more likely to adopt a conservative financial reporting policy, which implies that as the pressure from the capital market becomes less severe in the pre-SOX period, negative-market-reaction firms in the year following restatement announcements still have incentives to report their financial statements conservatively.

[Insert Table 8 about here]

Second, we add the firms with positive market reaction (coding them as 0 for the negative market reaction dummy variable, $RSMR$) to both the negative market reaction sample firms in both the pre- and post-SOX period, and rerun the regressions for both sample periods, as reported in Table 9. We also report the total sample results by add the SOX dummy and its interaction term, similar to the models reported in Table 4, in columns (5) and (6) in Table 9. The coefficient on $D*RET*RSMRP$ is significantly positive in the post-SOX period, suggest that post-restatement firms in

the year following financial restatements adopt a conservative financial reporting in the post-SOX period. The coefficient on $SOX*D*RET*RSMRP$ is significantly positive in both columns (5) and (6) in the total sample, similar to the results reported in column (4) of Table 9. The control variables provide qualitatively similar results as in Table 8.

[Insert Table 9 about here]

V. SUMMARY AND CONCLUSION

Issuance of an earnings restatement, unlike bankruptcy and firm failures, represents a firm's financial credibility crisis in that it constitutes a more direct breach of stakeholders' trust and signals that the prior financial restatements are not credible. Given information asymmetry exists between restating firms and their shareholders, and agency problems between managers and shareholders creates a demand for accounting conservatism (LaFond and Roychowdhury 2008), post-restatement firms should have strong incentives to take actions to enhance perceived credibility of their future financial reports.

The aftermath of the passage of the SOX changed the financial reporting environment significantly, with increased financial reporting requirements, increased scrutiny from the inspections of the PCAOB, and increased staffing and review by the SEC. In addition to the adverse economic consequences faced by these restating firms, these changes should also induce post-restatement firms to take some actions to mitigate their financial credibility crisis. Therefore, this study first examines whether post-restatement firms adopt a more conservative financial reporting in the post-SOX era than in the pre-SOX period to respond to the financial credibility crisis. We find that post-restatement firms adopt a conservative financial reporting in the year following financial restatements.

We use negative market reactions immediately following restatement announcements to proxy for management's incentives to respond to its financial credibility crisis. We find that negative-market-reaction firms in the year following financial restatements adopt more conservative financial reporting in the post-SOX period, as the market reaction following restatement announcements becomes severe. We also find that as the negative market reaction becomes more severe, negative-market-reaction firms using a Big N auditor in the year following financial restatements report their financial statements more conservatively in the post-SOX era.

We further partition our total restating firms into pre- and post-SOX sample firms, respectively, and we continue to find consistent results in our additional analyses. When we further use the median negative market reaction to partition our restating firms into two subgroups (high versus low market reaction) in both the pre-SOX and the post-SOX era, we find that post-restatement firms in the low negative-market-reaction group, rather than high negative-market-reaction group, demand greater conservatism in the year following restatement announcements in the pre-SOX era. Interestingly, we find even stronger results in the high negative-market-reaction group, rather than low negative-market-reaction group, for the post-restatement firms in the year following restatement announcements in the post-SOX era.

This paper contributes to our understanding of how firms following financial restatements respond to its financial credibility crisis. We use accounting conservatism to capture how post-restatement firms will likely to respond to their financial credibility crisis, and use the severity of negative market reaction to capture the restating firm's response to its financial credibility crisis (i.e., firm's subsequent conservatism), which is not previously addressed by the restatement literature.

Evidence suggests that post-restatement firms in the year following restatement announcements did report their financial statements more conservatively, especially in the post-SOX period.

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Table 1
Sample Selection

Panel A: Sample Selection Procedures

	Number of firms
Restatement announcements from GAO report (1/1/1997~9/30/2005)	2309 (523)
Less: restatement announcements from 1/1/2005 to 9/30/2005	1786
Restatement announcements from 1997 to 2004	
Less: duplicate quarterly or annual earnings restatements within the same sample firm	(272)
	1514
Less: missing necessary data from COMPUSTAT	(291)
Less: missing necessary data from CRSP	(263)
	960
Less: missing necessary data to calculate cumulative abnormal returns (CAR) and monthly returns	(267)
	693
Less: financial services or insurance firms (SIC 6000-6999)	(75)
Sample before deleting positive cumulative (CAR)	618
Less: restating firms with positive CAR	(232)
Total sample before partitioning into the pre- and post-SOX period	386

Panel B: Sample firms by the pre- and post-SOX era

	Pre-SOX era	Post-SOX era	Combined
Total sample	201	417	618
Restating firms with positive CAR	(67)	(165)	(232)
Final sample	134	252	386

Panel C: Industry Composition

	SIC codes	Pre-Sox	Post-sox	Total
Mining and construction	1000-1299, 1400-1499	0	2	2
Food	2000-2111	5	7	12
Textile, printing, and publishing	2200-2780	5	9	14
Chemicals	2800-2824, 2840-2899	5	4	9
Pharmaceuticals	2830-2836	6	14	20
Extractive industries	2900-2999, 1300-1399	5	15	20
Durable manufacturers	3000-3569, 3580-3669, 3680-3999	35	62	97
Computers	7370-7379, 3570-3579, 3670-3679	36	46	82
Transportation	4000-4899	3	30	33
Utilities	4900-4999	3	12	15
Retail	5000-5999	20	25	45
Service	7000-7369, 7380-8999	11	26	37
		134	252	386

Table 2
Descriptive Statistics of Restating Firms

Panel A: Total Restating Firms

Variable	N	Mean	Standard deviation	Lower Quartile	Median	Upper Quartile
EARNING	386	-0.0425	0.2467	-0.0647	0.0221	0.0612
D	386	0.4301	0.4957	0.0000	0.0000	1.0000
RET	386	0.1940	0.6579	-0.2305	0.0999	0.4698
RSMR	386	0.0984	0.1276	0.0235	0.0532	0.1322
BIGN	386	0.8964	0.3052	1.0000	1.0000	1.0000
SIZE	386	6.2153	1.9812	4.8964	6.0915	7.5031
LEV	386	0.2024	0.2300	0.0068	0.1587	0.3036
CFO	386	0.0560	0.1388	0.0135	0.0769	0.1347
GROWTH	386	0.1483	0.6110	-0.0118	0.0678	0.2074
LITIGATION	386	0.3782	0.4856	0.0000	0.0000	1.0000

Panel B: Restating Firms in the Pre-SOX Period

Variable	N	Mean	Standard deviation	Lower Quartile	Median	Upper Quartile
EARNING	134	-0.0790	0.3007	-0.1367	0.0062	0.0501
D	134	0.6045	0.4908	0.0000	1.0000	1.0000
RET	134	0.0212	0.7263	-0.4413	-0.1662	0.2865
RSMR	134	0.1359	0.1641	0.0328	0.0816	0.1820
BIGN	134	0.9627	0.1902	1.0000	1.0000	1.0000
SIZE	134	5.8379	2.1503	4.4751	5.5772	7.4997
LEV	134	0.1825	0.1986	0.0012	0.1259	0.3027
CFO	134	0.0418	0.1646	0.0009	0.0822	0.1371
GROWTH	134	0.0957	0.5748	-0.1292	0.0314	0.2146
LITIGATION	134	0.4851	0.5017	0.0000	0.0000	1.0000

Panel C: Restating Firms in the Post-SOX Period

Variable	N	Mean	Standard deviation	Lower Quartile	Median	Upper Quartile
EARNING	252	-0.0231	0.2106	-0.0501	0.0330	0.0635
D	252	0.3373	0.4737	0.0000	0.0000	1.0000
RET	252	0.2859	0.6000	-0.1007	0.1910	0.5519
RSMR	252	0.0784	0.0977	0.0197	0.0454	0.0945
BIGN	252	0.8611	0.3465	1.0000	1.0000	1.0000
SIZE	252	6.4160	1.8585	5.2086	6.3142	7.5084
LEV	252	0.2131	0.2447	0.0129	0.1670	0.3093
CFO	252	0.0636	0.1227	0.0224	0.0735	0.1327
GROWTH	252	0.1762	0.6288	0.0186	0.0722	0.1759
LITIGATION	252	0.3214	0.4680	0.0000	0.0000	1.0000

$EARNING_{t+1}$ = income before extraordinary items in year $t+1$ divided by the beginning-of-period market value of equity

D_{t+1} = 1 if RET_{t+1} is negative, 0 otherwise

RET_{t+1} = buy-and-hold return over the fiscal year in year $t+1$

$RSMR_t$ = negative value of the abnormal return CAR during the announcement period in year t multiplied by -1 ; the sample with positive value of the abnormal return was dropped

$BIGN_{t+1}$ = 1 if the company uses a Big-N audit firm in year $t+1$, 0 otherwise

$SIZE_{t+1}$ = natural log of average total assets

LEV_{t+1} = Total long term liabilities divided by average total assets

CFO_{t+1} = Cash flow from operations divided by average total assets

$GROWTH_{t+1}$ = $(SALES_{t+1} - SALES_t) / SALES_t$, whereas $SALES$ equals sales of the firm.

$LITIGATION_{t+1}$ = 1 if SIC codes 2833-2836, 3570-3577, 3600-3674, 5200-5961, and 7370-7374. 0 otherwise.

Table 3
Test of Hypothesis 1

$$EARNING_{t+1} = \beta_0 + \beta_1 D_{t+1} + \beta_2 RET_{t+1} + \beta_3 D_{t+1} * RET_{t+1} + \beta_4 SOX_{t+1} + \beta_5 SOX_{t+1} * D_{t+1} * RET_{t+1} + \varepsilon$$

	Model 1-1	Model 1-2
Constant	0.0084 (0.5425)	-0.0317 (-1.0332)
D	0.0137 (0.3255)	0.0302 (0.6881)
RET	-0.0054 (-0.2335)	-0.0026 (-0.1184)
D*RET	0.3880 (2.8382)***	0.2682 (1.9418)*
SOX		0.0506 (1.6077)
SOX* D*RET		0.3039 (1.5775)
N	386	386
adj. R-sq	0.1009	0.1133

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors. Variables are defined in Table 2.

Table 4
Test of Hypothesis 2

$$EARNING_{t+1} = \beta_0 + \beta_1 D_{t+1} + \beta_2 RET_{t+1} + \beta_3 D_{t+1} * RET_{t+1} + \beta_4 RSMR_t + \beta_5 D_{t+1} * RET_{t+1} * RSMR_t + \beta_6 SOX_{t+1} + \beta_7 SOX_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t + \beta_8 SIZE_{t+1} + \beta_9 LEV_{t+1} + \beta_{10} CFO_{t+1} + \beta_{11} GROWTH_{t+1} + \beta_{12} LITIGATION_{t+1} + \beta_{ind} IND_DUMMY_{t+1} + \varepsilon$$

	Model 2-1	Model 2-2
Constant	0.0026 (0.0891)	-0.1193 (-1.5087)
D	0.0101 (0.2525)	0.0123 (0.3247)
RET	0.0032 (0.1450)	0.0246 (1.3399)
D*RET	0.2890 (2.1430)**	0.0964 (0.6830)
RSMR	-0.2505 (-2.0261)**	-0.1195 (-1.0777)
D*RET*RSMR	-0.4453 (-1.2062)	-0.1602 (-0.3963)
SOX	0.0303 (1.1517)	0.0410 (1.6942)*
SOX* D*RET*RSMR	1.9706 (2.4764)**	1.7571 (2.6069)***
SIZE		0.0006 (0.0976)
LEV		0.0303 (0.6953)
CFO		0.6578 (5.6285)***
GROWTH		-0.0005 (-0.0316)
LITIGATION		-0.0194 (-0.3822)
Industry Dummy	No	Yes
N	386	386
adj. R-sq	0.1443	0.2764

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors. Variables are defined in Table 2.

Table 5
Test of Hypothesis 3

$$\begin{aligned}
 EARNING_{t+1} = & \beta_0 + \beta_1 D_{t+1} + \beta_2 RET_{t+1} + \beta_3 D_{t+1} * RET_{t+1} + \beta_4 BIGN_{t+1} + \beta_5 BIGN_{t+1} * D_{t+1} * RET_{t+1} + \beta_6 RSMR_t \\
 & + \beta_7 BIGN_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t + \beta_8 SOX_{t+1} + \beta_9 SOX_{t+1} * BIGN_{t+1} * D_{t+1} * RET_{t+1} \\
 & + \beta_{10} SOX_{t+1} * BIGN_{t+1} * D_{t+1} * RET_{t+1} * RSMR_t + \beta_{11} SIZE_{t+1} + \beta_{12} LEV_{t+1} + \beta_{13} CFO_{t+1} \\
 & + \beta_{14} GROWTH_{t+1} + \beta_{15} LITIGATION_{t+1} + \beta_{ind} IND_DUMMY_{t+1} + \varepsilon
 \end{aligned}$$

	Total Period			
	(1)	(2)	(3)	(4)
Constant	-0.1006 (-1.8670)*	-0.1972 (-2.3462)**	-0.0623 (-1.1255)	-0.1565 (-1.8727)*
D	0.0407 (0.9183)	0.0357 (0.8513)	0.0162 (0.3996)	0.0157 (0.3988)
RET	-0.0006 (-0.0272)	0.0236 (1.2477)	0.0046 (0.2080)	0.0253 (1.3646)
D*RET	0.3951 (2.0546)**	0.1745 (0.8384)	0.3108 (1.5596)	0.1332 (0.6248)
BIGN	0.0596 (1.2878)	0.0397 (0.8383)	0.0520 (1.1582)	0.0362 (0.7743)
BIGN*D*RET	-0.1529 (-0.6987)	-0.0782 (-0.3337)	-0.0796 (-0.3360)	-0.0468 (-0.1853)
RSMR			-0.2289 (-1.8408)*	-0.1425 (-1.1901)
BIGN*D*RET RSMR			-0.3094 (-0.8575)	-0.1581 (-0.3851)
SOX	0.0684 (2.0295)**	0.0611 (1.8731)*	0.0499 (1.4871)	0.0492 (1.4834)
SOX* BIGN*D*RET	0.4680 (2.0354)**	0.3665 (1.5120)	0.1014 (0.5554)	0.0757 (0.3673)
SOX* BIGN*D*RET RSMR			3.3748 (5.2730)***	2.8068 (4.0154)***
SIZE		0.0014 (0.2234)		0.0011 (0.1742)
LEV		0.0403 (0.9136)		0.0307 (0.7236)
CFO		0.6552 (5.2597)***		0.5933 (4.8913)***
GROWTH		0.0009 (0.0558)		0.0019 (0.1255)
LITIGATION		-0.0326 (-0.6251)		-0.0327 (-0.6136)
Industry Dummy	No	Yes	No	Yes
N	386	386	386	386
adj. R-sq	0.1270	0.2586	0.1845	0.2961

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors. Variables are defined in Table 2.

Table 6
Additional Tests for Hypothesis 2: Pre- and Post-SOX Sample Firms

	Pre-SOX		Post-SOX	
	(1)	(2)	(3)	(4)
Constant	0.0203 (0.5711)	0.0363 (0.2023)	0.0163 (0.7845)	-0.0977 (-1.1045)
D	0.0706 (1.0335)	-0.0525 (-0.7165)	-0.0195 (-0.3598)	-0.0110 (-0.2117)
RET	-0.0322 (-1.1429)	0.0279 (0.9403)	0.0296 (1.0685)	0.0455 (1.8681)*
D*RET	0.4679 (2.6202)***	0.1254 (0.7938)	0.1543 (0.6916)	0.0482 (0.1897)
RSMR	-0.3995 (-1.5800)	-0.1618 (-0.6281)	-0.1253 (-0.9896)	-0.0834 (-0.7433)
D*RET*RSMR	-0.7217 (-1.2684)	-0.6876 (-1.0237)	1.8258 (2.1802)**	1.6490 (2.5644)**
SIZE		-0.0079 (-0.5458)		-0.0014 (-0.1816)
LEV		-0.0590 (-0.3763)		0.0055 (0.1417)
CFO		0.6527 (3.6732)***		0.6467 (4.9360)***
GROWTH		0.0284 (0.6519)		-0.0033 (-0.3164)
LITIGATION		-0.0139 (-0.1305)		-0.0592 (-1.9796)**
Year Dummy	No	Yes	No	Yes
Industry Dummy	No	Yes	No	Yes
N	134	134	252	252
adj. R-sq	0.0363	0.1726	0.2462	0.3719

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors. Variables are defined in Table 2.

Table 7
Additional Tests for Hypothesis 3: Pre- and Post-SOX Sample Firms

	Pre-SOX				Post-SOX			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-0.0274 (-0.2454)	0.0526 (0.3218)	0.0184 (0.1895)	0.0766 (0.4487)	-0.0539 (-1.1203)	-0.1719 (-1.9121)*	-0.0312 (-0.6361)	-0.1314 (-1.5172)
D	0.0702 (1.0003)	-0.0460 (-0.6400)	0.0721 (1.0342)	-0.0485 (-0.6704)	0.0270 (0.4727)	0.0270 (0.4989)	-0.0121 (-0.2403)	-0.0113 (-0.2401)
RET	-0.0492 (-1.6978)*	0.0206 (0.6922)	-0.0340 (-1.1812)	0.0252 (0.8223)	0.0316 (1.1059)	0.0501 (2.0354)**	0.0337 (1.1878)	0.0494 (1.9594)*
D*RET	1.2356 (1.5450)	0.5916 (0.6779)	1.2527 (1.5314)	0.6279 (0.7163)	0.2023 (1.1850)	0.0636 (0.3653)	0.1040 (0.6258)	-0.0028 (-0.0171)
BIGN	0.0082 (0.0706)	-0.0307 (-0.3662)	-0.0029 (-0.0302)	-0.0252 (-0.2955)	0.0662 (1.3638)	0.0610 (1.1381)	0.0553 (1.1772)	0.0572 (1.0807)
BIGN*D*RET	-0.8496 (-1.0674)	-0.5514 (-0.6308)	-0.8295 (-1.0170)	-0.5125 (-0.5841)	0.4071 (1.6045)	0.3782 (1.4413)	0.0839 (0.4052)	0.1236 (0.5489)
RSMR			-0.3540 (-1.3762)	-0.1315 (-0.5053)			-0.1840 (-1.5989)	-0.1548 (-1.5082)
BIGN*D*RET RSMR			-0.5512 (-0.9597)	-0.5922 (-0.8668)			3.2618 (5.2448)***	2.7823 (4.4990)***
SIZE		-0.0076 (-0.5243)		-0.0100 (-0.6630)		-0.0005 (-0.0615)		-0.0006 (-0.0787)
LEV		-0.0670 (-0.4343)		-0.0744 (-0.4786)		0.0157 (0.4087)		0.0002 (0.0053)
CFO		0.6241 (3.2756)***		0.6002 (3.0940)***		0.6550 (4.1494)***		0.5150 (3.9133)***
GROWTH		0.0347 (0.6938)		0.0382 (0.7538)		-0.0008 (-0.0680)		0.0017 (0.1642)
LITIGATION		-0.0210 (-0.2011)		-0.0269 (-0.2543)		-0.0903 (-2.4094)**		-0.0896 (-2.6011)***
Year Dummy	No	Yes	No	Yes	No	Yes	No	Yes
Industry Dummy	No	Yes	No	Yes	No	Yes	No	Yes
N	134	134	134	134	252	252	252	252
adj. R-sq	0.0544	0.1716	0.0524	0.1644	0.2020	0.3399	0.3298	0.4321

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors.

Variables are defined in Table 2.

Table 8
Robustness Tests: Low RSMR versus High RSMR in the Pre- and Post-SOX Period

	Pre-SOX Period		Post-SOX Period	
	(1)	(2)	(3)	(4)
	Low RSMR	High RSMR	Low RSMR	High RSMR
Constant	0.0020 (0.0423)	-0.0740 (-1.4101)	0.0269 (1.0927)	-0.0119 (-0.5094)
D	0.0504 (0.6509)	0.1188 (0.9645)	-0.0819 (-1.3660)	0.0530 (0.6990)
RET	-0.0223 (-0.1607)	-0.0311 (-1.0795)	0.0130 (0.4283)	0.0391 (1.0706)
D*RET	0.3851 (1.8261)*	0.3853 (1.3764)	0.0120 (0.0781)	0.6315 (2.2277)**
N	67	67	126	126
adj. R-sq	0.0359	-0.0051	0.0560	0.2661

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors. Variables are defined in Table 2.

Table 9
Robustness Tests: Incorporation of Positive Market Reaction Firms

	Pre-SOX		Post-SOX		Full Sample Period	
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.0399 (-0.6422)	-0.2522 (-2.4604)**	0.0305 (2.0828)**	0.0112 (0.1319)	0.0048 (0.1381)	-0.0946 (-1.1295)
D	0.0922 (1.3752)	0.0159 (0.2944)	0.0030 (0.0861)	0.0041 (0.1305)	0.0142 (0.5030)	0.0313 (1.1801)
RET	-0.0048 (-0.1204)	0.0525 (1.3041)	-0.0010 (-0.0390)	0.0215 (1.1355)	-0.0027 (-0.1234)	0.0187 (1.1037)
D*RET	0.3360 (3.1439)***	0.0354 (0.2789)	0.4580 (2.5031)**	0.2491 (1.2348)	0.3376 (3.6907)***	0.1378 (1.2966)
RSMRP	-0.2511 (-1.0421)	-0.0249 (-0.0979)	-0.1225 (-1.0538)	-0.0436 (-0.3960)	-0.2098 (-1.7524)*	-0.0877 (-0.8026)
D*RET*RSMRP	-0.3629 (-0.6662)	-0.0876 (-0.1280)	1.0502 (1.0569)	1.3128 (1.7098)*	-0.4480 (-1.2305)	-0.0321 (-0.0812)
SOX					0.0176 (0.6079)	0.0290 (1.1382)
SOX* D*RET*RSMRP					1.8353 (2.2619)**	1.5785 (2.3562)**
SIZE		-0.0000 (-0.0040)		-0.0088 (-1.1548)		-0.0024 (-0.4478)
LEV		0.0070 (0.0672)		-0.0993 (-1.0653)		-0.0516 (-0.7213)
CFO		0.7359 (3.4844)***		0.6294 (6.7740)***		0.6989 (6.4797)***
GROWTH		0.0111 (0.3107)		0.0253 (1.9146)*		0.0203 (1.3632)
LITIGATION		0.0135 (0.1668)		-0.0800 (-2.2364)**		-0.0393 (-0.9664)
Year Dummy	No	Yes	No	Yes	No	No
Industry Dummy	No	Yes	No	Yes	No	Yes
N	201	201	417	417	618	618
adj. R-sq	0.0273	0.2214	0.1526	0.2809	0.1054	0.2436

*, (**), and (***) indicate significance at the 0.10, (0.05), and (0.01) levels, respectively, one-tailed test where appropriate. We report asymptotic t-statistic in parentheses based on White (1980) standard errors. Variables are defined in Table 2.