

Asymmetric Timeliness of Earnings and CEO Turnover post Sarbanes Oxley Act.

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Comments are Welcome!

Abstract:

This paper argues that increased disclosure requirements and penalties for top executives upon implementation of Sarbanes-Oxley Act, 2002, creates a demand for more conservatism in financial statements and therefore improvement in asymmetric timeliness property of earnings, and that CEOs who cannot fulfill this demand will rationally leave or are forced out by the board. Using Basu (1997) regression of earnings on returns, the paper finds evidence of improvement in asymmetric timeliness property after sox as well as that of positive association of CEO turnover with conservatism in the post-sox period. This leads to the conclusion that indeed earnings have become timelier with respect to bad news in the post sox period as well as in the event of CEO turnover. The results are robust to inclusion of leverage, litigation risk, size, investment opportunity set and CEO ownership in the company.

Keywords: Conservatism; Asymmetric Timeliness of Earnings; CEO Turnover; Sarbanes-Oxley Act.

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1. Introduction

The Sarbanes-Oxley Act (SOX, hereafter) was passed in August 2002 in response to financial scandals of late 1990s and early 2000s, such as WorldCom and Enron, which shook investor confidence in corporate reporting and governance practices. This new law intended to improve the quality and transparency of financial reports through comprehensive disclosure and reporting practices, rigorous auditing and internal control, higher standards for corporate governance, greater regulatory scrutiny and stringent penalties for top executives for non-compliance. These provisions create a demand for more conservative financial statements with increased asymmetry in timeliness of bad news than good news in the post-sox period.

Conservatism reduces manager's ability and incentives to overstate earnings and net assets by requiring higher verification standards for gain recognition and thereby reduces managers' ability to withhold information on expected losses. Top executives such as CEOs are required to achieve such improvement. CEOs unable to fulfill this demand will rationally leave or be forced out by the board in the post sox period.

This paper empirically tests whether asymmetric timeliness property of earnings has improved and whether such improvement in asymmetric timeliness of earnings is associated with CEO turnover in the post-SOX period. The first question addresses the key issue of whether SOX has been successful in fulfilling one of its key objectives, the demand for increased conservatism in financial reports. The second hypothesis attempts to unlock whether the corporate governance and market mechanisms rationally deal with CEOs of companies who are unable to fulfill the new requirements.

While prior studies provide mixed initial evidence of improved conservatism in the post-sox period, no attention has been paid in the literature to improved asymmetric timeliness of earnings associated with CEO turnover. Jain and Rezaee (2004) study does not find any significant impact of SOX on conservatism. Lobo and Zhou (2006) study whether firms employ lower discretionary accruals (estimated using modified Jones model) in the post-sox period and also whether conservatism has increased in the post-sox period, using limited data over 2001-2003 fiscal years. Unlike theirs, this paper is based on data over longer period 1992-2007, more importantly controls for investment opportunity set, size, litigation risk and CEO ownership, variables that

are found to be significantly associated with asymmetric timeliness of earnings; therefore the results of this paper are more robust to alternative explanations.

This paper contributes to both conservatism as well as CEO turnover literature. It provides robust evidence of SOX achieving its goal of increasing accounting and reporting conservatism and rational response of top executive and board to meet the challenges posed in the new reporting environment. Conditional conservatism has increased by 20.2% from pre-sox to post sox, while conditional conservatism has increased by 7.8% in the context of CEO turnover over the same period. So, earnings have become not only become timelier with respect to bad news in the post sox period but also such asymmetric timeliness has significantly improved with CEO turnover.

The remainder of this paper is organized as follows. Section 2 develops the main hypothesis. Section 3 discusses research design. Section 4 provides sample selection, variables used, summary statistics and correlations. Section 5 presents the empirical results. Section 6 concludes.

2. Motivation and Hypothesis Development

2.1 Conservatism and Asymmetric Timeliness of Earnings

According to Watts and Zimmerman (1986), conservatism means that the accountant should report the lowest value among the possible alternative values for assets and the highest alternative value for liabilities. Revenues should be recognized later rather than sooner and expenses sooner than later.

Traditionally accounting conservatism is expressed by “anticipate no profit, but anticipate all losses” (Bliss, 1924). Financial Accounting since the mid-1930s has emphasized conservatism in the income statement (ARB 2, CAP, 1939). Accountants recognize profits only after revenues are verifiable and realized, unlike losses that are recognized even though they have not been realized. This means that revenues and expenses contributing to profits are recognized in the books when a legal claim to them has been established, but the same does not apply to losses. Statement of Financial Accounting Concepts (SFAC) 2 (FASB, 1980) states that “Conservatism no longer requires deferring recognition of income beyond the time that adequate evidence of its existence becomes available or justifies recognizing losses before there is adequate evidence that

they have been incurred”. Application of conservatism principle in accounting are many such as recognition of revenue, accounting for contingencies, impairment of long lived assets, allowance for uncollectible, valuation allowance for deferred tax assets, etc.

SFAC 2 paragraph 95 states “ ... if two estimates of amounts to be received or paid in the future are about equally likely, *conservatism* dictates using the less optimistic estimate” (emphasis added). Its application can be clearly seen in the lower of cost or market rule for valuing inventories as prescribed in Accounting Research Bulletin (ARB) 43, Committee on Accounting Procedures (CAP, 1953). SFAC 2 also requires that “possible error in measurement be in the direction of understatement than overstatement of net income and net assets.”

Basu (1997) interprets conservatism as “capturing accountants’ tendency to require a higher degree of verification for recognizing good news as gains than bad news as losses in financial statements”. Thus, conservatism is the asymmetrical verification requirements for gains and losses. In accounting, conservatism results in a greater probability of timely recognition of bad news than good news. So, bad news is reflected in earnings much earlier than good news.

Stock returns capture news arrival during the year. Positive returns are associated with good news, while negative returns are associated with bad news arrival. This has implications for the earnings-return relation. In a regression of earnings on return Basu (1997) predicts and finds that earnings respond more to negative returns (bad news) than positive returns (good news), and calls this differential response the “asymmetric timeliness of earnings” and uses it as a measure of conservatism. This measure of conservatism has been widely used in accounting literature as evident from a survey in Watts (2003b).

Ball and Shivakumar (2005) argue that conditional conservatism can be contracting efficient since conditional on firm incurring economic losses it motivates managers to act on the losses more quickly. Watts (2003a) argues that conservatism reduces manager’s ability and incentives to overstate earnings and net assets by requiring higher verification standards for gain recognition, and reduces managers’ ability to withhold information on expected losses; thereby it prevents their overcompensation that is costly to recover ex post due to their limited liability and limited tenure.

Conservatism's influence on accounting practice has been both long and significant as evident in the discussion in Watts (2003a). Basu (1997) points that conservatism has influenced accounting practice for at least five hundred years. Sterling (1970) rates conservatism as the most influential principle of valuation in accounting. According to Watts (2003a), recent empirical research on conservatism suggests that accounting practice has become more conservative in the last 30 years.

2.2 Sarbanes-Oxley Act of 2002.

SOX was created in response to reported financial scandals and the perceived inability of self-correcting marketplace mechanisms, as pointed out in Jain and Rezaee (2004). SOX intended to improve the quality and transparency of financial reports through mechanisms such as (1) higher standards for corporate governance including greater role of Audit Committees, (2) executive certification of financial reports and internal controls, (3) establishing new civil and criminal remedies for violations of federal securities laws, etc.

Section 302 of SOX requires a CEO to establish and maintain adequate and effective disclosure controls and procedures. The CEO of a publicly traded company are required to certify that (1) they have reviewed its financial reports, (2) the reports are accurate and complete to their knowledge, and (3) the financial statements are fairly presented in conformity with GAAP.

Section 100 of SOX restricts the scope of non-audit services that auditors can provide to their clients. Under section 200, SEC established Public Companies Accounting Oversight Board (PCAOB) as an independent board to oversee the auditing profession. PCAOB issued more conservative auditing standards that all registered auditors were required to follow in performing statutory audits of public companies. Threats of increased liability and regulatory sanctions have also caused auditors to be more cautious in the audit process.

Section 401 of SOX requires publicly traded firms to disclose all material off-balance sheet transactions and other relationships with unconsolidated entities and the reconciliation of pro forma financial information with that under GAAP. The financial statements filed with the SEC must also reflect all material correcting adjustments identified by the independent auditors.

Section 408 of SOX goes one step further in requiring the SEC to review reports of all publicly traded companies at least once in three years. Besides, the SEC has powers under section 21C of the Securities Exchange Act, 1934 to prohibit individuals from serving as officer or director of any reporting company in cease-and-desist proceeding.

These stringent provisions related to disclosure, governance, regulatory scrutiny are expected to increase management's preference for more conservative accounting choices. Therefore there should be an increase in the speed with which bad news is recognized in financial reports relative to that of good news. So I expect that asymmetric timeliness of earnings will be higher in the post-SOX period than in the pre-SOX period. This leads to my first hypothesis, stated in alternate form.

H1a: Asymmetric timeliness of earnings has increased in the post-SOX period compared to pre-SOX period.

2.3 Board of Directors and CEO turnover

The board of directors is “the common apex of the decision control systems of organizations, in which decision agents do not bear a major share of the wealth effects of their decisions” (Fama and Jensen, 1983). Among the various powers of the board are the power to hire and fire CEO's, ratify and monitor their decisions, provide advice on proposed strategies and direction of the firm. In order to fulfill the statutory and fiduciary duties of monitoring and evaluating managers, directors need verifiable information from the accounting information system of the firm (Watts and Zimmerman, 1986; Bushman and Smith, 2001). Accounting conservatism can help them in reducing deadweight losses and disciplining other sources of information and thereby maximize shareholder wealth (Watts 2003a).

CEO's unable to ensure asymmetric timeliness of earnings will rationally be penalized by the board and could be forced out. Since the disclosure requirement has increased substantially in the post sox era, I expect that CEOs deemed unable to fulfill their increased disclosure compliance responsibilities in the post-SOX era be forced out by the board of directors. Such an action on the part of the directors is rational since it not only helps them avoid the litigation and regulatory

sanctions, but bring in new CEO who would take action to fulfill the disclosure requirements and thus improve conservatism. This should reflect effective governance mechanism in the firm.

2.4 CEO Incentives and turnover

SOX imposes severe penalties on CEOs who certify financial statements that prove to be misleading. They may be fined up to \$ 5 million and / or imprisoned for 20 years; they must also pass back to the company their share of gains and bonuses earned within one year of filing the erroneous financial statements, in the event of material non-compliance with the financial reporting requirements.

These provisions related to disclosure, governance, regulatory scrutiny and stringent penalties, increase a CEO's cost as well as risk. CEOs unable to deal with this increased requirement for conservatism in their firms will rationally not want to jeopardize their reputation and therefore have incentive to leave such firms in order to avoid the legal liabilities, fines and imprisonment as well. Such a voluntary departure of existing CEO should induce the board to hire new CEO who can effectively fulfill the new requirement in the post-sox period and thus improve conservatism. This should also reflect effective governance mechanisms in the firm.

These lead to my second hypothesis, stated in alternate form.

H2a: Improvement in Asymmetric timeliness of earnings is associated with CEO Turnover in the post sox period.

3. Research Design

3.1 Basu Regression

I measure asymmetric timeliness of earnings from regression of earnings on return, similar to the Basu (1997):

$$NI_t = \alpha_0 + \alpha_1 NEG_t + \beta_1 RET_t + \beta_2 RET_t * NEG_t + \varepsilon \quad (1)$$

where NI is annual earnings, RET is the buy-and-hold return over the year and NEG is the negative return indicator variable. Ball and Shivakumar (2006) argue that the term $\alpha_0 + \alpha_1 \text{NEG}$, capture unconditional conservatism. β_1 measures the timeliness of earnings with respect to positive returns or good news, and β_2 measures the incremental timeliness of earnings with respect to negative returns or bad news. The asymmetric timeliness coefficient β_2 is the coefficient of interest. I replicate Basu regression on my sample to check earning timeliness at the aggregate level.

3.2 Testing Hypothesis 1

Hypothesis 1 is a test of changes in conservatism post sox. So, I use the following modified Basu's specification similar to used in prior literature:

$$\text{NI} = \alpha_0 + \alpha_1 \text{NEG} + \beta_1 \text{RET} + \beta_2 \text{RET} * \text{NEG} + \alpha_2 \text{SOX} + \alpha_3 \text{NEG} * \text{SOX} + \beta_3 \text{RET} * \text{SOX} + \beta_4 \text{RET} * \text{NEG} * \text{SOX} + \varepsilon \quad (2)$$

where SOX is an indicator variable equal to 1 if fiscal year is 2002 or later, zero otherwise, and other variables are as defined earlier. The firm and time subscripts are suppressed for easier reading.

With the inclusion of interacted terms, the regression specification also captures variation in unconditional conservatism with SOX via coefficients α_2 and α_3 on SOX and NEG * SOX respectively, in addition to $\alpha_0 + \alpha_1 \text{NEG}$ from equation 1. So, unconditional conservatism in this specification becomes $\alpha_0 + \alpha_1 \text{NEG} + \alpha_2 \text{SOX} + \alpha_3 \text{NEG} * \text{SOX}$.

β_1 and β_3 measure the timeliness of earnings with respect to positive returns or good news during the pre-sox and post-sox period respectively; In contrast, β_2 and β_4 are the measures of incremental timeliness of earnings with respect to negative returns or bad news during the pre-sox and post-sox period, respectively. The asymmetric timeliness coefficient β_4 in this equation is of interest in this paper. In this setting, conditional conservatism is $\beta_3 + \beta_4$ in the post sox period, up from β_3 in the pre sox period. So, conditional conservatism increases by $(\beta_4 \div \beta_3) * 100\%$.

CEO ownership, market to book, market value of equity, leverage, and litigation risk have been found to explain the degree of asymmetric timeliness in earnings.

LaFond and Roychowdhury (2007) find evidence of negative association of CEO ownership with asymmetric timeliness.

Roychowdhury and Watts (2007) argue that the composition of equity value of a firm is affected both by its investment opportunity set and by past asymmetric timeliness. So current investment opportunity set and degree of conservatism will have an effect on future asymmetric timeliness of earnings. Beginning of the year Market-to-book ratio captures investment opportunity set and is negatively associated with asymmetric timeliness of earnings.

Prior literature also finds that market value of equity is associated negatively with asymmetric timeliness, as is evident from Givoly, Hayn and Natarajan (2006), LaFond and Watts (2008), etc.

Debt contracting creates demand for conservatism. Firms whose earnings are more asymmetrically timely enjoy lower effective interest rate, ex ante, and violate debt covenants more quickly when experiencing extreme negative returns as found by Zhang 2004. Similarly Moerman (2006) find evidence of lower bid ask spreads of syndicated loan trading in the secondary market for firms with more conservative reporting. A positive association between asymmetric timeliness and leverage in quarterly data is documented (Frankel and Roychowdhury 2007).

Basu (1997) finds evidence that greater litigation risk creates incentives to recognize bad news in earnings earlier than good news. Francis, Philbrick and Schipper (1994) identify industries where the firm members face high litigation risk. So firms in these industries are likely to have greater asymmetric timeliness in earnings.

So, I include market to book (MTB), leverage (LEV), market value of equity (SIZE), litigation risk (LIT) and CEO ownership (OWN) as well as their interaction with NEG, RET and NEG*RET in equation 2 to obtain the following equation 3.

$$\begin{aligned}
 NI_t = & \alpha_0 + \alpha_1 NEG_t + \beta_1 RET_t + \beta_2 RET_t * NEG_t \\
 & + \alpha_2 SOX_t + \alpha_3 NEG_t * SOX_t + \beta_3 RET_t * SOX_t + \beta_4 RET_t * NEG_t * SOX_t \\
 & + \alpha_4 OWN_{t-1} + \alpha_5 MTB_{t-1} + \alpha_6 LEV_{t-1} + \alpha_7 SIZE_{t-1} + \alpha_8 LIT_{t-1}
 \end{aligned}$$

$$\begin{aligned}
& + \alpha_9 \text{NEG}_t * \text{OWN}_{t-1} + \alpha_{10} \text{NEG}_t * \text{MTB}_{t-1} + \alpha_{11} \text{NEG}_t * \text{LEV}_{t-1} \\
& + \alpha_{12} \text{NEG}_t * \text{SIZE}_{t-1} + \alpha_{13} \text{NEG}_t * \text{LIT}_{t-1} + \gamma_1 \text{RET}_t * \text{OWN}_{t-1} \\
& + \gamma_2 \text{RET}_t * \text{MTB}_{t-1} + \gamma_3 \text{RET}_t * \text{LEV}_{t-1} + \gamma_4 \text{RET}_t * \text{SIZE}_{t-1} \\
& + \gamma_5 \text{RET}_t * \text{LIT}_{t-1} + \gamma_6 \text{NEG}_t * \text{RET}_t * \text{OWN}_{t-1} \\
& + \gamma_7 \text{NEG}_t * \text{RET}_t * \text{MTB}_{t-1} + \gamma_8 \text{NEG}_t * \text{RET}_t * \text{LEV}_{t-1} \\
& + \gamma_9 \text{NEG}_t * \text{RET}_t * \text{SIZE}_{t-1} + \gamma_{10} \text{NEG}_t * \text{RET}_t * \text{LIT}_{t-1} \quad + \varepsilon \quad (3)
\end{aligned}$$

where variables are as defined earlier, and the firm subscripts are suppressed for easier reading.

β_1 and β_3 measure the timeliness of earnings with respect to positive returns or good news during the pre-sox and post-sox period respectively; β_2 and β_4 are the measures of incremental timeliness of earnings with respect to negative returns or bad news during the pre-sox and post-sox period, respectively. The asymmetric timeliness coefficient β_4 in this equation is of interest in this paper.

3.3 Testing Hypothesis 2

In order to test Hypothesis 2 for positive association of conservatism with CEO turnover post sox, I introduce in this equation, TUR, an indicator variable for CEO Turnover, and its interaction with other variables in above equation 2 and obtain the following equation 4.

$$\begin{aligned}
\text{NI} = & \alpha_0 + \alpha_1 \text{NEG} + \beta_1 \text{RET} + \beta_2 \text{RET} * \text{NEG} \\
& + \alpha_2 \text{SOX} + \alpha_3 \text{NEG} * \text{SOX} + \beta_3 \text{RET} * \text{SOX} + \beta_4 \text{RET} * \text{NEG} * \text{SOX} \\
& + \alpha_4 \text{TUR} + \alpha_5 \text{SOX} * \text{TUR} + \alpha_6 \text{NEG} * \text{TUR} + \alpha_7 \text{RET} * \text{TUR} \\
& + \beta_5 \text{NEG} * \text{RET} * \text{TUR} + \beta_6 \text{NEG} * \text{RET} * \text{TUR} * \text{SOX} \quad + \varepsilon \quad (4)
\end{aligned}$$

where variables are as defined earlier; firm and time subscripts are suppressed for easier reading.

With the inclusion of interacted terms, this regression specification also captures variation in unconditional conservatism with TUR via coefficients α_4 and α_6 on TUR and NEG * TUR respectively, in addition to $\alpha_0 + \alpha_1 \text{NEG}$ from equation 1. So, the unconditional conservatism in this specification turns out to be $\alpha_0 + \alpha_1 \text{NEG} + \alpha_4 \text{TUR} + \alpha_6 \text{NEG} * \text{TUR}$.

β_1 and β_3 are the measures of timeliness of earnings with respect to positive returns or good news in non-turnover events during the pre-sox and post-sox period respectively; β_2 and β_4 measures the incremental timeliness of earnings with respect to negative returns or bad news in non-turnover events during the pre-sox and post-sox period respectively. β_5 and β_6 measure the

incremental timeliness of earnings with respect to negative returns or bad news in turnover events during the pre-sox and post-sox period respectively. β_5 and β_6 are of interest in this paper. In this setting, conditional conservatism with respect to CEO turnover is $(\beta_1 + \beta_2 + \alpha_7 + \beta_5 + \beta_6)$ in the post sox period, up from $(\beta_1 + \beta_2 + \alpha_7 + \beta_5)$ in the pre sox period. So, conditional conservatism increases by $\beta_6 \div (\beta_1 + \beta_2 + \alpha_7 + \beta_5) * 100\%$.

Similar to equation 3, I include market to book, MTB_{t-1} , leverage, LEV_{t-1} , market value of equity, $SIZE_{t-1}$, litigation risk, LIT_{t-1} , and CEO ownership, OWN_{t-1} , variables found to explain asymmetric timeliness of earnings. I include them as controls in separate regression. I include these variables as well as their interaction with NEG_t , RET_t and $NEG_t * RET_t$ in equation 4 to obtain the following equation 5.

$$\begin{aligned}
 NI = & \alpha_0 + \alpha_1 NEG + \beta_1 RET + \beta_2 RET * NEG \\
 & + \alpha_2 SOX + \alpha_3 NEG * SOX + \beta_3 RET * SOX + \beta_4 RET * NEG * SOX \\
 & + \alpha_4 TUR + \alpha_5 SOX * TUR + \alpha_6 NEG * TUR + \alpha_7 RET * TUR \\
 & + \beta_5 NEG * RET * TUR + \beta_6 NEG * RET * TUR * SOX \\
 & + \alpha_8 OWN_{t-1} + \alpha_9 MTB_{t-1} + \alpha_{10} LEV_{t-1} + \alpha_{11} SIZE_{t-1} + \alpha_{12} LIT_{t-1} \\
 & + \alpha_{13} NEG_t * OWN_{t-1} + \alpha_{14} NEG_t * MTB_{t-1} + \alpha_{15} NEG_t * LEV_{t-1} \\
 & + \alpha_{16} NEG_t * SIZE_{t-1} + \alpha_{17} NEG_t * LIT_{t-1} + \gamma_1 RET_t * OWN_{t-1} \\
 & + \gamma_2 RET_t * MTB_{t-1} + \gamma_3 RET_t * LEV_{t-1} + \gamma_4 RET_t * SIZE_{t-1} \\
 & + \gamma_5 RET_t * LIT_{t-1} + \gamma_6 NEG_t * RET_t * OWN_{t-1} \\
 & + \gamma_7 NEG_t * RET_t * MTB_{t-1} + \gamma_8 NEG_t * RET_t * LEV_{t-1} \\
 & + \gamma_9 NEG_t * RET_t * SIZE_{t-1} + \gamma_{10} NEG_t * RET_t * LIT_{t-1} + \varepsilon \quad (5)
 \end{aligned}$$

where variables are as defined earlier. The firm and time subscripts are suppressed for easier reading.

β_1 and β_3 measure the timeliness of earnings with respect to positive returns or good news in non-turnover events during the pre-sox and post-sox period respectively; β_2 and β_4 measures the incremental timeliness of earnings with respect to negative returns or bad news in non-turnover events during the pre-sox and post-sox period respectively. β_5 and β_6 are the measures of incremental timeliness of earnings with respect to negative returns or bad news in turnover events during the pre-sox and post-sox period respectively. The asymmetric timeliness coefficient β_5 and β_6 in this equation is of interest in this paper.

4. Sample Selection and Data

4.1 Data Source.

Financial Statement data is taken from Compustat North America Fundamentals Annual Database. Security Return data is taken from Monthly CRSP / Compustat Merged Fundamentals Annual database. CEO Turnover data comes from Executive Compensation Annual Compensation database.

4.2 Sample Selection.

[Insert Table 1]

Table 1 reports sample selection. ExecuComp has firm-year observations from 1992. So I take Compustat data from 1992 to 2007; I excluded 2008, since there were relatively few observations when I started working on this paper. All firm-year observations (188,796) with fiscal year between 1992 and 2007 are taken from Compustat. Firm year observations from Compustat are matched with those from ExecuComp. 164,860 firm year observations do not have their match in ExecuComp and therefore are deleted, leaving only 23,936 firm-year observations. Thereafter firm-year observations with missing contemporaneous Net Income and Annual Return, and missing lagged value of MTB, size, leverage as well as CEO ownership are removed. Then firm-year observations with top and bottom 1% of Net Income and Returns are trimmed to avoid the effect of outliers. This leaves 17,284 firm year observations from fiscal years ending between 1992 and 2007, with 41.9% of the observations in post-sox and 58.1% in pre-sox period.

In this sample there are 2,544 unique firms, 4,038 unique CEO's and 1,212 CEO turnover events, of which 321 CEO turnover events were not related to retirement or death.

4.3 Variable Definition & Summary Statistics

[Insert Table 2]

Table 2 provides summary statistics for the variables used in this study. These are defined and discussed below. Appendix 1 also provides the definition of these variables, for quick reference.

RET is annual buy and hold compounded returns calculated from Monthly CRSP Compustat merged database, cumulated from four months after the end of previous fiscal to 3 months after the end of current fiscal year. Returns are compounded monthly. If a month has a missing return data, monthly return is taken to be zero. However, if all 12 months in a year have missing data then the firm year observation is deleted, since returns are used as proxy of economic returns and used as an independent variable. Average 12 month buy and hold annual return for the firms in the sample is 13.5%, more than the median of 9.8% indicating positive skewness in returns.

NEG is a negative return indicator variable. If $RET < 0$, NEG has the value 1, else it takes a value 0. In the sample, 38.3% of firm-year observations have negative returns.

NI is net income before extraordinary items scaled by lagged market value of equity. Average net income for the firms is 4.2% and is lower than the median 5.5%. This is consistent with the presence of negative skewness in earnings.

SOX is an indicator variable that takes the value 1 if fiscal year is 2002 or later, else it takes a value 0. It is a proxy for post sox period. 41.9% of the firm-year observations in my sample have fiscal year 2002 or later.

TUR is an indicator variable that takes a value 1 if the CEO leaves during the year with a reason code provided in the database is either "Resigned" or "Unknown". If there is a change in CEO during the year due to retirement or death of the current CEO then it is not considered a CEO turnover event. I have assumed that "Resigned" or "Unknown" reasons include cases of forced CEO, as the Executive Compensation database is silent on this reason. In my sample 1.9% of firm year observations are classified as CEO turnover.

Prior literature identifies market to book, leverage, size, litigation risk and CEO ownership explains asymmetric timeliness of earnings, and hence these are used as controls in this study. Since there are large variations in these variables across firms and to avoid the outlier problem, I have converted the lagged values of raw market to book, leverage, size and CEO ownership values to their respective decile ranks, as in LaFond and Roychowdhury 2007. The lowest decile has rank 0, while the highest has rank 1 and the difference in rank between two deciles is 1/9. This set up ensures that the coefficient on each of these control variables represents impact of a shift from bottom decile to top decile.

SIZE is the decile rank based on lagged market value of equity. Firms in the sample have mean (median) lagged market value of equity 6.6 (1.4) billion dollars.

MTB is the decile rank based on lagged market to book ratio. Full sample has an average (median) market to book ratio of 4.25 (2.30).

LEV is the decile rank based on lagged value of the ratio of total debt to total assets. Current portion of long term debt are included in total debt. Mean (median) lagged value of total debt to total assets ratio is 0.225 (0.213).

LIT is an indicator variable, which takes the value 1, if SIC code lies in 2833-2836, 3570-3577, 3600-3674, 5200-5961 or 7370, otherwise it takes a value 0. It is a proxy for higher litigation risk faced by industries with these SIC codes, as used in prior literature. 20.8% of my sample have these SIC codes.

OWN is the decile rank based on percent of CEO ownership in common equity of their firm excluding any stock options at the beginning of the year as reported in the Executive Compensation database. Mean (median) CEO Ownership excluding options is 2.6% (0%) in the sample. This indicates that in this sample a majority of CEO's own zero or close to zero percent of common equity stock in their company. The relatively low values of CEO ownership in my sample is most likely due to the fact that the ExecuComp database covers companies in the S&P 1500 index, biasing the sample towards larger firms where wealth constraints most likely restrict the level of ownership. In their investigation of the differences in CEO ownership and compensation contracts across ExecuComp and non-ExecuComp firms, Cadman et al (2006) find that non-ExecuComp firms tend to have higher CEO ownership.

4.4 Univariate Correlations

[Insert Table 3]

Table 3 provides correlation between the variables used in this study. Pearson correlations are below the diagonal while spearman correlations are above the diagonal. Spearman rank-order correlations are generally consistent with the Pearson correlations, except for NI's correlation with MTB (different signs, Pearson correlation is positive while spearman rank correlation is

negative, however this is similar in sign as that reported in LaFond and Roychowdhury, 2007). To facilitate discussion, I focus on the Spearman correlations, since this paper uses decile rank for all the control variables.

NI has significant positive correlation with RET (+0.298), SIZE (+0.051), and LEV (+0.098) and negative correlation with TUR (-0.092), SOX (-0.047), MTB (-0.164), OWN (-0.059), and LIT (-0.163).

SOX, the indicator variable for post-sox period fiscal year 2002 or later, has negative correlation with NI, RET (-0.014), MTB (-0.029), LEV (-0.041), positive correlation with OWN (+0.028) and SIZE (+0.125) and zero correlation with TUR (+0.001), NEG (-0.003) and LIT (+0.011).

TUR, the indicator variable for CEO turnover, is negatively correlated with NI, RET (-0.071), OWN (-0.025), LEV (-0.031), SIZE (-0.035), and positively correlated with NEG (+0.059), LIT (+0.037), and not correlated with SOX (+0.001), MTB (-0.007).

5. Results

In order to test the hypotheses, I use modified Basu reverse regression, wherein Net Income is regressed on Returns, Negative Return Dummy, their Interaction Term as well as other independent variables and their interaction terms.

5.1 Change in accounting conservatism in the post sox period.

Table 4 tests whether accounting conservatism has improved in the post sox period.

[Insert Table 4]

Panel A replicates Basu Regression. All firm-year observations are pooled, NI_t is regressed on RET_t , NEG_t and the interaction term $RET_t * NEG_t$. The coefficient of RET_t measures earnings timeliness with respect to good news, while the coefficient of the interaction term $RET_t * NEG_t$ measures the asymmetric timeliness with respect to bad news. The unconditional conservatism is 0.058. The coefficient of the interaction term $NEG * RET$ is 0.162 and significant at <0.001 while that of RET_t is negative but insignificant. This suggests that bad news is reflected quickly

in earnings compared to good news, confirming the asymmetric timeliness of earnings on the whole in the sample.

Panel B tests conservatism post Sox period. All firm-year observations are pooled and OLS is run with dependent variable as NI_t and independent variables RET_t , NEG_t and SOX_t , and the interaction terms RET_t*NEG_t , RET_t*SOX_t , NEG_t*SOX_t and $RET_t*NEG_t*SOX_t$. The unconditional and conditional conservatism in this specification are 0.062 ($=0.057-0.001+0.002+0.004$) and 0.060 ($-0.024 + 0.084$) respectively. The coefficient of the interaction $NEG * RET$ is 0.132 and significant at <0.001 confirming asymmetric timeliness of earnings in the pre-sox period. Similarly the coefficient of the interaction term $RET*SOX$ is -0.024 and significant at <0.001 , while the coefficient of the triple interaction term $RET * NEG * SOX$ is positive, 0.084 and also significant at <0.001 . This suggests that earnings have been timelier in post sox both with respect to good news as well as bad news, that bad news is reflected more quickly than good news in post sox period, and that conservatism has improved in the post sox period.

Panel C tests conservatism in post sox period after controlling for the effect of OWN_{t-1} , MTB_{t-1} , $SIZE_{t-1}$, LEV_{t-1} and LIT_{t-1} , found to explain NI_t in prior studies. The unconditional and conditional conservatism in this specification are 0.056 ($=0.062 -0.009 +0.001 +0.002$) and 0.046 ($= -0.024 +0.070$) respectively. The coefficient of the interaction term $RET*SOX$ is -0.024, $NEG*RET$ is 0.251, and $RET * NEG * SOX$ is 0.070, all are significant at <0.001 . Thus conservatism has improved in the post sox period, even after controlling for size, leverage, litigation risk, CEO ownership and investment opportunity set as captured by market to book ratio.

5.2 Association of accounting conservatism and CEO Turnover in the post sox period.

Table 5 tests the association between CEO turnover and accounting conservatism in the post sox period.

[Insert Table 5]

5.2.1 Conservatism and Turnover, without controls.

Panel A of Table 5 tests the association between CEO Turnover and accounting conservatism in the post sox period using pooled regression of NI_t on RET_t , NEG_t , SOX_t , TUR_t and interaction terms $RET_t * SOX_t$, $RET_t * TUR_t$, $NEG_t * SOX_t$, $NEG_t * TUR_t$, $NEG_t * RET_t * TUR_t$ and $NEG_t * RET_t * TUR_t * SOX_t$. If the coefficient on the quadruple interaction term is significant, conservatism in post sox period will be associated with CEO turnover event and we will reject the null of hypothesis two.

In this specification, in the post sox period, unconditional conservatism with CEO turnover is 0.002 (= +0.058 -0.001 -0.047 -0.008) while conditional conservatism is 0.328 [= (0.002 +0.130 -0.022 -0.052) + (-0.024 +0.081 -0.054 +0.161)] up by 281% from the pre-sox period level.

The coefficient of RET is 0.002 and not significantly different from zero, while the coefficient of the interaction term RET * TUR is -0.022 and not significant. This suggest that in the pre-sox period, earnings are not less timelier with respect to good news.

The coefficient of the interaction term NEG * RET, a measure of earnings timeliness to bad news in the base case (pre-sox, no CEO turnover), 0.130 and significant at <0.001, suggesting earnings are more timely with respect to bad news. The coefficient of the triple interaction term NEG * RET * TUR is -0.052, though negative it is not significantly different from zero; so, in the pre-sox period there is no evidence of association between earnings timeliness of bad news and CEO turnover.

Since, the non-significance of coefficients of both RET * TUR and NEG * RET * TUR suggests that earnings, in CEO turnover years during pre-sox periods, do not exhibit asymmetric timeliness property. So I conclude that earnings are not timelier for bad news than for good news in CEO turnover years during pre-sox period.

Unlike the coefficient of RET * TUR * SOX, -0.054 and not significant, the coefficient of NEG * RET * TUR * SOX, as expected, is positive 0.161 and significant at 1% level. This suggests that CEO turnover event is associated with improved timeliness of negative news in the post sox

period. So we reject the null of hypothesis 2, and conclude that CEO turnover is associated with improvement in asymmetric timeliness of earnings in the post-sox period.

5.2.2 Conservatism and Turnover, with controls.

Panel B of Table 5 tests whether CEO turnover and accounting conservatism are associated in the post sox period after controlling for CEO ownership, leverage, size, litigation risk and investment opportunity set. Equation 5 is estimated using pooled regression and the coefficients are presented in this panel.

In the post sox period, unconditional conservatism with CEO turnover is 0.011 ($= +0.063 - 0.010 - 0.040 - 0.003$). In the same period conditional conservatism is 0.237 [$= (-0.026 + 0.264 - 0.023 - 0.025) + (-0.025 + 0.066 - 0.045 + 0.122)$] which is higher than the pre-sox level by 63%.

The coefficient of RET is -0.026 and significant at 1% level, suggesting that in the base case (pre sox with no CEO turnover) earnings are less timely for good news. The coefficient of RET * TUR is negative, -0.023 and not significant, suggesting that earnings are not less timely for good news in the pre-sox periods with CEO turnover than without CEO turnover.

The coefficient of NEG * RET is 0.264, positive as expected and significant at <0.001 level, suggesting that earnings are more timely for bad news in the base case (pre sox with no CEO turnover). The coefficients of NEG * RET * TUR is -0.025 , much lower than that in panel A, and not significantly different from zero; so, during the pre-sox period, bad news is not recognized earlier for firms with ceo turnover than those without ceo turnover.

The comparison of the coefficient of RET * TUR with that of NEG * RET * TUR suggests that earnings in CEO turnover years during pre-sox periods do not exhibit asymmetric timeliness property. So I conclude that earnings are not more timely for bad news than good news in CEO turnover years during pre-sox period.

The coefficient of RET * TUR * SOX is -0.045 , negative but not significant. The coefficient of NEG * RET * TUR * SOX is 0.122, positive as expected, with a p-value of 0.034. As such, it is significant at 5% level. Therefore I reject the null of Hypothesis 2 and conclude that CEO turnover is associated with greater asymmetric timeliness in earnings in the post-sox period, even

after controlling for size, leverage, litigation risk, CEO ownership and investment opportunity set.

6. Conclusion

In this paper, I study CEO turnover's association with asymmetric timeliness of earnings in the post sox period. Sarbanes Oxley Act was passed in 2002 in order to improve the quality and transparency of financial reports through comprehensive disclosure and reporting practices, rigorous auditing and internal control, higher standards for corporate governance, greater regulatory scrutiny and stringent penalties for top executives for non-compliance. These provisions are expected to create a demand for more conservative financial statements with increased asymmetry in timeliness of bad news than good news in the post-sox period. So conservatism is expected to have increased after implementation of the Sarbanes Oxley Act of 2002. I empirically test this hypothesis and my results confirm the same. Conservatism reduces manager's ability and incentives to overstate earnings and net assets by requiring higher verification standards for gain recognition and thereby reduces managers' ability to withhold information on expected losses. Top executives such as CEOs are required to achieve the stringent requirements in the post sox period. I expect that CEOs unable to fulfill this demand will rationally leave or be forced out by the board in the post sox period. My results provide empirical evidence of the association of ceo turnover with increase in conservatism in the post-sox period.

This paper complements existing research on conservatism. First, it confirms the initial evidence of increase in conservatism post-sox, and this finding is robust even after controlling for alternative explanations. Prior literature provides evidence that conservatism is affected by size, leverage, litigation risk, ceo ownership and investment opportunity set. Second and more importantly, it documents increase in conservatism associated with CEO turnover events in the post-sox era.

Appendix A

Definition of variables used in this study and formula used to compute them.

Variable	Description
RET_t	RET_t is annual buy and hold returns calculated from Monthly CRSP Compustat merged database, cumulated from four months after the end of previous fiscal to 3 months after the end of current fiscal year. Returns are compounded monthly. If a month has a missing return data, monthly return is taken to be zero.
NEG_t	NEG_t is a negative return indicator variable. $NEG_t = 1$, if $RET_t < 0$; otherwise $NEG_t = 0$.
NI_t	NI_t is Net Income before Extraordinary Items scaled by lagged Market Value of Equity.
SOX_t	SOX_t is a post-sox period indicator variable. $SOX_t = 1$ if fiscal year ≥ 2002 ; otherwise $SOX_t = 0$.
TUR_t	TUR_t is a turnover-event indicator variable. $TUR_t = 1$ if the CEO leaves during the year with a reason code “Resigned” or “Unknown”; otherwise $TUR_t = 0$.
OWN_{t-1}	OWN_{t-1} is the decile rank based on percent of CEO ownership in common equity of their firm excluding any stock options at the beginning of the year as reported in the Executive Compensation database.
MTB_{t-1}	MTB_{t-1} is the decile rank based on lagged market to book ratio. Market value of equity is calculated as in SIZE, book value is the total shareholder’s equity at the end of the previous fiscal.
LEV_{t-1}	LEV_{t-1} is the decile rank based on lagged value of the ratio of total debt to total assets. Current portion of long term debt are included in total debt.
$SIZE_{t-1}$	$SIZE_{t-1}$ is the decile rank based on lagged market value of equity. Market value of equity is calculated as closing price * outstanding shares at the end of previous fiscal.
LIT_{t-1}	LIT_{t-1} is the litigation risk indicator variable. $LIT_{t-1} = 1$, if SIC code $\in \{2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370\}$; otherwise $LIT_{t-1} = 0$.

Table 1. Sample Selection

- At start, firm-year observations from Compustat 1992 to 2007 = 188,796
- After removing missing data on CEO's in the merged sample = 23,946 firm-year observations remain
- After removing missing data on NI, RET, OWN, MTB, SIZE, LEV = 17,996 firm-year observations remain.
- After trimming top and bottom 1% of NI & RET = 17,284 firm-year observations remain.

Table 2: Summary Statistics

Variable	Mean	Std Dev	10th Pctl	25th Pctl	Median	75th Pctl	90th Pctl
NI	0.042	0.079	-0.021	0.029	0.055	0.077	0.103
RET	0.135	0.408	-0.344	-0.123	0.098	0.339	0.639
NEG	0.383	0.486	0	0	0	1	1
TUR	0.019	0.135	0	0	0	0	0
SOX	0.419	0.493	0	0	0	1	1
LIT	0.208	0.406	0	0	0	0	1
Raw_OWN	2.603	6.518	0.000	0.000	0.000	1.500	8.140
OWN	0.500	0.319	0.000	0.222	0.444	0.778	1.000
Raw_MTB	4.25	76.26	1.10	1.50	2.30	3.60	6.00
MTB	0.500	0.319	0.000	0.222	0.444	0.778	0.889
Raw_LEV	0.225	0.184	0.000	0.069	0.213	0.339	0.446
LEV	0.500	0.319	0.111	0.222	0.556	0.778	1.000
Raw_SIZE	6,642	21,591	252	544	1,443	4,438	12,840
SIZE	0.500	0.319	0.000	0.222	0.444	0.778	0.889

RET is annual buy and hold returns calculated from Monthly CRSP Compustat merged database, cumulated from four months after the end of previous fiscal to 3 months after the end of current fiscal year. Returns are compounded monthly. If a month has a missing return data, monthly return is taken to be zero. NEG is an indicator variable that takes the value 1 if $RET < 0$, otherwise it has the value 0. NI is Net Income before Extraordinary Items scaled by lagged Market Value of Equity. SOX is a post-sox period indicator variable. If fiscal year is 2002 or later, SOX has value 1, otherwise its value is 0. TUR_t is a turnover-event indicator variable. If a CEO leaves during the year with a reason code in ExecuComp either "Resigned" or "Unknown", then TUR has value of 1, else TUR has value of 0. Raw_OWN is the percent CEO owns in the common equity of their firm excluding any stock options at the beginning of the year as reported in the Executive Compensation database. OWN is the decile rank based Raw_OWN. Raw_MTB is lagged market to book ratio. Market value of equity is calculated as in Raw_SIZE and book value is the total shareholder's equity at the end of the previous fiscal. MTB is the decile rank based on Raw_MTB. Raw_LEV is lagged value of the ratio of total debt to total assets. Current portion of long term debt are included in total debt. LEV is the decile rank based on Raw_LEV. Raw_SIZE is lagged market value of equity. Market value of equity is calculated as closing price * outstanding shares at the end of previous fiscal. SIZE is the decile rank based on Raw_SIZE. LIT is litigation risk indicator variable. It takes value 1 when SIC code is one of {2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370}, otherwise it has value 0.

Table 3. Univariate Pearson and Spearman Rank Correlations

Pearson → Spearman ↓	TUR	Reason	NI	RET	NEG	SOX	OWN	MTB	LEV	SIZE	LIT
TUR		0.395	-0.090	-0.068	0.059	0.001	-0.025	-0.007	-0.031	-0.035	0.037
Reason	0.395		-0.134	-0.068	0.072	-0.064	-0.055	0.011	-0.023	-0.064	0.052
NI	-0.092	-0.119		0.188	-0.204	-0.036	-0.016	0.037	0.029	0.154	-0.145
RET	-0.071	-0.076	0.298		-0.718	-0.013	-0.006	-0.065	0.000	-0.043	-0.017
NEG	0.059	0.072	-0.274	-0.842		-0.003	0.031	0.055	-0.022	-0.035	0.059
SOX	0.001	-0.064	-0.047	-0.014	-0.003		0.028	-0.029	-0.041	0.125	0.011
OWN	-0.025	-0.055	-0.059	-0.013	0.031	0.028		0.126	-0.123	-0.067	0.061
MTB	-0.007	0.011	-0.164	-0.062	0.055	-0.029	0.126		-0.191	0.345	0.128
LEV	-0.031	-0.023	0.098	0.009	-0.022	-0.041	-0.123	-0.191		0.090	-0.179
SIZE	-0.035	-0.064	0.051	-0.009	-0.035	0.125	-0.067	0.345	0.090		-0.020
LIT	0.037	0.052	-0.163	-0.039	0.059	0.011	0.061	0.128	-0.179	-0.020	

Items in bold are significant at 5% level or less. Pearson Correlations are above the diagonal; Spearman rank correlations are below the diagonal. RET is annual buy and hold returns calculated from Monthly CRSP Compustat merged database, cumulated from four months after the end of previous fiscal to 3 months after the end of current fiscal year. Returns are compounded monthly. If a month has a missing return data, monthly return is taken to be zero. NEG is an indicator variable that takes the value 1 if $RET < 0$, otherwise it has the value 0. NI is Net Income before Extraordinary Items scaled by lagged Market Value of Equity. SOX is a post-sox period indicator variable. If fiscal year is 2002 or later, SOX has value 1, otherwise its value is 0. TUR_t is a turnover-event indicator variable. If a CEO leaves during the year with a reason code in ExecuComp either “Resigned” or “Unknown”, then TUR has value of 1, else TUR has value of 0. Reason is an indicator variable with value 1 if the reason for CEO turnover is either “Resigned” or “Unknown” as given in the ExecuComp Database, else it takes the value 0. OWN is the decile rank based on the percent CEO owns in the common equity of their firm excluding any stock options at the beginning of the year as reported in the Executive Compensation database. MTB is the decile rank based on the lagged market to book ratio. LEV is the decile rank based on lagged value of the ratio of total debt (includes current portion of long term) to total assets. SIZE is the decile rank based on lagged market value of equity. Market value of equity is calculated as closing price * outstanding shares at the end of previous fiscal. LIT is litigation risk indicator variable. It takes value 1 when SIC code is one of {2833-2836, 3570-3577, 3600-3674, 5200-5961, 7370}, otherwise it has value 0.

Table 4: Asymmetric Timelines in pre-SOX and post-SOX periods: Pooled regression of Net Income on Contemporaneous Returns. Firm year observations from fiscal years 1992 to 2007.

Variable		PANEL A: Equation 1			PANEL B: Equation 2			PANEL C: Equation 3		
		Estimate	Std Err	Pr > t	Estimate	Std Err	Pr > t	Estimate	Std Err	Pr > t
Intercept		0.058	0.001	<.0001	0.057	0.001	<.0001	0.062	0.004	<.0001
OWN								-0.01	0.003	0.00
MTB								-0.019	0.004	<.0001
LEV								-0.002	0.004	0.62
SIZE								0.022	0.004	<.0001
LIT								-0.019	0.003	<.0001
NEG		0.000	0.002	0.55	-0.001	0.002	0.55	-0.009	0.006	0.13
RET		-0.010	0.002	0.92	-0.0003	0.003	0.92	-0.023	0.007	0.00
SOX					0.002	0.002	0.32	0.001	0.002	0.77
NEG * RET	+	0.162	0.005	<.0001	0.132	0.007	<.0001	0.251	0.018	<.0001
NEG * OWN								0.012	0.006	0.04
NEG * MTB								0.003	0.006	0.68
NEG * LEV								0.006	0.006	0.33
NEG * SIZE								0.001	0.006	0.82
NEG * LIT								0.003	0.005	0.52
NEG * SOX					0.004	0.004	0.34	0.002	0.004	0.60
RET * OWN	+							0.035	0.006	<.0001
RET * MTB	+							0.015	0.007	0.016
RET * LEV	-							-0.003	0.007	0.334
RET * SIZE	+							0.026	0.008	0.001
RET * LIT	-							-0.013	0.005	0.005
RET * SOX	-				-0.024	0.004	<.0001	-0.024	0.004	<.0001
NEG * RET * OWN	-							-0.035	0.017	0.020
NEG * RET * MTB	-							-0.190	0.018	<.0001
NEG * RET * LEV	+							0.013	0.017	0.222
NEG * RET * SIZE	-							-0.067	0.018	<.0001
NEG * RET * LIT	+							0.032	0.012	0.004
NEG * RET * SOX	+				0.084	0.011	<.0001	0.070	0.011	<.0001
Adj. R-Sq		0.0914			0.0972			0.1442		

Variables definitions same as in Table 2 or Appendix A. Standard errors are not corrected for heteroskedasticity and autocorrelation. p-values are for one-tailed test when the sign of the coefficient is predicted; otherwise they are for two-tailed. The terms whose coefficients are discussed in the paper are highlighted in bold.

Table 5: Asymmetric Timelines and CEO Turnover in pre and post-SOX periods: Pooled regression of Net Income on Contemporaneous Returns. Firm year observations from fiscal years 1992 to 2007.

Variable		PANEL A: Equation 4			PANEL B: Equation 5			
		Estimate	Std Err	Pr > t	Estimate	Std Err	Pr > t	
Intercept		0.0577	0.0014	<.0001	0.0633	0.0036	<.0001	
OWN					-0.0107	0.0034	0.0018	
MTB					-0.0216	0.0037	<.0001	
LEV					-0.0016	0.0035	0.6454	
SIZE					0.0216	0.0037	<.0001	
LIT					-0.0162	0.0028	<.0001	
NEG		-0.0007	0.0025	0.7870	-0.0099	0.0062	0.1091	
RET		0.0017	0.0029	0.5647	-0.0263	0.0071	0.0002	
SOX		0.0026	0.0022	0.2291	0.0015	0.0022	0.4937	
TUR		-0.0473	0.0112	<.0001	-0.0404	0.0109	0.0002	
NEG * RET	+	0.1299	0.0072	<.0001	0.2637	0.0184	<.0001	
SOX * TUR		0.0267	0.0135	0.0483	0.0201	0.0132	0.1274	
NEG * OWN					0.0127	0.0058	0.0283	
NEG * MTB					0.0046	0.0064	0.4673	
NEG * LEV					0.0062	0.0060	0.2957	
NEG * SIZE					0.0024	0.0063	0.6992	
NEG * LIT					0.0008	0.0046	0.8637	
NEG * SOX		0.0024	0.0037	0.5269	0.0003	0.0037	0.9331	
NEG * TUR		-0.0077	0.0135	0.5684	-0.0025	0.0132	0.8476	
RET * OWN	+				0.0356	0.0065	<.0001	
RET * MTB	+				0.0195	0.0075	0.004	
RET * LEV	-				0.0039	0.0069	0.285	
RET * SIZE	+				0.0244	0.0077	0.001	
RET * LIT	-				-0.0130	0.0051	0.005	
RET * SOX	-	-0.0239	0.0045	<.0001	-0.0247	0.0045	0.000	
RET * TUR	-	-0.0217	0.0234	0.177	-0.0233	0.0228	0.154	
RET * TUR * SOX	?	-0.0537	0.0396	0.1756	-0.0448	0.0386	0.2454	
NEG * RET * OWN	-				-0.0352	0.0166	0.017	
NEG * RET * MTB	-				-0.2105	0.0183	<.0001	
NEG * RET * LEV	+				0.0012	0.0170	0.471	
NEG * RET * SIZE	-				-0.0585	0.0186	0.001	
NEG * RET * LIT	+				0.0299	0.0124	0.008	
NEG * RET * SOX	+	0.0806	0.0114	<.0001	0.0663	0.0114	<.0001	
NEG * RET * TUR	?	-0.0516	0.0407	0.2051	-0.0252	0.0397	0.5250	
NEG * RET * TUR * SOX	+	0.1608	0.0684	0.009	0.1215	0.0667	0.034	
Adj. R-Sq			0.1043			0.148		

Variables definitions same as in Table 2 or Appendix A.

Standard errors are not corrected for heteroskedasticity and autocorrelation.

p-values are for one-tailed test when the sign of the coefficient is predicted; otherwise they are for two-tailed.

The terms whose coefficients are discussed in the paper are highlighted in bold.

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