

The effect of accounting conservatism on opportunistic voluntary disclosures: evidence from pro forma earnings

Wen Li¹, Huai Zhang^{2*}

(1. Shanghai Jiao Tong University, Shanghai 200240, China; 2. Nanyang Technological University, Singapore 639798)

ABSTRACT: We hypothesize that accounting conservatism, defined as the asymmetric verifiability required for the recognition of accounting gains versus losses, reduces managerial incentives to issue opportunistic voluntary disclosures. Using hand-collected data on voluntary pro forma disclosures, we test this hypothesis empirically and obtain supportive evidence. Specifically, we show that, relative to firms with more conservative accounting, firms with less conservative accounting experience a decline in the likelihood of issuing pro forma earnings after Regulation G; they are more likely to increase pro forma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items, and their pro forma excluded items tend to be of lower quality. Our inferences remain robust after we use several approaches to control for the endogeneity of accounting conservatism.

Keywords: Accounting conservatism; Pro forma earnings; Voluntary disclosures

JEL Classification: J14, M41

1. Introduction

Managers do not provide voluntary disclosures for the sole purpose of informing investors. Prior literature provides ample evidence that managers disclose opportunistically to manipulate upwards investors' perceptions of firm performance, and investors seem unable to completely unravel opportunistic managerial intentions.¹

We argue that accounting conservatism, defined as the asymmetric verifiability required for the recognition of accounting gains versus losses, curbs managerial incentives to issue opportunistic voluntary disclosures, for the following four reasons. First, if the manager discloses opportunistically to favorably influence investors' perceptions of firm performance, bad news results when the firm fails to meet investors' performance expectations based on the opportunistic disclosures. For firms with more conservative accounting, this bad news is charged to accounting earnings sooner, expediting reductions in managerial earnings-based compensation and revelations of the opportunistic nature of the disclosure (Ball and Shivakumar 2005; Watts 2003). Therefore, accounting conservatism reduces ex-ante managerial incentives to disclose opportunistically.

Second, prior literature provides ample evidence that conservative accounting reduces information asymmetry between insiders and outsiders by counteracting managerial incentives to bias earnings upwards (Watts 2003; Lafond and Watts 2008; Kahn and Watts 2009; Armstrong et al. 2010; Kothari et al. 2010). The lower information asymmetry enables investors to detect the opportunistic nature of voluntary disclosures and discourages managers from providing opportunistic voluntary

disclosures.

Third, numerous prior studies show that accounting conservatism acts as a corporate governance mechanism and reduces managerial incentives to engage in negative NPV projects (Ball and Shivakumar 2005; Biddle et al. 2009; Francis and Martin 2010; Ahmed and Duellman 2011; Bushman et al. 2011). Lower likelihood of negative NPV projects lowers chances of bad news in GAAP earnings and reduces managerial incentives to provide opportunistic voluntary disclosures in order to dress up bad news.

Lastly, Ball et al. (2012) provide evidence that the commitment to high quality expert verification of financial statements encourages more precise and credible voluntary disclosures. By countering managerial incentives to manipulate earnings upwards, conservatism represents such a commitment. We therefore expect managers of high conservatism firms to be less opportunistic in their pro forma disclosures.

We generate three empirical hypotheses to test our prediction that accounting conservatism reduces managerial incentives to disclose opportunistically. The first hypothesis is based on prior findings that Regulation G issued by the SEC is effective in deterring firms with opportunistic incentives from disclosing pro forma earnings. If accounting conservatism reduces managerial incentives to provide opportunistic disclosures, we expect that relative to more conservative firms, less conservative firms experience a decline in the likelihood of issuing pro forma earnings after Reg G, because these firms have stronger opportunistic incentives and are restrained by the regulation to a greater extent.

Our second hypothesis is based on the notion that pro forma disclosures that increase pro forma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items are more likely to be opportunistic. It is difficult to justify excluding non-special items from the perspective of informing investors, especially if excluding these items lead to higher pro forma earnings and pro forma meet-or-beat earnings benchmarks. If accounting conservatism reduces managerial incentives to provide opportunistic voluntary disclosures, we expect that more conservative firms are less likely to disclose these types of pro forma earnings.

Our third hypothesis is related to the quality of items excluded from pro forma earnings with the quality measured by the predictive ability for future earnings. Pro forma exclusions are considered high quality, if they have low correlation with future earnings. If accounting conservatism reduces opportunistic managerial incentives, we expect to observe a higher quality of excluded items for firms with more conservative accounting.

Our empirical results support all three hypotheses. First, we find that, after Reg G, the odds of issuing pro forma earnings drop by 30% for firms in the least conservative decile while the odds increase by 212% for firms in the most conservative decile. The difference between the two deciles is not only economically significant but also statistically significant. Our results are consistent with the notion that firms with less conservative accounting have stronger opportunistic incentives and are restrained by the regulation to a greater extent.

Second, among firms that disclose pro forma earnings, we observe that firms with more conservative accounting are much less likely to issue opportunistic pro forma disclosures that increase pro forma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items. For example, the likelihood of reporting pro forma earnings that turn a GAAP loss into a pro forma profit by excluding non-special items is 16.5% for firms in the most conservative quintile and 46.6% for firms in the least conservative

quintile, the latter being 2.82 times the former. Our conclusion is not affected by additional controls for managerial characteristics, corporate governance or demands for accounting conservatism.

Third, among firms that disclose pro forma earnings, we document that the quality of excluded items is significantly higher for firms with more conservative accounting. The magnitude of the correlation between excluded items and future operating income is 0.286 for firms in the least conservative quintile and 0.01 for firms in the most conservative quintile, suggesting that firms with more conservative accounting policies are more likely to issue pro forma disclosures for the legitimate purpose of providing investors a reasonable measure of "core earnings." Overall, our research findings unambiguously support the notion that accounting conservatism reduces managerial incentives to issue opportunistic pro forma disclosures.²

We conduct two robustness checks on our primary results above. We first test whether our main findings are robust to using an alternative measure of conservatism developed by Basu (1997). The answer is yes. Second, we test our main hypothesis that accounting conservatism reduces managerial incentives to provide opportunistic voluntary disclosures by examining the stock returns after pro forma disclosures. Assuming that the market gradually unravels the opportunistic intentions in voluntary disclosures, we shall observe less negative post-disclosure returns for more conservative firms, if our main hypothesis is true. Specifically, we regress the post-disclosure 60-day market-adjusted return on accounting conservatism, size, beta and the book-to-market ratio. Our results, which are untabulated for brevity, are supportive of our main hypothesis. Overall, our research findings support the notion that accounting conservatism reduces managerial incentives to issue opportunistic pro forma disclosures.

A major concern with our results is the endogeneity of accounting conservatism. We use several approaches to address this concern. First, Qiang (2007) shows that conditional conservatism, which is our focus in this paper, is mainly induced by the contracting and litigation explanations among the four explanations for accounting conservatism identified by Watts (2003). In addition, Ahmed and Duellman (2007) and García Lara et al. (2009) document an association between accounting conservatism and corporate governance. We therefore control for measures of corporate governance, litigation explanation and contracting explanation, in our regressions. To the extent that these measures capture the known determinants of conditional conservatism, our model specification at least partially addresses the concern that accounting conservatism is endogenously determined. Second, we use the standard instrumental variable approach to control for endogeneity. Our instrumental variable is based on the implementation of the SEC's Staff Accounting Bulletin No. 101 (SAB 101). Both popular press and academic literature suggest that SAB 101 mandates less timely revenue recognition and thereby increases accounting conservatism for a wide cross-section of listed firms (Vogt 2001; Moffeit and Eikner 2003; Watts 2003; Crawford et al. 2010). What's more, as a regulatory action, the implementation of the SEC's SAB 101 is unlikely to be related to opportunistic managerial incentives. Our conclusions based on the instrument variable approach remain unchanged, which alleviates the endogeneity concern. Third, we consider the reverse causality explanation that firms issuing opportunistic pro forma earnings tend to adopt less conservative accounting policies. This explanation implies a negative association between the issuance of opportunistic pro forma earnings and future accounting conservatism. Our untabulated results show that the association is statistically insignificant, which is inconsistent with the reverse causality explanation. Lastly, we examine the possibility that accounting conservatism and issuing opportunistic pro forma disclosures are determined simultaneously. We build up simultaneous equations

ations systemsto address this possibility. We find that our conclusions continue to hold. In sum, although we cannot completely rule out the endogeneity concern, it seems a remote possibility that endogeneity accounts for all our empirical results.³

Our paper contributes to the literature in three important ways. First, we contribute to our understanding of the effect of conservatism on firms' decisions on voluntary disclosures. Hui et al. (2009) document a negative association between accounting conservatism and the frequency, specificity, and timeliness of management forecasts. Their evidence is consistent with the notion that accounting conservatism is a substitute for management forecasts because conservatism reduces information asymmetry and litigation risks by reporting bad news sooner (LaFond and Watts 2008). Hui et al. (2009), however, do not distinguish between opportunistic and non-opportunistic disclosures and are silent on how accounting conservatism affects managerial incentives to issue opportunistic voluntary disclosures, the central research question in our paper.

Second, we contribute to an understanding of the monitoring effect of accounting conservatism. Several studies argue that accounting conservatism reduces managerial abilities to take on negative NPV projects because negative economic news is reflected in accounting earnings more quickly (Ball and Shivakumar 2005; Biddle et al. 2009; Francis and Martin 2010; Ahmed and Duellman 2011; Bushman et al. 2011). Their results are consistent with the notion that accounting conservatism serves a monitoring role for firms' investment decisions. We extend this line of literature by showing that accounting conservatism reduces managerial incentives to provide opportunistic voluntary disclosures, and our results are consistent with accounting conservatism serving a monitoring role for firms' disclosure decisions as well. To the extent that opportunistic voluntary disclosures are the culprit for inefficient pricing and capital misallocation, our results highlight the important role played by accounting conservatism in the proper functioning of the capital market and have implications for the current debate on the merits of accounting conservatism.

Third, our paper contributes to a large body of literature on opportunistic voluntary disclosures and on pro forma earnings. Pro forma earnings disclosures have been popular in recent years and have attracted attention from academics. Bhattacharya et al. (2003) and Bradshaw and Sloan (2002) investigate the informativeness and persistence of pro forma earnings relative to GAAP earnings. Lougee and Marquardt (2004) analyze the firm characteristics associated with and investors' responses to pro forma disclosures. Bowen et al. (2005) examine firms' decisions on whether to emphasize pro forma earnings or GAAP earnings. Marques (2006), Kolev et al. (2008) and Zhang and Zheng (2011) study the impact of recent regulations on firms' pro forma disclosure practice and investors' valuation of pro forma earnings. Our contribution is to provide evidence that a salient feature of the accounting system, i.e., conservatism, curbs managerial incentives to provide opportunistic pro forma disclosures. An implication of our finding is that accounting conservatism can potentially serve as a substitute for regulation to deter opportunistic voluntary disclosures.

The rest of the paper proceeds as follows. Section 2 reviews prior literature on opportunistic disclosures. Section 3 develops hypotheses. Section 4 covers sample formation, variable measurement and descriptive statistics. Section 5, 6 and 7 test the three empirical hypotheses. Section 8 conducts robustness checks and Section 9 concludes.

2. Literature on opportunistic disclosures

Prior research provides ample evidence that managers provide opportunistic voluntary disclosures to manipulate upward investors' perception of firm performance. Schrand and Walther (2000) find that firms are more likely to disclose prior period gains than prior period losses from the

sale of property, plant and equipment (PPE) at earnings announcements. They also observe that this opportunistic disclosure behavior is more likely to occur when it enables a firm to avoid a negative earnings surprise. To the extent that investors judge firm performance by comparing current earnings with prior period numbers, their results are consistent with managers opportunistically disclosing information to cast the firm performance in a positive light. Bradshaw and Sloan (2002) show that firms are more likely to exclude losses than gains when they report pro forma earnings. Consequently, the disclosed pro forma earnings number is, on average, higher than the GAAP earnings number, suggesting a higher level of firm performance. Bhattacharya et al. (2003) document that pro forma earnings have a higher likelihood of meeting or beating earnings benchmarks than GAAP earnings, while Lougee and Marquardt (2004) find that firms are more likely to report pro forma earnings when GAAP earnings miss consensus analysts' forecasts or are lower than the earnings of the prior period. Their evidence suggests that managers opportunistically disclose pro forma earnings to avoid missing earnings benchmarks. Bowen et al. (2005) investigate the presentation of quarterly financial information. They show that, consistent with an opportunistic motive, managers put more emphasis on the earnings metric that portrays better performance when both pro forma and GAAP earnings are disclosed in the press release.

Prior literature also examines investors' reactions to opportunistic disclosures, and the evidence suggests that investors are unable to see through the opportunistic nature of such disclosures. Schrand and Walther (2000) find that equity investors naively use the prior period earnings disclosed by managers as a benchmark to evaluate firm performance. Frederickson and Miller (2004) conduct experiments and show that investors value the firm more highly when it reports a higher pro forma earnings measure in addition to GAAP earnings than when it reports GAAP earnings only. Lougee and Marquardt (2004) report evidence of over-valuation due to pro forma earnings when the claim made by the manager that those excluded expenses are non-recurring and unimportant, higher levels of exclusions lead to predictably lower future cash flows. Their further investigation shows that investors do not fully appreciate the lower cash flow implications at the time of earnings announcements. Consequently, the higher the pro forma earnings relative to GAAP earnings, the lower the future returns. Their results suggest that investors naively rely on pro forma earnings to assess firm performance and form earnings expectations. Investors are then negatively surprised when firms' future earnings fall short of their expectations. Hirshleifer and Teoh (2003) propose that investors' limited attention and processing power explain their inability to unravel opportunistic managerial intentions.

3. Hypothesis development

We expect accounting conservatism to reduce managerial incentives to issue opportunistic voluntary disclosures, for the following four reasons.

First, opportunistic disclosures lead to over-valuation and subsequent disappointments. When investors discover that firms cannot meet expectations based on opportunistic disclosures, this bad news is reflected more quickly in accounting earnings for firms with more conservative accounting policy, resulting in a more timely reduction in managerial earnings-based compensation. Moreover, this process prompts stakeholders to investigate the underlying reasons and thereby reveal the opportunistic nature of the disclosures sooner, which results in possible disciplinary actions against the manager. Recent studies provide evidence that the board is concerned about disclosure quality and that its disciplinary actions impose significant costs on the manager. For example, Hazarika et al. (2009) find that the likelihood and speed of forced CEO turnover are higher for firms with poor accounting quality, and Desai et al. (2006) document that managers are more likely to be dismissed

after earnings restatements. To the extent that accounting conservatism accelerates compensation reduction and stakeholder investigations, it serves as an effective corporate governance mechanism in guarding against opportunistic voluntary disclosures.

Second, conservatism imposes a higher verification standard for recognizing gains and counteracts managerial incentives to bias earnings upwards, resulting in reduced information asymmetry between insiders and outsiders. This insight is well recognized in the literature (e.g., Watts 2003; Lafond and Watts 2008; Khan and Watts 2009; Armstrong et al. 2010; Kothari et al. 2010). Conceivably, lower information asymmetry improves investors' abilities to detect and unravel the opportunistic nature of disclosures, diminishing managerial incentives to disclose opportunistically.

Third, by charging economic losses related to negative NPV projects against accounting earnings earlier, accounting conservatism lowers managerial incentives to engage in value-destroying projects (Ball and Shivakumar 2005; Biddle et al. 2009; Francis and Martin 2010; Ahmed and Duellman 2011; Bushman et al. 2011). Lower likelihood of negative NPV projects lowers chances of bad news in GAAP earnings, and, to the extent that opportunistic voluntary disclosures are intended to cast a positive light on bad news, reduce the likelihood of opportunistic disclosures.

Lastly, Ball et al. (2012) provide evidence that the commitment to high quality expost verification of financial statements encourages more precise and credible voluntary disclosures. Accounting conservatism represents such a commitment, because it imposes higher verification standards for recognizing good news than bad news, effectively countering managerial incentives to manipulate earnings upwards. We therefore expect managers of high conservatism firms to be less opportunistic in their disclosures.

While the above reasons suggest that accounting conservatism reduces opportunistic disclosures, there exist arguments that suggest otherwise. Helbok and Walker (2004) and Louis et al. (2008) find that sophisticated investors, such as financial analysts, do not fully appreciate the negative impact of conservatism on reported earnings numbers. They show that investors of more conservative firms are more likely to experience bad news than investors of less conservative firms. The higher likelihood of bad news possibly increases managerial incentives to disclose opportunistically, leading to the opposite prediction that accounting conservatism increases opportunistic disclosures.

To test the effect of accounting conservatism on opportunistic voluntary disclosures, we rely on prior findings to generate three testable hypotheses. Our first hypothesis is related to the exogenous consideration of discretion that managers have over the definition of pro forma earnings; the SEC was concerned that opportunistic pro forma earnings would mislead investors. A series of actions took place between 2001 and 2003. In December 2001, the SEC issued a warning, cautioning public companies not to issue opportunistic disclosures to mislead investors (SEC 2001). In January 2002, the SEC instituted cease-and-desist proceedings against Trump Hotels & Casino Resorts for misleading investors with opportunistic pro forma earnings, which included special gains but excluded special losses (SEC 2002). Finally, the SEC issued Regulation G, which took effect in March 2003, to deter opportunistic pro forma disclosures. Regulation G requires that if a firm discloses pro forma earnings, it must also disclose the most comparable GAAP earnings, reconcile the pro forma earnings number with the GAAP number, and file Form 8-K within five days of the pro forma disclosure to explain why management believes the pro forma number is useful to investors.

Several recent studies show that Regulation G is effective in deterring firms with opportunistic motives from disclosing pro forma earnings. Kolev et al. (2008) show that the pre-Reg

Pro forma exclusions are of lower quality (i.e., less transitory) for firms that stopped releasing non-GAAP earnings numbers than for firms that continued doing so after RegG. Heflin and Hsu (2008) document a post-RegG decline in the likelihood of pro forma earnings reversing GAAP misses of earnings benchmarks. Yi (2007) presents evidence that firms with communication motives (opportunistic motives) are more (less) likely to continue disclosing pro forma earnings after RegG.⁴ Pawlewicz (2011) suggests that RegG affects both the timeliness of earnings announcements and investors' perceptions of earnings reliability. Black et al. (2012) conclude that RegG increases the quality of pro forma earnings disclosures by filtering out those that are most likely to be opportunistic. If accounting conservatism reduces managerial incentives to provide opportunistic disclosures, we expect that, relative to firms with more conservative accounting, firms with less conservative accounting experience a decline in the likelihood of disclosing pro forma earnings after RegG, because those firms have stronger opportunistic incentives and are restrained by the regulation to a greater extent.

Hypothesis 1: Relative to firms with more conservative accounting, firms with less conservative accounting experience a decline in the likelihood of issuing pro forma earnings after RegG.

Our second hypothesis is related to prior literature's argument that pro forma earnings are more likely to be opportunistic if they are higher than GAAP earnings or if they turn GAAP misses into pro forma meet-or-beat (Bhattacharya et al. 2003; Lougee and Marquardt 2004; Heflin and Hsu 2008). This argument is based on managerial incentives to paint a rosy picture of firm performance and their incentives to meet earnings benchmarks.

Managers are motivated to meet earnings benchmarks because failing to do so would subject them to the penalties of lower compensation and reduced job security. Specifically, Matsunaga and Park (2001) document a significant incremental adverse effect on the CEO's annual cash bonuses when the firm's quarterly earnings fall short of earnings benchmarks, such as the consensus analyst forecast. Mergenthaler et al. (2009) show that the CEO and CFO are more likely to be replaced when the firm does not meet quarterly analysts' forecasts, suggesting that continued employment is at stake if the firm's earnings fall short of expectations. These research findings lend support to the notion that pro forma earnings that turn GAAP misses into pro forma meet-or-beat are probably issued with opportunistic intentions.

In addition, it is well known that special items are either unusual or non-recurring. Excluding special items is likely aimed at informing investors. On the contrary, excluding non-special items is a possible signal of opportunistic intentions, because non-special items are likely to be recurring in nature and excluding them from pro forma earnings is difficult to justify from the perspective of informing investors.

If accounting conservatism reduces opportunistic managerial incentives, we expect that, among firms that report pro forma disclosures, those with more conservative accounting are less likely to increase pro forma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items. This constitutes our second hypothesis.

Hypothesis 2: Among firms that issue pro forma earnings, firms with more conservative accounting are less likely to increase pro forma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items.

Our third hypothesis is related to the quality of items excluded from pro forma earnings. Kolev et al. (2008) and Doyle et al. (2003) measure the quality using the inverse of the correlation between excluded items and future earnings. Their reasoning is that, if pro forma earnings are issued

to provide a more meaningful measure of firm performance than GAAP earnings, the excluded items will be transitory in nature, implying a weak correlation with future earnings. If accounting conservatism reduces opportunistic managerial incentives, we expect that pro forma excluded items are of higher quality for firms with more conservative accounting policies, because those pro forma earnings are likely issued to provide investors with a better measure of firm performance. This constitutes our third hypothesis.

Hypothesis 3: Pro forma excluded items are of higher quality for firms with more conservative accounting.

4. Sample formation, variable measurement and descriptive statistics

4.1 Measure of accounting conservatism

Following Khan and Watts (2009), we use C_Score to measure accounting conservatism. To obtain C_Score , we first run the following regression:

$$X_{i,t} = \beta_{1,t} + \beta_{2,t}D_{i,t} + R_{i,t}(\mu_{1,t} + \mu_{2,t}Size_{i,t} + \mu_{3,t}M/B_{i,t} + \mu_{4,t}Lev_{i,t}) + D_{i,t}R_{i,t}(\lambda_{1,t} + \lambda_{2,t}SIZE_{i,t} + \lambda_{3,t}M/B_{i,t} + \lambda_{4,t}Lev_{i,t}) + \varepsilon_{i,t} \quad (1)$$

where i indexes the firm; t indexes time; X is earnings (Compustat item 18) deflated by market value of equity at the end of the prior fiscal year (Compustat item 25 * Compustat item 199); R is 12-month returns for the window starting from the fourth month after the beginning of the fiscal year (Basu 1997); D is a dummy variable that equals 1 when $R < 0$ and 0 otherwise; $Size$ is the logarithm of market value of equity (Compustat item 25 * Compustat item 199); M/B is the market-to-book ratio ((Compustat item 25 * Compustat item 199) / Compustat item 60); Lev is the sum of long-term debt and debt in current liability deflated by market value of equity ((Compustat item 9 + Compustat item 34) / (Compustat item 25 * Compustat item 199)).

Equation (1) is estimated using annual cross-sectional regressions. C_Score is calculated using the following formula:

$$C_Score_{i,t} = \hat{\lambda}_{1,t} + \hat{\lambda}_{2,t}Size_{i,t} + \hat{\lambda}_{3,t}M/B_{i,t} + \hat{\lambda}_{4,t}Lev_{i,t} \quad (2)$$

where $\hat{\lambda}_{1,t}$, $\hat{\lambda}_{2,t}$, $\hat{\lambda}_{3,t}$ and $\hat{\lambda}_{4,t}$ are estimated from Equation (1).

Khan and Watts (2009) show that the C_Score captures variation in conservatism and predicts asymmetric earnings timeliness up to three years ahead.

4.2 Sample formation

Our sample period consists of two parts separated by the issuance of Regulation G. In December 2001, the SEC issued a warning to publicly listed companies against misleading investors with pro forma earnings. As firms could reasonably predict the issuance of Regulation G after this warning and change their pro forma disclosure practices accordingly, our pre-Reg G period is prior to the SEC's warning, specifically between January 1998 and December 2001. As Regulation G became effective on March 28, 2003, our post-Reg G period is between April 2003 and December 2004.

Our initial sample consists of all firm-quarter observations from Compustat with earnings announcement dates falling in our sample period. In order to examine the relationship between accounting conservatism and the likelihood of issuing pro forma earnings, we require that all the firm-quarter observations have non-missing C_Score values. We also require the following control variables to be non-missing: *Hitech*, *LOSS*, *Size*, *BM*, *Lev*, *STD_ROA*, and *Prloss* (please see Appendix I for variable definitions). Our data restrictions result in a final sample of 93,802 firm-quarter observations. To prevent outliers from unduly affecting our results, we winsorize the top and

bottom one percentile of all continuous variables.

We manually collect data on press releases related to pro forma earnings. Following Bhattacharya et al. (2003) and Lougee and Marquardt (2004), we search PR Newswire and Business Wire in the Lexis-Nexis Academic Universe database using keywords including “pro forma,” “pro forma” and “pro-forma.” We exclude those press releases in which (a) the pro forma earnings data correspond to a quarter other than the current quarter; (b) the use of the term “pro forma” refers solely to the retroactive effect of an initial public offering, merger or acquisition; or (c) the use of pro forma earnings reflects a change in tax status, capital structure or accounting method. In addition, we require non-missing CUSIP and PERMNO information, and we require the earnings announcement date in Compustat to match our press release date. There are 2,109 pro forma earnings releases in our final sample.⁵

4.3 Descriptive statistics

Panel A of Table 1 shows the summary statistics for the entire sample. *PF_Dis* is a dummy variable that equals 1 if the firm-quarter observation discloses pro forma earnings and 0 otherwise. Its mean value indicates that about 2.2% of our sample observations issue pro forma earnings. The mean and median *C_Score* values are 0.160 and 0.148, respectively. *Hitech* is a dummy variable that equals 1 if the firm is in the high-tech industry as defined by Francis and Schipper (1999) and 0 otherwise, while *LOSS* is a dummy variable that equals 1 if GAAP earnings are negative and 0 otherwise. The mean values of these two variables indicate that about one-quarter of our sample firms are from the high-tech industry and a similar percentage of them report GAAP losses. The mean value of *Size* (the natural log of total assets) is 6.412, while the median value is 6.321. The mean and median value of *BM* (the book value of equity divided by the market value of equity) are 0.591 and 0.485, respectively. For *Lev* (the book value of debt divided by the market value of equity), its mean value (0.660) deviates from its median value (0.225), indicating that the distribution is highly skewed. The mean value of *STD_ROA* (the standard deviation of ROA over the prior eight quarters) is 0.028. The mean value of *Prloss* (the number of consecutive quarters of losses over the prior eight quarters) is 1.057. The mean value of the *POST_G* (a dummy variable that equals 1 for observations after Reg G and 0 otherwise) indicates that about 36% of sample observations are from the post-Reg G period.

The next several variables are indicative of the opportunistic nature of pro forma earnings and they are non-missing for the subsample of firms that disclose pro forma earnings. Following Doyle et al. (2003), we decompose the difference between GAAP earnings and pro forma earnings into special items and non-special items. Since special items are, by definition, unusual and non-recurring, their exclusions are likely meant to provide a more informative earnings figure to investors, while exclusions of non-special items, on the contrary, may serve the purpose of misleading investors. The first variable, *REVERSELOSS*, is a dummy indicating that firms exclude non-special items to turn GAAP losses into pro forma profits. It takes the value of 1, if the following three conditions are satisfied: a) GAAP earnings are negative; b) GAAP earnings adjusted for special items are negative; and c) pro forma earnings are positive. The combination of the three conditions ensures that non-special items are responsible for turning GAAP losses into pro forma profits. Otherwise, it takes the value of 0. *REVERSEMISS/REVERSEDROP* indicates that firms use non-special items to turn GAAP misses of analysts' forecasts/prior GAAP earnings into pro forma meet-or-beat. Their computations are very similar to that of *REVERSELOSS*. The last variable, *POS_NSI*, is a dummy which indicates excluding non-special items to increase pro forma earnings. It is equal to 1, if pro forma earnings are higher than GAAP earnings adjusted for special items, and 0 otherwise.

The mean value of *REVERSELOSS* is 0.132, suggesting that 13.2% of pro forma earnings turn a GAAP loss into a pro forma profit via non-special items. Similarly, the mean values of *REVERSEMISS* and *REVERSEDROP* show that 36.2% of pro forma earnings turn a GAAP miss into a pro forma meet-or-beat of analysts' forecasts and 15.4% of pro forma earnings reverse a drop in GAAP earnings through the exclusion of non-special items. The mean value of *POS_NSI* indicates that close to 64.2% of pro forma disclosures involve excluding non-special items to increase pro forma earnings.

Panels B and C report the distribution of the pro forma earnings releases by year and industry, respectively. As Panel B shows, the number of pro forma earnings releases increases steadily during the pre-Reg G period, from 124 in 1998 to 702 in 2001, which is consistent with Bhattacharya et al. (2004) and Zhang and Zheng (2011). After Reg G, there is a drop in pro forma earnings releases. This finding is consistent with the results in Marques (2006) and Heflin and Hsu (2008). The last column reports the mean *C_Score* across years. We observe a jump in *C_Score* after Reg G, suggesting that firms that report pro forma earnings after Reg G are more conservative than those before Reg G.

Results from Panel C indicate that the majority of the pro forma earnings releases are from two industries: Business Services (42.6%) and Electronic Equipment (16.7%). 68.4% of the pro forma earnings releases are made by firms in the high-tech industries, while firms from the intangible-intensive industries account for 52.8% of the pro forma earnings releases in the sample. High-tech industries and intangible-intensive industries are defined according to Francis and Schipper (1999) and Collinset al. (1997), respectively. This pattern is consistent with the distribution documented in Lougee and Marquardt (2004).

5. Test of Hypothesis 1

5.1 Model specification

Our first hypothesis is that relative to firms with more conservative accounting, firms with less conservative accounting experience a post-Reg G drop in the likelihood of pro forma disclosures.

To test our hypothesis, we run the following logistic regression:

$$\Pr(PF_D_{i,t} = 1) = F(\beta_0 + \beta_1 \text{Rank of } C_Score_{i,t-1} + \beta_2 \text{Post_}G_{i,t} + \beta_3 \text{Rank of } C_Score_{i,t-1} * \text{Post_}G_{i,t} + \beta_4 \text{Control Variables}_{i,t-1} + \varepsilon_{i,t}) \quad (3)$$

Where

PF_De equals 1 if the firm-quarter observation discloses pro forma earnings and 0 otherwise;

POST_G equals 1 for observations after Reg G and 0 otherwise;

Rank of C_Score is the decilerank based on *C_Score*. Specifically, we rank the raw *C_Score* into ten decile each year and transform the value of *Rank of C_Score* to be between 0 (for the least conservative decile) and 1 (for the most conservative decile).⁶

We use the decilerank instead of the raw value of *C_Score*, for the following three reasons. First, it prevents the results from being unduly affected by extreme values.⁷ Second, it does not assume a linear functional form between *C_Score* and the dependent variable. Our untabulated results show that the linear assumption is not supported by the data. Third, this approach offers a straightforward interpretation of the coefficient on the variable: it measures the effect on the dependent variable when we go from the least conservative decile to the most conservative decile.

In our model, the coefficient on *POST_G* represents the across-Reg G change in the likelihood of issuing pro forma earnings for firms in the least conservative decile while the coefficient

on the interaction term ($RankofC_Score * POST_G$) reflects the difference in the across-RegG change between firms in the most conservative decile and firms in the least conservative decile. If our hypothesis is true, we expect the coefficient on the interaction term to be positive and significant, suggesting that, relative to firms with more conservative accounting, firms with less conservative accounting experience a decline in the likelihood of issuing pro forma earnings after RegG.

After discussing our empirical prediction, we now turn to control variables. Prior literature suggests that the likelihood of voluntary disclosure is related to the value-relevance of GAAP earnings (Chen et al. 2002; Lang and Lundholm 1993; Tasker 1998). We thus control for four measures of the value relevance of GAAP earnings ($Hitech$, $LOSS$, STD_ROA and $Prloss$). We additionally control for $Size$, BM and Lev to isolate the effect of these three firm characteristics. Industry dummies (as defined in Fama and French (1997)) are included to control for the industry fixed effects.

Ahmed and Duellman (2007) show that firms with more conservative accounting are those with more independent boards. Similarly, García Lara et al. (2009) find that firms with stronger corporate governance provisions in place are more conservative. We are thus concerned that the effect attributed to accounting conservatism is driven by its association with managerial characteristics and corporate governance. To alleviate this concern, we control for the following four variables: CEO_Own (percentage of shares held by the CEO), CEO_Comp (the ratio of the CEO's equity-related compensation to total compensation), $CHAIR$ (a dummy variable that equals 1 if the CEO also holds a "Chairman" title and 0 otherwise), and $INDEP$ (the proportion of independent directors in the board). The CEO characteristics data are from the Compustat Executive Compensation Annual Database, while the board independence data are from the Risk Metrics Database.

In addition, prior literature has documented four explanations for accounting conservatism: contracting, litigation, regulation and taxation (Watts 2003). Qiang (2007) further shows that conditional conservatism, which is our focus in this paper, is primarily driven by contracting and litigation demands. It is possible that the effect attributed to accounting conservatism is due to the underlying litigation or contracting demands.⁸ We note that some of the control variables discussed earlier can serve as controls for demands for accounting conservatism. Lev and CEO_Comp can be considered as controlling for the contracting explanation for accounting conservatism, while $Hitech$, $LOSS$, STD_ROA and $Prloss$ can be deemed as controlling for the litigation explanation, because firms in a high-tech industry, firms with volatile earnings and firms with current or a history of operating losses face higher litigation risk (Francis et al. 1994; Jones and Weingram 1996). Nevertheless, we additionally control for $Litigation$. $Litigation$ is computed according to Kim and Skinner (2012) and it measures demands for accounting conservatism from the litigation perspective.

5.2 Results

Table 2 presents results of the logistic regressions. Because requiring measures of managerial characteristics, corporate governance and demands for accounting conservatism significantly reduces the size of the sample (from 93,802 to 32,804), we report results before and after this requirement separately in Regression 1 and 2.

Regression 1 reports results based on the larger sample. Consistent with the finding of prior literature that the likelihood of voluntary disclosures is higher among firms with less value-relevant GAAP earnings, we find that the likelihood of issuing pro forma earnings increases in membership in a high-tech industry ($Hitech$), earnings volatility (STD_ROA) and the occurrence of losses ($LOSS$).

In addition, we find that the coefficient estimate on $POST_G$ is -0.350, which suggests that the odds of issuing pro forma earnings drop by 30% for firms in the least conservative decile after

RegG.⁹ The sum of this coefficient and the coefficient on the interaction term (which is equal to 1.489) is 1.139, indicating that the opposite is true for firms in the most conservative decile. For those firms, the odds of issuing pro forma earnings increase by 212% after RegG. The coefficient on the interaction term, *RankofC_Score*POST_G*, is significant at the 1% level, indicating that the difference in the across-Reg G change between the two deciles is highly significant. Its value reveals that on average, the across-RegG change in the odds of issuing pro forma earnings is reduced by 15% when we move to the next lower decile of accounting conservatism.¹⁰

Our results from Regression 2 are qualitatively similar to those from Regression 1. We find that the coefficient estimate on the interaction term, *RankofC_Score*POST_G*, is 1.318 and significant at 1% level. This evidence is consistent with Hypothesis 1.¹¹

In sum, Table 2 shows that, relative to more conservative firms, less conservative firms experience a decline in the likelihood of issuing pro forma earnings after RegG. This finding supports Hypothesis 1 and is consistent with the view that conservatism curbs managerial incentives to provide opportunistic voluntary disclosures. Since less conservative firms have greater opportunistic incentives, they are restrained by the regulation to a greater extent.

6. Test of Hypothesis 2

Our second hypothesis is that, among firms that report pro forma disclosures, those with more conservative accounting are less likely to increase pro forma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items. We consider three earnings benchmarks: a) the breakeven point; b) analysts' forecasts and c) earnings of the same quarter of prior year.

To test our hypothesis, we examine 2,109 pro forma earnings releases in our sample period. We first sort those observations into five quintiles each year according to the raw *C_Score*, and then within each quintile, we report the probability of reversing GAAP misses of earnings benchmarks by excluding non-special items, and the probability of increasing pro forma earnings by excluding non-special items. In Panel A of Table 2, Column (2), "Num of obs.", reports the total number of observations in the five *C_Score* quintiles, Column (3), "Num of obs. with GAAP loss" indicates the number of observations that report GAAP losses within each quintile, and Column (4), "Num of obs. with *REVERSELOSS*=1", shows the number of observations where pro forma earnings reverse GAAP losses through the exclusion of non-special items. Our focus is on the last column "Prob (Pro forma earnings reverse GAAP loss through non-SI)", computed as Column (4) divided by Column (3). It shows the probability of pro forma earnings reversing GAAP losses through the exclusion of non-special items, conditional on firms reporting GAAP losses. We can see that this probability decreases monotonically from the lowest to the highest *C_Score* quintile. It is 46.6% in the lowest quintile and 16.5% in the highest quintile. Thus, firms in the lowest *C_Score* quintile are 182% more likely to report pro forma earnings that reverse GAAP losses than firms in the highest *C_Score* quintile. The difference between the two quintiles is not only economically significant but also statistically significant. Our findings are consistent with the notion that more conservative firms are significantly less likely to use pro forma disclosure to create the impression of a profitable quarter.

The next panel reports the probability of pro forma earnings that turn GAAP misses of analysts' forecasts into pro forma meet-or-beat by excluding non-special items. We find that the probability decreases monotonically from the lowest to the highest *C_Score* quintile. It is 60.1% for firms in the lowest quintile and 37.1% for firms in the highest quintile. Thus, firms in the lowest *C_Score* quintile are 62% more likely to issue pro forma earnings that reverse GAAP misses of analysts' forecasts than firms in the highest *C_Score* quintile. The difference between the

two quintiles is economically and statistically significant. Our findings suggest that more conservative firms are significantly less likely to exclude non-special items to reverse GAAP misses of analysts' forecasts.

The next panel reports the probability of pro forma earnings that reverse a drop in GAAP earnings by excluding non-special items. This probability decreases from the lowest to the highest *C_Score* quintile. It is 35.7% for firms in the lowest quintile while it is 24.2% for firms in the highest quintile, indicating that firms in the lowest *C_Score* quintile are 48% more likely to issue pro forma earnings that reverse a drop in GAAP earnings than firms in the highest *C_Score* quintile. The difference between the two quintiles is significant at the 5% level, using a two-tailed *t*-test. Our findings suggest that more conservative firms are significantly less likely to exclude non-special items to reverse a drop in GAAP earnings.

The last panel reports the probability of excluding non-special items to increase pro forma earnings. This probability decreases from the lowest to the highest *C_Score* quintile. It is 66.5% for firms in the lowest quintile while it is 59.2% for firms in the highest quintile, indicating that firms in the lowest *C_Score* quintile are 12% more likely to exclude non-special items to increase pro forma earnings than firms in the highest *C_Score* quintile. The difference between the two quintiles is significant at the 5% level, using a two-tailed *t*-test. Our findings suggest that more conservative firms are significantly less likely to exclude non-special items to increase the pro forma earnings.

We next conduct multivariate logistic regression to control for the effect of CEO characteristics, corporate governance and demands for conservatism. Our dependent variable is one of the four dummies: *REVERSELOSS*, *REVERSEMISS*, *REVERSEDROP* and *POS_NSI*. In addition to control variables that we have previously specified in Model (3), we add variables representing the distance between the earnings benchmarks and the GAAP earnings adjusted for special items (*DIS_loss*, *DIS_miss*, and *DIS_drop*), because managerial incentives to reverse GAAP misses of earnings benchmarks may be affected by how far away GAAP earnings are from the benchmarks. The sign on these variables is difficult to predict. When GAAP earnings are far from earnings benchmarks, managers may find it more costly to issue benchmark-beating pro forma earnings, but the benefits of doing so are larger as well and the net effect is uncertain. These distance variables are generally computed as the earnings benchmark minus GAAP earnings adjusted for special items. For example, *DIS_drop* is computed as the prior quarter GAAP earnings per share (the earnings benchmark) minus current quarter GAAP earnings per share adjusted for special items.

We note that the likelihood of turning GAAP misses into pro forma meet-or-beat represents a probability conditional on GAAP misses. For example, if a firm reports profits, *REVERSELOSS* can only take on the value of 0. This mechanical relation confounds our interpretation of the results. Therefore, we limit our related analyses to the subsample of GAAP misses. Specifically, when the dependent variable is *REVERSELOSS*/ *REVERSEMISS*/ *REVERSEDROP*, the sample we use includes only observations that report GAAP losses/GAAP drops/GAAP misses. Although the sample size varies as a result, this research design eliminates the possibility that our results are influenced by the mechanical relationship.

Our regression results are reported in Panel B of Table 3. Panel B shows that when the dependent variable is *REVERSELOSS*, the coefficient on *CEO_Own* and *INDEP* are negative and significant, suggesting that the likelihood of pro forma earnings reversing GAAP losses through the exclusion of non-special items is higher for firms whose CEO holds a lower proportion of the firm's equity and for firms whose board has a lower proportion of independent directors. The coefficient on *CHAIR* is positive and significant at the 5% level, implying that opportunistic pro forma disclosures

are more likely to take place when the CEO is also the chairman of the board. Our interest lies in the coefficient on *Rank of C_Score*. It is -1.793, significant at the 5% level. The related odds ratio indicates that the odds of proforma earnings reversing GAAP losses are lower by 83% for firms in the most conservative quintile than for firms in the least conservative quintile. This finding is consistent with our hypothesis.

When the dependent variable is *REVERSEMISS*, the coefficient on *Litigation* is positive and marginally significant. Firms facing high litigation threats are probably more likely to resort to pro forma disclosure to paint a rosy picture of profitability in order to avoid potentially costly lawsuits as a result of investors being disappointed by firm performance. The coefficient on *Rank of C_Score* is -0.899, significant at the 10% level. The related odds ratios suggest that the odds of proforma earnings reversing GAAP misses of analysts' forecasts are lower by close to 60% for firms in the most conservative quintile than for firms in the least conservative quintile. This finding lends support to our hypothesis.

When the dependent variable is *REVERSEDROP*, the coefficient on *Rank of C_Score* is -1.803, significant at the 5% level. The related odds ratio indicates that the odds of proforma earnings reversing a drop in GAAP earnings through the exclusion of non-special items are lower by 83% for firms in the most conservative quintile than for firms in the least conservative quintile.

Finally, when the dependent variable is *POS_NSI*, the coefficient on *Rank of C_Score* is -1.713, significant at the 1% level. The related odds ratio indicates that the odds of excluding non-special items to increase proforma earnings are lower by 82% for firms in the most conservative quintile than for firms in the least conservative quintile. Similar to the *REVERSEMISS* regression, the coefficient on *Litigation* is positive and significant, suggesting that firms facing higher likelihood of lawsuits resort to proforma earnings in an effort to ameliorate the perceived performance.

Overall, we find that conservative firms are much less likely to increase proforma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items. This finding is robust to controlling for CEO characteristics, corporate governance and demands for accounting conservatism. Our results support Hypothesis 2 and are consistent with the notion that accounting conservatism reduces managerial incentives to issue opportunistic voluntary disclosures.

7. Test of Hypothesis 3

Our third hypothesis is that the proforma excluded items are of higher quality for more conservative firms.

We follow Kolev et al. (2008) in measuring the quality of excluded items. Specifically, we regress future operating income (*FOI*) on proforma earnings and proforma excluded items. We define proforma excluded items as of high quality if those items are excluded to provide a more meaningful measure of firm performance. In that case, we expect the excluded items to be transitory and have low predictive power for future earnings. Thus, in our regression, a less significant coefficient and a coefficient with smaller magnitude on the excluded items indicate higher quality of excluded items.

To test our hypothesis, we specify our model as follows:

$$FOI_{i,t+1} = \alpha_0 + \alpha_1 PF_EPS_{i,t} + \alpha_2 Diff_{i,t} + \alpha_3 Rank\ of\ C_Score_{i,t-1} + \alpha_4 Rank\ of\ C_Score_{i,t-1} * Diff_{i,t} + \alpha_5 Hitech_{i,t} + \alpha_6 LOSS_{i,t} + \alpha_7 STD_ROA_{i,t} + \alpha_8 Size_{i,t} + \alpha_9 BM_{i,t} + \alpha_{10} Lev_{i,t} + \alpha_{11} Prloss_{i,t} + \varepsilon_{i,t+1} \quad (4)$$

where

FOI is future operating income, defined as operating income per share accumulated over the

following four quarters starting from quarter $t+1$, scaled by assets per share;

PF_EPS is proforma earnings per share in the press release for quarter t , scaled by assets per share;

$Diff$ is proforma earnings per share minus GAAP earnings per share for quarter t , scaled by assets per share;

$RankofC_Score$ is our measure of conservatism (we rank the raw C_Score into five quintiles each year and transform the value for the $RankofC_Score$ to be between 0 and 1);

$Hitech$, $LOSS$, STD_ROA , $Size$, BM , Lev and $Prloss$ are defined as before and serve as control variables. Industry dummies are included to control for the industry fixed effects.

In our model, if the coefficient on $Diff$ and the coefficient on $RankofC_Score*Diff$ take on opposite signs, it will be evidence in support of Hypothesis 3.

Our additional data requirements result in a sample of 1,862 proforma releases on which the regression is run. We estimate two OLS regressions. Model 1 does not include control variables, while Model 2 does. We allow error to cluster by firm and year to account for time-series and cross-sectional correlation in residuals (Petersen, 2009). Our results are reported in Panel A of Table 4.

Consistent with prior literature (Doyle et al., 2003; Lougee and Marquardt, 2004), in Model 1, the coefficient on $Diff$ is -0.286, significant at the 1% level, indicating that, contrary to the claim made by managers, excluded items are not perfectly transitory; instead, they negatively predict future earnings, for firms in the least conservative quintile. The coefficient on the interaction term $RankofC_Score*Diff$ is 0.276, significant at the 5% level, indicating that the more conservative the firms, the weaker the correlation between $Diff$ and FOI , and the higher quality the proforma excluded items are. The sum of the two coefficients reflects the predictive power of proforma excluded items for FOI in the most conservative quintile. It has a much lower magnitude (0.01) than the coefficient on $Diff$ alone. In addition, the F -test fails to reject the null hypothesis that it is equal to 0, indicating that for firms in the most conservative quintile, proforma excluded items have no statistical association with future earnings and thus are purely transitory. We observe similar results in Model 2.

Given the research findings in Ahmed and Duellman (2007), García Lara et al. (2009) and Watts (2003), it is possible that our results reported in Panel A are driven by accounting conservatism being a proxy for CEO characteristics, corporate governance or demands for conservatism. To alleviate this concern, we use a two-stage regression approach.¹² We first regress C_Score on the five variables: CEO_Own , CEO_Comp , $CHAIR$, $INDEP$ and $Litigation$. The residual from the regression (Res_C) is the measure of accounting conservatism after being cleansed of its association with CEO characteristics, corporate governance and demands for conservatism. We rank Res_C into five quintiles each year and transform the value for $RankofRes_C$ to be between 0 and 1. Then we re-run the model in Equation (4) using $RankofRes_C$ instead of $RankofC_Score$.

Specifically, our first-stage regression is as follows:

$$C_Score_{i,t-1} = \beta_0 + \beta_1 CEO_Own_{i,t-1} + \beta_2 CEO_Comp_{i,t-1} + \beta_3 CHAIR_{i,t-1} + \beta_4 INDEP_{i,t-1} + \beta_5 Litigation_{i,t-1} + \varepsilon_{i,t-1} \quad (5)$$

Our second-stage regression is as follows:

$$POI_{i,t+1} = \alpha_0 + \alpha_1 PF_EPS_{i,t} + \alpha_2 Diff_{i,t} + \alpha_3 RankofC_Score_{i,t-1} + \alpha_4 RankofC_Score_{i,t-1} * Diff_{i,t} + \alpha_5 Hitech_{i,t} + \alpha_6 LOSS_{i,t} + \alpha_7 STD_ROA_{i,t} + \alpha_8 Size_{i,t} + \alpha_9 BM_{i,t} + \alpha_{10} Lev_{i,t} + \alpha_{11} Prloss_{i,t} + \varepsilon_{i,t+1} \quad (6)$$

In our second stage model, if the coefficient on *Diff* and the coefficient on *Rank of Res_C*Diff* take on opposite signs, it will suggest that our finding is robust to controlling for CEO characteristics, corporate governance and demands for accounting conservatism. Industry dummies are included to control for the industry fixed effects.

The first stage regression result is reported in Appendix I. We find that *C_Score* is positively associated with *INDEP* and negatively associated with *CHAIR* (although the coefficient estimates are insignificant), suggesting that firms with more conservative accounting policies have more independent boards and are less likely to have CEO/Chairman duality. This finding is consistent with Ahmed and Duellman (2007) and Garcia Lara et al. (2009). Consistent with Qiang (2007) and Watts (2003), we find that the coefficient on *Litigation* is positive and highly significant, suggesting that accounting conservatism increases with the threat of litigations.

The second stage regression result is reported in Panel B of Table 4. Model 1 reports the regression results when we do not include control variables. The coefficient on *Diff* is -0.827, significant at the 1% level; while the coefficient on *Rank of Res_C*Diff* is 0.716, significant at the 1% level as well. The *F*-test fails to reject the null hypothesis that the sum of the two coefficients is equal to 0. These results indicate that the quality of excluded items is higher for firms with more conservative accounting. More importantly, they suggest that our results in Panel A are not driven by accounting conservatism being a proxy for CEO characteristics, corporate governance or demands for conservatism. The column "Model 2" shows that adding more control variables does not influence our inferences.

In sum, Table 4 provides strong evidence that the quality of pro forma excluded items is higher for firms with more conservative accounting, lending support to Hypothesis 3.

8. Robustness checks

8.1 Using the Basu (1997) model

Our prior results show that more conservative firms are less likely to issue opportunistic pro forma disclosures that reverse GAAP misses of earnings benchmarks and they are less likely to exclude non-special items from pro forma earnings. This section tests whether this finding is robust to using the Basu (1997) measure of accounting conservatism.

Our model is specified as follows:

$$X_{i,t-1} = \beta_1 + \beta_2 D_{i,t-1} + \beta_3 R_{i,t-1} + \beta_4 D_{i,t-1} * R_{i,t-1} + \beta_5 REVERSELOSS_{i,t} + \beta_6 REVERSELOSS_{i,t} * D_{i,t-1} + \beta_7 REVERSELOSS_{i,t} * R_{i,t-1} + \beta_8 REVERSELOSS_{i,t} * D_{i,t-1} * R_{i,t-1} + \varepsilon_{i,t-1} \quad (7)$$

$$X_{i,t-1} = \beta_1 + \beta_2 D_{i,t-1} + \beta_3 R_{i,t-1} + \beta_4 D_{i,t-1} * R_{i,t-1} + \beta_5 REVERSEMISS_{i,t} + \beta_6 REVERSEMISS_{i,t} * D_{i,t-1} + \beta_7 REVERSEMISS_{i,t} * R_{i,t-1} + \beta_8 REVERSEMISS_{i,t} * D_{i,t-1} * R_{i,t-1} + \varepsilon_{i,t-1} \quad (8)$$

$$X_{i,t-1} = \beta_1 + \beta_2 D_{i,t-1} + \beta_3 R_{i,t-1} + \beta_4 D_{i,t-1} * R_{i,t-1} + \beta_5 REVERSEDROP_{i,t} + \beta_6 REVERSEDROP_{i,t} * D_{i,t-1} + \beta_7 REVERSEDROP_{i,t} * R_{i,t-1} + \beta_8 REVERSEDROP_{i,t} * D_{i,t-1} * R_{i,t-1} + \varepsilon_{i,t-1} \quad (9)$$

$$X_{i,t-1} = \beta_1 + \beta_2 D_{i,t-1} + \beta_3 R_{i,t-1} + \beta_4 D_{i,t-1} * R_{i,t-1} + \beta_5 POS_NSI_{i,t} + \beta_6 POS_NSI_{i,t} * D_{i,t-1} + \beta_7 POS_NSI_{i,t} * R_{i,t-1} + \beta_8 POS_NSI_{i,t} * D_{i,t-1} * R_{i,t-1} + \varepsilon_{i,t-1} \quad (10)$$

All the variables are defined as before. Industry dummies are included in all regressions. Our inferences are based on allowing two-way clustering at both the firm level and the year level in order to control for cross-sectional and time-series correlations in residuals (Petersen 2009).

If firms with more conservative accounting are less likely to issue opportunistic pro forma disclosures, we expect

pect the coefficient β_8 to be significantly negative in all models, indicating that firms that issue opportunistic pro forma disclosures are less conservative. We estimate the four regressions using the sample of firms with pro forma disclosures. Our results are reported in Table 5.

Model 1-4 report results related to *REVERSELOSS*, *REVERSEMISS*, *REVERSEDROP* and *POS_NSI* respectively. We find that the coefficient estimate on the interaction term, *REVERSELOSS***D***R*, is -0.134, the coefficient estimate on the interaction term, *REVERSEMISS***D***R*, is 0.030, the coefficient estimate on the interaction term, *REVERSEDROP***D***R*, is -0.051, and the coefficient estimate on the interaction term, *POS_NSI***D***R*, is -0.062, all significant at the 10% level. Thus, our results related to Hypothesis 2 are robust to using the alternative measure of accounting conservatism.¹³

8.2 The instrumental variable approach

Both accounting conservatism and opportunistic behaviors may be determined by some firm characteristics, such as the threat of litigation, giving rise to an endogeneity concern. We next apply a standard two-stage instrumental variable approach to examine whether our results are robust to the endogeneity concern.

Our instrumental variable (*SAB101*) is based on the implementation of the SEC's Staff Accounting Bulletin No. 101.¹⁴ On December 3, 1999, the SEC released Staff Accounting Bulletin ("SAB") No. 101: *Revenue Recognition in Financial Statements*. SAB101 in general requires firms to be as timely in recognizing revenue. For example, prior to SAB101, DataLink Corp. recognized revenue on hardware and software products when the products were shipped. SAB101 caused the firm to delay revenue recognition until the installation and configuration services were completed (Moffeit and Eikner 2003). By reducing the timeliness of revenue recognition, the implementation of SAB101 results in an exogenous increase in accounting conservatism for a broad cross-section of listed firms. Consistent with this view, Vogt (2001) finds that SAB101 requires revenue recognition to be as timely as implied by contracting law and Watts (2003) cites SAB101 as an example that the SEC appreciates the benefits of accounting conservatism. Using a sample of 10-Q filings, Crawford et al. (2010) provides empirical evidence that SAB101 leads to an increase in accounting conservatism.

Specifically, our instrumental variable, *SAB101*, is equal to 1 for fiscal quarters after the implementation date of SAB101, and 0 otherwise. The implementation date of SAB101 is no later than the fourth fiscal quarter of fiscal years beginning after December 15, 1999.

In the first stage, we regress raw values of *C_Score* on *SAB101* and the control variables in the second stage regression. Our untabulated results show that the coefficient on *SAB101* is positive in all regressions and the related *t*-statistics range between 7.80 and 11.07, significant at better than 0.1% level. This finding indicates that the implementation of SAB101 increases accounting conservatism, which is consistent with prior literature (Watts, 2003; Crawford et al., 2010).

The fitted value from the first-stage regression is used as an instrument for *C_Score*. To be consistent with prior results, we rank firms into five quintiles each year based on the fitted value and the quintile rank takes values between 0, for the lowest quintile, and 1, for the highest quintile.

To test whether our results related to Hypothesis 2 are robust to the endogeneity concern, in the second stage, we use logistic regression to regress *REVERSELOSS* / *REVERSEMISS* / *REVERSEDROP* / *POS_NSI* on the instrumented Rank of *C_Score* and control variables. Our control variables include *Size*, *BM*, *Lev*, *CEO_Own*, *CEO_Comp*, *CHAIR*, *INDEP*, *Lev*, *Litigation*. When the

dependent variable is *REVERSELOSS*, *REVERSEMISS* or *REVERSEDROP*, we additionally control for the distance between GAAP earnings and earnings benchmarks (*DIS_loss/DIS_miss/DIS_drop*). Our results are reported in Panel A of Table 6.

Panel A shows that when the dependent variable is *REVERSELOSS*, the coefficient on the instrumented *RankofC_Score* is -1.832, significant at the 10% level. When the dependent variable is *REVERSEMISS*, the coefficient on the instrumented *RankofC_Score* is -2.113, significant at the 1% level. When the dependent variable is *REVERSEDROP*, the coefficient on the instrumented *RankofC_Score* is -1.675, significant at the 10% level. The coefficient is -1.473, significant at the 1% level, when the dependent variable is *POS_NSI*. These findings suggest that firms with more conservative accounting are less likely to increase proforma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items, indicating that our results related to Hypothesis 2 are robust to the endogeneity concern.

To test whether our results related to Hypothesis 3 are robust to the endogeneity concern, we replace *RankofC_Score* with its instrumented value and re-run the regressions specified in Model (4). Our results are reported in Panel B of Table 6.

Panel B shows that the coefficient on *Diffis* is -0.135, significant at the 5% level, suggesting that proforma excluded items negatively predict future earnings. The coefficient on *RankofC_Score(instrumented)*Diffis* is 0.099, significant at the 5% level, indicating that the more conservative the firm is, the weaker the association between *Diff* and *FOI* and the higher quality the proforma excluded items are. Our result is economically significant: when we go from the bottom to the top conservatism quintile, the magnitude of the coefficient on *Diff* goes down from 0.135 to 0.036, the latter being only 27% of the former.

In sum, Table 6 provides evidence that our conclusions continue to hold when we use the standard instrumental variable approach to address the endogeneity concern of accounting conservatism.

8.3 Test of reverse causality

In un-tabulated tests, we consider the alternative reverse causality explanation: firms issuing opportunistic proforma earnings tend to choose less conservative accounting policy. This explanation predicts a negative association between the issuance of opportunistic proforma earnings and future accounting conservatism. To test the prediction, we regress current year *C_Score* on lagged *REVERSELOSS/REVERSEMISS/REVERSEDROP /POS_NSI* and we control for lagged *C_Score*, *Hitech*, *LOSS*, *STD_ROA*, *Prloss*, *CEO_Comp*, *Lev* and *Litigation* in our OLS regressions. Industry dummies are also included in the models. All variables are as previously defined. Because the dependent variable, *C_Score*, is available annually, we obtain a firm-year measure for all independent variables by taking the average of the quarterly values in year $t-1$ whenever necessary.

If the reverse causality explanation is true, we expect the coefficient on lagged *REVERSELOSS/REVERSEMISS/REVERSEDROP /POS_NSI* to be negative and significant, indicating that firms issuing opportunistic proforma earnings tend to adopt less conservative accounting policy subsequently. Our un-tabulated results show that the coefficients on lagged *REVERSELOSS*, *REVERSEMISS*, *REVERSEDROP* and *POS_NSI* are all negative, but none are significant at the 10% level: the *p*-value is 0.803 for *REVERSELOSS*, 0.142 for *REVERSEMISS*, 0.490 for *REVERSEDROP*, and 0.347 for *POS_NSI*.

Our findings are inconsistent with the reverse causality explanation and, jointly with Table 5, suggest that accounting conservatism affects opportunistic managerial disclosure incentives but the

reverse is not true.

8.4 Simultaneous equations system approach

The choice of accounting conservatism and the choice of issuing opportunistic proforma disclosures could be simultaneously determined. To investigate this possibility, we build up simultaneous equations systems, which include a model for accounting conservatism and a model for opportunistic proforma disclosures.

The model for accounting conservatism is as follows.

$$\text{Rank of } C_Score = \alpha_0 + \alpha_1 * REVERSELOSS + \alpha_2 * \text{Size} + \alpha_3 * BM + \alpha_4 * Lev + \alpha_5 * CEO_Own + \alpha_6 * CEO_Comp + \alpha_7 * CHAIR + \alpha_8 * INDEP + \alpha_9 * Litigation + \alpha_{10} * SAB101 + \varepsilon \quad (11)$$

The model for opportunistic proforma disclosure varies with the dependent variable.

When the dependent variable is *REVERSELOSS*, the model is specified as follows.

$$REVERSELOSS = \alpha_0 + \alpha_1 * \text{Rank of } C_Score + \alpha_2 * \text{Size} + \alpha_3 * BM + \alpha_4 * Lev + \alpha_5 * CEO_Own + \alpha_6 * CEO_Comp + \alpha_7 * CHAIR + \alpha_8 * INDEP + \alpha_9 * Litigation + \alpha_{10} * DIS_loss + \varepsilon \quad (12)$$

The model specifications for *REVERMISS* and *REVERSEDROP* are similar.

The model specification for *POS_NSI* is as follows:

$$POS_NSI = \alpha_0 + \alpha_1 * \text{Rank of } C_Score + \alpha_2 * \text{Size} + \alpha_3 * BM + \alpha_4 * Lev + \alpha_5 * CEO_Own + \alpha_6 * CEO_Comp + \alpha_7 * CHAIR + \alpha_8 * INDEP + \alpha_9 * Litigation + \alpha_{10} * Opt_Sensitivity + \varepsilon \quad (13)$$

Opt_Sensitivity is a measure for options sensitivity.¹⁵ Burns and Kedia (2006) demonstrate that the sensitivity of CEO option to stock price is significantly positively related to the propensity to misreport. Following Core and Guay (2002), it is computed as the option delta multiplied by 1% of the stock price.

Our untabulated results show that, in the simultaneous equations system, when the dependent variable is a measure of opportunistic proforma disclosure (*REVERSELOSS* / *REVERMISS* / *REVERSEDROP* / *POS_NSI*), the coefficient on *Rank of C_Score* is negative and at least significant at the 5% level; when the dependent variable is *Rank of C_Score*, the coefficient on the measure of opportunistic proforma disclosure is negative but never significant.

Our findings suggest that our conclusion is robust to the simultaneous equation approach where accounting conservatism and the issuance of opportunistic proforma disclosures are modeled as mutually dependent.

9. Conclusions

We hypothesize that conditional conservatism reduces managerial incentive to disclose opportunistic proforma earnings. We find that less conservative firms are less likely to issue proforma earnings after Regulation G. This is consistent with the view that these firms tend to issue opportunistic proforma earnings and Reg G increases their costs of doing so.

In addition, we show that conservative firms are less likely to increase proforma earnings and reverse GAAP misses of earnings benchmarks by excluding non-special items. Since non-special items are likely to be recurring, excluding these items is difficult to justify from the perspective of informing investors. This is especially true when doing so leads to higher proforma earnings and proforma meet-or-beat earnings benchmarks. This finding is therefore consistent with our hypothesis.

Lastly, we examine the quality of proforma exclusions. High quality of exclusions shall have lower correlation with future earnings. We find that proforma earnings are of higher quality if they

are issued by more conservative firms.

Collectively, our findings are consistent with the view that accounting conservatism acts as a corporate governance mechanism and curbs managerial incentives to issue pro forma earnings for opportunistic purposes.

Our research however is subject to an important caveat. That is, accounting conservatism is not exogenous. We conduct several robustness checks to address this concern. Specifically, we control for explanations for accounting conservatism in regressions, we use the standard instrumental variable approach, we test for reverse causality and we build simultaneous equations systems. Our conclusions seem able to survive the tests. However, to the extent that the endogeneity of accounting conservatism is not fully captured by the tests we conduct, we cannot claim categorically that our results are entirely immune to this concern and that our results indicate causality rather than association.

References

- [1] Ahmed, A.S., Duellman, S., 2007. Accounting conservatism and board of director characteristics: An empirical analysis. *Journal of Accounting and Economics* 43, 411–437.
- [2] Ahmed, A.S., Duellman, S., 2011. Evidence on the role of accounting conservatism in monitoring managers' investment decisions. *Accounting and Finance* 51, 609–633.
- [3] Armstrong, C., Guay, W., Weber, J., 2010. The role of information and financial reporting in corporate governance and debt contracting. *Journal of Accounting and Economics* 50, 179–224.
- [4] Ball, R., Brown, P., 1968. An empirical evaluation of accounting income numbers. *Journal of Accounting Research* 6, 159–78.
- [5] Ball, R., Jayaraman, S., Shivakumar, L., 2012. Audited financial reporting and voluntary disclosures as complements: A test of the Confirmation Hypothesis. *Journal of Accounting and Economics* 53, 136–166.
- [6] Ball, R., Shivakumar, L., 2005. Earnings quality in UK private firms. *Journal of Accounting and Economics* 39, 83–128.
- [7] Basu, S., 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24, 3–37.
- [8] Bhattacharya, N., Black, E.L., Christensen, T.E., Larson, C.R., 2003. Assessing the relative informativeness and permanence of pro forma earnings and GAAP operating earnings. *Journal of Accounting and Economics* 36, 285–319.
- [9] Bhattacharya, N., Black, E.L., Christensen, T.E., Mergenthaler, R.D., 2004. Empirical evidence on recent trends in pro forma reporting. *Accounting Horizons* 18, 27–43.
- [10] Biddle, G., Hilary, G., Verdi, R.S., 2009. How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics* 48, 112–131.
- [11] Black, D., Black, E., Christensen, T., Heninger, W., 2012. Has the regulation of pro forma reporting in the US changed investors' perceptions of pro forma earnings disclosures? *Journal of Business Finance & Accounting* 39, 876–904.
- [12] Bowen, R.M., Davis, A.K., Matsumoto, D.A., 2005. Emphasis on pro forma versus GAAP earnings in quarterly press releases: Determinants, SEC intervention, and market reactions. *The Accounting Review* 80, 1011–1038.
- [13] Bradshaw, M., Sloan, R., 2002. GAAP versus the street: An empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research* 40, 41–66.

- [14] Burns, N., Kedia, S., 2006. The impact of performance-based compensation on misreporting. *Journal of Financial Economics* 79, 35–67.
- [15] Bushman, R.B., Piotroski, J.D., Smith, A.J., 2011. Capital allocation and timely accounting recognition of economic losses. *Journal of Business Finance & Accounting* 38, 1–33.
- [16] Chen, S., DeFond, M., Park, C., 2002. Voluntary disclosure of balance sheet information in quarterly earnings announcements. *Journal of Accounting and Economics* 33, 229–251.
- [17] Collins, D., Maydew, E., Weiss, I., 1997. Changes in the value-relevance of earnings and book values over the past forty years. *Journal of Accounting and Economics* 24, 39–67.
- [18] Core, J., Guay, W., 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. *Journal of Accounting and Research* 40, 613–630.
- [19] Crawford, S., Price, R., Rountree, B., 2010. Regulation and accounting conservatism. Working paper, Rice University.
- [20] Desai, H., Hogan, C.E., Wilkins, M.S., 2006. The reputational penalty for aggressive accounting: Earnings restatements and management turnover. *The Accounting Review* 81, 83–112.
- [21] Doyle, J.T., Lundholm, R.J., Soliman, M.T., 2003. The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies* 8, 145–174.
- [22] Fama, E., French, K., 1997. Industry costs of equity. *Journal of Financial Economics* 43, 153–193.
- Francis, J., Philbrick, D., Schipper, K., 1994. Determinants and outcomes in class action securities litigation. Working paper, University of Chicago.
- [23] Francis, J., Schipper, K., 1999. Have financial statements lost their relevance? *Journal of Accounting Research* 37, 319–352.
- [24] Francis, J.R., Martin, X., 2010. Acquisition profitability and timely loss recognition. *Journal of Accounting and Economics* 49, 161–178.
- [25] Frederickson, J., Miller, J., 2004. The effects of pro forma earnings disclosures on analysts' and nonprofessional investors' equity valuation judgment. *The Accounting Review* 79, 667–686.
- [26] García Lara, J.M., García Osma, B., Penalva, F., 2009. Accounting conservatism and corporate governance. *Review of Accounting Studies* 14, 161–201.
- [27] Hazarika, S., Karpoff, J.M., Nahata, R., 2009. Internal corporate governance, CEO turnover and earnings management. Working paper, University of Washington.
- [28] Heflin, F., Hsu, C., 2008. The impact of the SEC's regulation of non-GAAP disclosures. *Journal of Accounting and Economics* 46, 349–365.
- [29] Helbok, G., Walker, M., 2004. On the nature and rationality of analysts' forecasts under earnings conservatism. *The British Accounting Review* 36, 45–77.
- [30] Hirshleifer, D., Teoh, S.H., 2003. Limited attention, information disclosure, and financial reporting. *Journal of Accounting and Economics* 36, 337–386.
- [31] Hui, K.W., Matsunaga, S., Morse, D., 2009. The impact of conservatism on management earnings forecasts. *Journal of Accounting and Economics* 47, 192–207.
- [32] Jones, C., Weingram, S., 1996. The determinants of 10b-5 litigation risk. Working paper, Stanford University.
- [33] Khan, M., Watts, R., 2009. Estimation and empirical properties of a firm-year measure of accounting

conservatism. *Journal of Accounting and Economics* 48, 132-150.

[34] Kim I., Skinner D., 2012. Measuring Securities Litigation Risk. *Journal of Accounting and Economics* 53, 1-2: 290-310.

[35] Kolev, K., Marquardt, C., McVay, S., 2008. SEC scrutiny and the evolution of non-GAAP reporting. *The Accounting Review* 83, 157-184.

[36] Kothari, S., Ramanna, K., Skinner, D., 2010. Implications for GAAP from an analysis of positive research in accounting. *Journal of Accounting and Economics* 50, 246-286.

[37] LaFond, R., Watts, R., 2008. The information role of conservatism. *The Accounting Review* 83, 443-478.

[38] Lang, M., Lundholm, R., 1993. Cross-sectional determinants of analyst ratings of corporate disclosure. *Journal of Accounting Research* 31, 246-272.

[39] Lougee, B., Marquardt, C., 2004. Earnings quality and strategic disclosure: An empirical examination of "pro forma" earnings. *The Accounting Review* 79, 769-795.

[40] Louis, H., Lys, T., Sun, A., 2008. Conservatism and analyst earnings forecast bias. Working paper, Penn State University.

[41] Marques, A., 2006. SEC interventions and the frequency and usefulness of non-GAAP financial measures. *Review of Accounting Studies* 11, 549-574.

[42] Matsunaga, S., Park, C., 2001. The effect of missing a quarterly earnings benchmark on the CEO's annual bonus. *The Accounting Review* 76, 313-332.

[43] Mergenthaler, Jr., R., Rajgopal, S., Srinivasan, S., 2009. CEO and CFO career penalties to missing quarterly analysts forecasts. Working paper, University of Iowa, University of Washington, and Harvard Business School.

[44] Moffett, K., Eikner, E., 2003. Implementation of SAB 101. *The CPA Journal*, January.

[45] Pawlewicz, J., 2011. The effect of regulation on the timeliness and perceived reliability of earnings announcements. Working paper, George Mason University. Available at SSRN: <http://ssrn.com/abstract=1845528> or <http://dx.doi.org/10.2139/ssrn.1845528>.

[46] Petersen, M. A., 2009. Estimating standard errors in finance panel datasets: Comparing approaches. *The Review of Financial Studies* 22, 435-480.

[47] Qiang, X. R., 2007. The effects of contracting, litigation, regulation and tax costs on conditional and unconditional conservatism: Cross-sectional evidence at the firm level. *The Accounting Review* 82, 759-796.

[48] Schrand, C., Walther, B., 2000. Strategic benchmarks in earnings announcements: The selective disclosure of prior-period earnings components. *The Accounting Review* 75, 151-177.

[49] Tasker, S., 1998. Bridging the information gap: Quarterly conference calls as a medium for voluntary disclosure. *Review of Accounting Studies* 3, 137-167.

[50] Watts, R., 2003. Conservatism in accounting Part I: Explanations and implications. *Accounting Horizons* 17, 207-221.

[51] Vogt, R. B., 2001. SAB 101: Guidance on contract issues. *Contract Management*, June.

[52] Yi, H., 2007. Has Regulation G improved the information quality of non-GAAP earnings disclosures? Working Paper, University of Oklahoma.

[53] Zhang, H., Zheng, L., 2011. The valuation impact of reconciling pro-forma earnings to GAAP earnings. *Journal of Accounting and Economics* 51 (1-2), 186-202.

Table 1 Descriptive statistics

Panel A presents the summary statistics for the sample of 93,802 firm-quarter observations from 1998-2004. All the continuous variables are winsorized at the top and bottom one percentile. Please refer to Appendix I for detailed variable definitions. Panel B and Panel C present the distribution of 2,109 pro forma earnings releases by year and by industry, respectively. Individual industries are as defined in Fama and French (1997). High-tech firms are as defined in Francis and Schipper (1999). Intangible-intensive firms are as defined in Collins et al. (1997).

Panel A: Summary Statistics

Variables	N	Mean	Std.Dev.	Q1	Median	Q3
<i>PF_D</i>	93,802	0.022	0.148	0	0	0
<i>C_Score</i>	93,802	0.160	0.148	0.080	0.148	0.216
<i>Hitech</i> (dummy)	93,802	0.252	0.434	0	0	1
<i>LOSS</i> (dummy)	93,802	0.253	0.435	0	0	1
<i>Size</i>	93,802	6.412	1.893	5.041	6.321	7.612
<i>BM</i>	93,802	0.591	0.480	0.284	0.485	0.748
<i>Lev</i>	93,802	0.660	1.237	0.025	0.225	0.715
<i>STD_ROA</i>	93,802	0.028	0.057	0.004	0.011	0.027
<i>Prloss</i>	93,802	1.057	2.369	0.000	0.000	0.000
<i>POST_G</i>	93,802	0.360	0.480	0	0	1
<i>REVERSELOSS</i> (dummy)	2,109	0.132	0.339	0	0	0
<i>REVERSEMISS</i> (dummy)	2,109	0.362	0.481	0	0	1
<i>REVERSEDROP</i> (dummy)	2,109	0.154	0.361	0	0	0
<i>POS_NSI</i>	2,109	0.642	0.479	0	1	1

Panel B: Distribution of pro forma earnings releases by year

Year	Number of Pro Forma Press Releases	% of Sample	Mean <i>C_Score</i>
1998	124	5.88%	0.036
1999	110	5.22%	0.070
2000	260	12.33%	0.090
2001	702	33.29%	0.091
2003	390	18.49%	0.168
2004	523	24.80%	0.189
Total	2,109	100.00%	0.125

Panel C: Distribution of pro forma earnings releases by industry

Industry	Number of Pro Forma Press Releases	% of Sample	% of Compustat
Business Services	898	42.58%	14.67%
Electronic Equipment	352	16.69%	4.59%
Computers	141	6.69%	3.25%
Electrical Equipment	115	5.45%	2.80%
Pharmaceutical Products	58	2.75%	4.19%
Wholesale	56	2.66%	4.03%
Machinery	53	2.51%	2.28%
Measuring and Control Equipment	50	2.37%	1.69%
Retail	50	2.37%	3.84%
Communication	28	1.33%	3.84%
Medical Equipment	24	1.14%	2.53%
Trading	22	1.04%	8.66%
Other	18	0.85%	1.10%
Banking	17	0.81%	9.33%

ConsumerGoods	16	0.76%	1.30%
Construction Materials	16	0.76%	1.42%
Transportation	16	0.76%	2.03%
PersonalServices	15	0.71%	1.21%
Restaurants, Hotels,Motels	14	0.66%	1.89%
Healthcare	13	0.62%	1.86%
Petroleumand Natural Gas	13	0.62%	3.17%
Construction	12	0.57%	1.10%
Automobilesand Trucks	12	0.57%	1.04%
Recreation	9	0.43%	0.85%
Rubber andPlastic Products	9	0.43%	0.69%
Textiles	9	0.43%	0.36%
Entertainment	8	0.38%	1.37%
Business Supplies	8	0.38%	0.85%
Real Estate	8	0.38%	1.05%
PrintingandPublishing	7	0.33%	0.80%
Chemicals	7	0.33%	1.32%
Insurance	7	0.33%	2.41%
Candy&Soda	5	0.24%	0.19%
Utilities	5	0.24%	1.82%
Food Products	4	0.19%	1.12%
Apparel	4	0.19%	0.77%
Agriculture	3	0.14%	0.26%
Beer& Liquor	2	0.09%	0.32%
SteelWorksEtc.	2	0.09%	1.11%
Tobacco Products	1	0.05%	0.11%
FabricatedProducts	1	0.05%	0.24%
Defense	1	0.05%	0.14%
Aircraft	0	0.00%	0.32%
Shipbuilding, Railroad Equipment	0	0.00%	0.17%
PreciousMetals	0	0.00%	0.77%
Non-Metallic and Industrial Metal	0	0.00%	0.64%
Mining			
Coal	0	0.00%	0.18%
ShippingContainers	0	0.00%	0.32%
Total	2,109	100.00%	100.00%
High-tech Firms	1,443	68.42%	25.11%
Intangible-IntensiveFirms	1,113	52.77%	24.60%

Table 2 The relationship between accounting conservatism and the likelihood of issuing pro forma earnings across Regulation G

This table presents results of logistic regressions based on both the full sample with 93,802 firm-quarter observations and the limited sample with 32,804 firm-quarter observations from 1998-2004. The limited sample requires non-missing values for the following five variables: *CEO_Own*, *CEO_Comp*, *CHAIR*, *INDEP* and *Litigation*. The dependent variable is *PF_D*, which equals 1 if the firm-quarter observation issues pro forma earnings and 0 otherwise. The Pre-Reg G period is from January 1998 to December 2001, while the Post-Reg G period is from April 2003 to December 2004. *p*-values based on a two-tailed *Wald Chi-square* test are reported in parentheses. The symbols *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Variable	Regression 1	Regression 2
----------	--------------	--------------

<i>Intercept</i>	-6.902 (0.689)	-7.704 (0.837)
<i>Rankof C_Score</i>	-1.511*** (<.001)	-1.096*** (<.001)
<i>Rankof C_Score* POST_G</i>	1.489*** (<.001)	1.318*** (<.001)
<i>POST_G(dummy)</i>	-0.350*** (<.001)	-0.470*** (0.004)
<i>Hitech(dummy)</i>	0.825*** (<.001)	0.454** (0.012)
<i>LOSS (dummy)</i>	0.820*** (<.001)	0.545*** (<.001)
<i>Size</i>	0.146*** (<.001)	-0.061 (0.119)
<i>BM</i>	0.050 (0.385)	-0.313** (0.032)
<i>Lev</i>	-0.211*** (<.001)	-0.148* (0.077)
<i>STD_ROA</i>	2.582*** (<.001)	4.038*** (<.001)
<i>Prloss</i>	-0.011 (0.277)	-0.053** (0.025)
<i>CEO_Own</i>		-0.202 (0.774)
<i>CEO_Comp</i>		0.693*** (<.001)
<i>CHAIR (dummy)</i>		0.086 (0.322)
<i>INDEP</i>		0.500* (0.056)
<i>Litigation</i>		1.571*** (<.001)
<i>Industrydummy</i>	YES	YES
Max-RescaledR ² (%)	19.85	24.24
Number of obs.	93,802	32,804

Table 3 The likelihood of opportunistic pro forma disclosures

Panel A reports the likelihood of opportunistic pro forma disclosures for the sample of 2,109 pro forma earnings releases in the period 1998-2004. Panel B reports results of the logistic regression based on a limited sample of 722 firm-quarter pro forma earnings releases. The limited sample requires non-missing values for the following five variables: *CEO_Own*, *CEO_Comp*, *CHAIR*, *INDEP* and *Litigation*. The dependent variables are *REVERSELOSS*, *REVERSEMISS*, *REVERSEDROP* and *POS_NSI* respectively. The number of observations varies when we examine *REVERSELOSS*/*REVERSEMISS*/*REVERSEDROP*, because we additionally require that there is a GAAP loss/miss/drop respectively. In Panel A, *p*-values based on a two-tailed *t* test are reported in parentheses. In Panel B, *p*-values based on a two-tailed *Wald Chi-square* test are reported in parentheses. The symbols *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Please refer to Appendix II for detailed

variable definitions.

Panel A: The probability of opportunistic pro forma disclosures across C_Score quintiles

C_Score Ranking (1)	Numof obs. (2)	Numof obs. with GAAPloss (3)	Numof obs. with REVERSELOSS=1 (4)	Prob (Pro forma earnings reverse GAAP loss through non-SI) (5)=(4)/(3)
Lowest	418	148	69	0.466
2	425	186	58	0.312
3	422	201	65	0.323
4	425	249	45	0.181
Highest	419	254	42	0.165
Lowest-Highest p-value				0.301*** (<.001)
C_Score Ranking (1)	Numof obs. (2)	Numof obs. with GAAPmiss (3)	Numof obs. with REVERSEMISS=1 (4)	Prob (Pro forma earnings reverse GAAPmiss through non-SI) (5)=(4)/(3)
Lowest	418	291	175	0.601
2	425	302	165	0.546
3	422	305	169	0.554
4	425	303	149	0.492
Highest	419	283	105	0.371
Lowest-Highest p-value				0.230*** (<.001)
C_Score Ranking (1)	Numof obs. (2)	Numof obs. with GAAPdrop (3)	Numof obs. with REVERSEDROP=1 (4)	Prob (Pro forma earnings reverse GAAPdrop through non-SI) (5)=(4)/(3)
Lowest	418	207	74	0.357
2	425	220	76	0.345
3	422	199	62	0.312
4	425	202	64	0.317
Highest	419	202	49	0.242
Lowest-Highest p-value				0.115** (0.011)
C_Score Ranking	Numof obs.	Prob Increase pro forma earnings through non-SI)		
Lowest	418	0.665		
2	425	0.661		
3	422	0.659		
4	425	0.635		
Highest	419	0.592		
Lowest-Highest p-value		0.073** (0.028)		

Panel B: Regression based on a limited sample of pro forma earnings releases

Variable	REVERSE LOSS	Odds ratio	REVERSE MISS	Odds ratio	REVERSE DROP	Odds ratio	POS_NSI	Odds ratio
Intercept		Lev						
Rank of C_Score					CEO_Own			
Size					CEO_Comp			
BM					CHAIR (dummy)			

<i>INDEP</i>	-6.326 (0.961)		-6.885 (0.924)		-7.103 (0.943)		-2.773 (0.960)	
<i>Litigation</i>	-1.793** (0.047)	0.166	-0.899* (0.088)	0.407	-1.803** (0.023)	0.165	-1.713*** ($<.001$)	0.180
<i>DIS_loss</i>	-0.270 (0.157)	0.764	0.134 (0.234)	1.143	-0.034 (0.822)	0.967	-0.046 (0.637)	0.955
	-1.375** (0.020)	0.253	0.030 (0.943)	1.031	0.902 (0.106)	2.465	-0.749** (0.043)	2.115
	0.977 (0.138)	2.656	-0.050 (0.916)	0.951	0.739 (0.306)	2.095	-0.136 (0.677)	0.873
	-10.120* (0.067)	$<.001$	-0.989 (0.629)	0.372	-1.956 (0.514)	0.141	-1.037 (0.554)	0.354
	1.105* (0.097)	3.019	0.086 (0.810)	1.090	-0.091 (0.855)	0.913	-0.242 (0.422)	0.785
	0.749** (0.050)	2.114	-0.040 (0.862)	0.960	0.176 (0.562)	1.192	0.166 (0.392)	1.181
	-1.742* (0.099)	0.175	0.299 (0.663)	1.348	-1.354 (0.110)	0.258	1.020 (0.109)	2.772
	0.840 (0.315)	2.316	0.794* (0.073)	2.213	0.572 (0.339)	1.773	1.613*** ($<.001$)	5.019
	0.534 (0.183)	1.706						
<i>DIS_miss</i>			0.520 (0.188)	1.682				
<i>DIS_drop</i>					-0.247 (0.461)	0.781		
<i>Industry dummy</i>	YES		YES		YES			
	YES Max-Rescaled							
R^2 (%)	34.27		27.54		27.99		28.72	
Number of obs.	248		495		337		722	

Table 4 The quality of excluded items

Panel A presents results of the OLS regression based on the sample of 1,862 pro forma earnings releases. Panel B presents the second-stage OLS regression results based on a limited sample of 676 pro forma earnings releases. The limited sample requires non-missing values for the following five variables: *CEO_Own*, *CEO_Comp*, *CHAIR*, *INDEP* and *Litigation*. In the first stage, we regress *C_Score* on five variables (*CEO_Own*, *CEO_Comp*, *CHAIR*, *INDEP* and *Litigation*) and obtain the *Res_C*. In the second stage, we use *Rankof Res_C* as a measure of conservatism. In both panels, the dependent variable is *FOI*, defined as operating income per share accumulated over the following four quarters. Inferences are based upon errors clustered by both firm and year to account for cross-sectional and time-series residual dependence (Petersen 2009). *p*-values based on a two-tailed *t*-test are reported in parentheses. The symbols *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Please refer to Appendix II for detailed variable definitions.

Panel A: Full sample

Variable	Model 1	Model 2
<i>Intercept</i>	0.074*** ($<.001$)	0.053 (0.264)
<i>PF_EPS</i>	0.264*** ($<.001$)	0.139*** (0.002)
<i>Diff</i>	-0.286*** (0.007)	-0.224*** (0.003)
<i>Rankof C_Score</i>	-0.084*** (0.002)	-0.024** (0.049)
<i>Rankof C_Score * Diff</i>	0.276** (0.012)	0.249*** (0.003)
<i>Hitech</i> (dummy)		-0.007 (0.368)
<i>LOSS</i> (dummy)		-0.068*** ($<.001$)
<i>Size</i>		0.002 (0.407)
<i>BM</i>		-0.041*** ($<.001$)
<i>Lev</i>		0.036*** ($<.001$)
<i>STD_ROA</i>		-0.040 (0.190)
<i>Prloss</i>		-0.022*** (0.002)
<i>Industry dummy</i>	YES	YES
<i>F-Test:</i>     <i>F</i> -statistic: 0.070		<i>F</i> -statistic: 0.420
	<i>p</i> -value: 0.789	<i>p</i> -value: 0.516
Adj. R^2 (%)	18.50	26.28
Number of obs.	1,862	1,862

Panel B: Limited sample with managerial characteristics, corporate governance variables and demands for accounting conservatism

Variable	Model1	Model2
<i>Intercept</i>	0.029* (0.052)	0.019 (0.304)
<i>PF_EPS</i>	0.152*** (0.002)	0.067*** (0.005)
<i>Diff</i>	-0.827*** (0.001)	-0.482*** (0.001)
<i>Rankof Res_C</i>	-0.046* (0.052)	-0.007 (0.439)
<i>Rankof Res_C * Diff</i>	0.716*** (<.001)	0.602*** (<.001)
<i>Hitech(dummy) LOSS</i>		-0.012 (0.267)
<i>(dummy)</i>		-0.069*** (<.001)
<i>Size</i>		0.001 (0.396)
<i>BM</i>		-0.055** (0.019)
<i>Lev</i>		0.039*** (0.004)
<i>STD_ROA</i>		-0.014 (0.245)
<i>Prloss</i>		-0.014** (0.021)
<i>Industrydummy</i>	YES	YES
<i>F-Test:</i> 	<i>F-statistic:</i> 0.470	<i>F-statistic:</i> 0.600
	<i>p-value:</i> 0.495	<i>p-value:</i> 0.439
Adj.R ² (%)	19.30	29.89
Number of obs.	676	676

Table 5 Robustness check using the Basu (1997) Model

This table reports OLS regression results based on the sample of 2,109 firm-quarter pro forma earnings releases. The dependent variable X_i is earnings scaled by market value of equity measured in year $t-1$, the fiscal year before recurrent earnings announcements; R_i is returns accumulated over the fiscal year $t-1$; D_i is a dummy variable that equals 1 when $R_i < 0$ and 0 otherwise. Inferences are based upon errors clustered by both firm and year to account for any cross-sectional and time-series residual dependence (Petersen 2009). p -values based on a two-tailed t -test are reported in parentheses. The symbols *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Please refer to Appendix II for detailed variable definitions.

Variable	Model1	Model2	Model3	Model4
<i>Intercept</i>	0.092*** ($<.001$)	0.093*** ($<.001$)	0.092*** ($<.001$)	0.101*** ($<.001$)
<i>D</i>	0.027*** (0.001)	0.025*** (0.005)	0.026*** (0.003)	0.030** (0.029)
<i>R</i>	-0.011 (0.156)	-0.018* (0.076)	-0.015* (0.075)	-0.021 (0.151)
<i>D * R</i>	0.156*** ($<.001$)	0.148*** ($<.001$)	0.152*** ($<.001$)	0.182*** ($<.001$)
<i>REVERSELOSS</i>	-0.050 (0.185)			
<i>REVERSELOSS * D</i>	-0.024 (0.370)			
<i>REVERSELOSS * R</i>	-0.003 (0.403)			
<i>REVERSELOSS * D * R</i>	-0.134*** ($<.001$)			
<i>REVERSEMISS</i>		-0.016 (0.190)		
<i>REVERSEMISS * D</i>		-0.012 (0.324)		
<i>REVERSEMISS * R</i>		0.011 (0.190)		
<i>REVERSEMISS * D * R</i>		-0.030* (0.073)		
<i>REVERSEDROP</i>			0.011 (0.187)	
<i>REVERSEDROP * D</i>			-0.024 (0.102)	
<i>REVERSEDROP * R</i>			0.006 (0.317)	
<i>REVERSEDROP * D * R</i>			-0.051** (0.044)	
<i>POS_NSI</i>				-0.022 (0.139)
<i>POS_NSI * D</i>				-0.012 (0.321)
<i>POS_NSI * R</i>				0.011 (0.273)
<i>POS_NSI * D * R</i>				-0.062** (0.016)
<i>Industry dummy</i>	YES	YES	YES	
	YES Adj. R^2 (%) 11.30	12.00	11.32	11.25

Number of obs.	2,109	2,109	2,109	2,109
----------------	-------	-------	-------	-------

Table 6 Results of the instrumental variable approach

This table reports second-stage regression results of the instrumental variable approach, based on the sample of 2,109 pro forma earnings releases. *SAB101* is our instrumental variable. In the first stage regression, we regress raw values of *C_Score* on *SAB101* and the control variables in the second-stage regression. The fitted value from the regression is used as an instrument for *C_Score*. To be consistent with prior results, we rank firms into five quintiles each year based on the fitted value and the quintile rank takes values between 0 (the lowest quintile) and 1 (the highest quintile). Panel A reports logistic regression results. The dependent variables are *REVERSELOSS*, *REVERSEMISS*, *REVERSEDROP* and *POS_NSI* respectively. *p*-values based on a two-tailed Wald Chi-square test are reported in parentheses. Panel B reports OLS regression results. The dependent variable is *FOI*. *p*-values based on a two-tailed *t*-test are reported in parentheses. The symbols *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Please refer to Appendix I for detailed variable definitions.

Panel A The likelihood of opportunistic pro forma disclosures

Variable	REVERSE LOSS	REVERSE MISS	REVERSEDROP	POS_NSI
<i>Intercept</i>	6.664 (0.971)	1.113 (0.987)	1.772 (0.986)	-4.198 (0.940)
<i>Rank of C_Score (instrumented)</i>	-1.832* (0.095)	-2.113*** (0.003)	-1.675* (0.081)	-1.473*** (0.003)
<i>Size</i>	-0.148 (0.502)	0.015 (0.901)	-0.405* (0.074)	0.175** (0.037)
<i>BM</i>	-2.085*** (<0.001)	0.251 (0.562)	-1.614** (0.011)	0.383 (0.256)
<i>Lev</i>	0.026 (0.971)	0.547* (0.053)	1.790 (0.128)	-0.158 (0.625)
<i>CEO_Own CEO_</i>	-13.017*** (0.007)	-3.209 (0.126)	-2.928 (0.254)	-3.025 (0.102)
<i>Comp CHAIR</i>	-0.324 (0.559)	-0.418 (0.299)	-0.179 (0.703)	-0.766** (0.047)
<i>(dummy) INDEP</i>	0.443 (0.198)	-0.163 (0.509)	0.628* (0.053)	0.189 (0.330)
<i>Litigation</i>	-1.330 (0.201)	0.322 (0.641)	0.505 (0.579)	1.395** (0.014)
<i>DIS_loss</i>	-1.557** (0.035)	-0.579 (0.229)	-0.354 (0.543)	1.552*** (<0.001)
	-0.168 (0.371)			
<i>DIS_miss</i>		-0.302* (0.065)		
<i>DIS_drop</i>			0.487** (0.014)	
<i>Industry dummy</i>	YES	YES	YES	YES
Max-Rescaled R^2 (%)	40.40	21.73	31.67	28.00
Number of obs.	248	495	337	722

Panel B: The quality of excluded items

Variable	FOI
Intercept	0.022 (0.412)
PF_EPS	0.139*** (0.003)
Diff	-0.135** (0.017)
Rankof C_Score(instrumented)	0.005 (0.437)
Rankof C_Score(instrumented) * Diff	0.099** (0.012)
Hitech(dummy)	-0.005 (0.404)
LOSS (dummy)	-0.072*** (<.001)
Size	0.004 (0.326)
BM	-0.041*** (<.001)
Lev	0.033*** (0.006)
STD_ROA	-0.017 (0.329)
Prloss	-0.023*** (0.002)
Industrydummy	YES
F-Test: $H_0: \beta_2 = \beta_3 = 0$	F-statistic: 1.330 p-value: 0.249
Adj.R ² (%)	26.13
Number of obs.	1,862

Appendix I Results from the first stage regression used to obtain Res_C

This appendix presents the first-stage OLS regression based on a limited sample of 676 pro forma earnings releases. We regress *C_Score* on five variables (*CEO_Own*, *CEO_Comp*, *CHAIR*, *INDEP* and *Litigation*), and the *Res_C* is the residual from this model. *p*-values based on a two-tailed *t*-test are reported in parentheses. The symbols *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively. Please refer to Appendix II for detailed variable definitions.

Variable	<i>C_Score</i>
<i>Intercept</i>	0.195*** (<.001)
<i>CEO_Own</i>	-0.236*** (0.005)
<i>CEO_Comp</i>	-0.088*** (<.001)
<i>CHAIR</i> (dummy)	-0.014 (0.180)
<i>INDEP</i>	0.036 (0.198)
<i>Litigation</i>	0.077*** (<.001)
Adj. R^2 (%)	9.83
Number of obs.	676

AppendixII Variabledefinitionsinalphabeticalorder

VariableName	VariableDefinition
<i>BM</i>	The ratio of book value of equity (Compustat#60) to market value of equity (Compustat#61*Compustat#14).
<i>C_Score</i>	Conservatism measure, computed according to Khan and Watts (2009). <i>CEO_Comp</i> The ratio of the CEO's equity-related compensation to total compensation. <i>CEO_Own</i> Percentage of the firm's shares held by the CEO.
<i>CHAIR</i>	A dummy variable that equals 1 if the CEO also holds a "Chairman" title in the firm and 0 otherwise.
<i>Diff</i>	Pro forma earnings per share minus GAAP earnings per share for quarter t, scaled by assets per share.
<i>FOI</i>	The operating income per share (Compustat#177) summed over the four quarters starting with quarter t+1, scaled by assets per share.
<i>DIS_drop</i>	The distance between GAAP earnings per share adjusted for special items and the prior quarter GAAP earnings per share, the latter considered as an earnings benchmark. It's computed as prior quarter GAAP earnings per share minus current quarter GAAP earnings per share adjusted for special items.
<i>DIS_loss</i>	The distance between GAAP earnings adjusted for special items and the breakeven point, the latter considered as a benchmark. It is computed as zero minus GAAP earnings adjusted for special items.
<i>DIS_miss</i>	The distance between GAAP earnings adjusted for special items and the most recent consensus analyst forecast, the latter considered as a benchmark. It is computed as the consensus analyst forecast minus GAAP earnings adjusted for special items.
<i>Hitech</i>	A dummy variable that equals 1 if the firm is in the high-tech industry as defined by Francis and Schipper (1999) and 0 otherwise.
<i>INDEP</i>	The proportion of independent directors in the board.
<i>Lev</i>	The book value of debt (Compustat#51+Compustat#45) deflated by market value of equity (Compustat#61*Compustat#14).
<i>Litigation</i>	Litigation risk measure, computed according to Kim and Skinner (2012).
<i>PF_EPS</i>	Pro forma earnings per share in the press release for quarter t, scaled by assets per share.
<i>POS_NSI</i>	A dummy variable that indicates whether the firm increases pro forma earnings by excluding non-special items. It equals 1 if the pro forma earnings are higher than GAAP earnings adjusted for special items, and 0 otherwise.
<i>Prloss</i>	Number of consecutive quarters of losses over the eight quarters prior to current quarter.

<i>Res_C</i>	The residual from the regression of <i>C_Score</i> on the following five variables: <i>CEO_Own</i> , <i>CEO_Comp</i> , <i>CHAIR</i> , <i>INDEP</i> and <i>Litigation</i> .
<i>REVERSEDROP</i>	A dummy variable indicating whether the firm excludes non-special itemsto turnGAAP drop into pro forma growth. It equals 1, if GAAP earnings (both before and after adjusting for special items) are lower than while pro forma earnings are higher than prior period GAAP earnings, and 0 otherwise.
<i>REVERSELOSS</i>	A dummy variable indicating whether the firm excludes non-special itemsto turnGAAP losses into pro forma profits. It equals 1, if GAAP earnings (both before and after adjusting for special items) are less than while pro formaearnings are greater than zero, and 0 otherwise.
<i>REVERSEMISS</i>	A dummy variable indicating whether the firm excludes non-special itemsto turnGAAP miss into pro forma meet-or-beat of the most recent consensus analyst forecast. It equals 1, if GAAP earnings (both before and after adjusted for special items) are lower than while pro formaearnings are higher than the most recent consensus analyst forecast as reported by I/B/E/S, and 0 otherwise.
<i>SAB101</i>	A dummy variable indicating whether SAB101 is implemented. It equals 1 if the observation is after the implementation date of the SEC's Staff Accounting Bulletin 101 and 0 otherwise. The implementation date is no later than the fourth fiscal quarter of fiscal years beginning after December 15, 1999.
<i>Size</i>	Natural log of total assets (Compustat #44).
<i>STD_ROA</i>	The standard deviation of ROA (earnings divided by the beginning-of-year total assets) over the prior eight quarters.

收稿日期: 2015-10-31

*Corresponding author. Tel: +65-6790-4097. Email: huaizhang@ntu.edu.sg. Li is from Shanghai Jiao Tong University and Zhang is from Nanyang Technological University. We acknowledge helpful comments from Sudipta Basu, Bin Ke, Wei Chern Koh, Clive Lennox, Siew Hong Teoh, and seminar participants at Nanyang Technological University and Shanghai Jiaotong University.

¹This line of literature is reviewed in Section 2.

²An alternative explanation for our empirical findings is that managers mislead investors into overestimating the negative impact of accounting conservatism on accounting numbers, reducing the likelihood of flow GAAP earnings regarded as bad news and, consequently, the need to use opportunistic voluntary disclosure to dress up bad news. This explanation predicts that investors overestimate the negative impact of accounting conservatism on accounting numbers. However, Louis et al. (2008) find that the negative impact is underestimated by sophisticated investors, such as financial analysts, which is inconsistent with this explanation.

³There exists a convoluted argument that our results are driven by a mechanical relationship. Lougee and Marquardt (2004) find that pro forma earnings are more strongly associated with announcement returns when GAAP informativeness is low, suggesting that investors price pro forma earnings to a greater extent when pro formaearnings are issued to inform investors than when they are issued for opportunistic motives. As pro forma earnings are on average higher than GAAP earnings, large negative GAAP earnings are associated with less dramatic market response (i.e., a lower ERC) for informative pro forma disclosures than for opportunistic pro

formadisclosers. Given that the Basu (1997)'s measure of conservatism and the C_Score measure are defined as the difference in a measure similar to the inverse of ERC between good news and bad news, our finding that more conservative firms are more likely to issue informative pro forma disclosures may be explained by the lower ERC for informative pro forma disclosures when GAAP earnings are negative, assuming that negative (positive) GAAP earnings indicate bad (good) news. However, there are two important reasons why this argument does not apply to our setting. First, the key point of this argument is that accounting conservatism, by definition, is affected by the differential market's response to GAAP earnings across informative pro forma disclosures and opportunistic pro forma disclosures, suggesting that this argument only applies to the situation where the accounting conservatism and pro forma disclosures are measured contemporaneously. This condition is not satisfied in our analysis. In our analysis, conservatism is measured in the year prior to pro forma disclosures, when pro forma disclosures may not exist. Second, bad news in the Basu (1997)'s model is intended to indicate economic news and is measured by negative raw annual returns. In order for the argument to apply to our setting, we need to assume that negative (positive) GAAP earnings are equivalent to bad (good) news. This assumption is questionable. Since Ball and Brown (1968), it has been well recognized in the literature that news shall be measured by unexpected earnings not earnings itself. Firms with negative GAAP earnings may experience positive returns (i.e., have good news) because investors have anticipated worse results; similarly, firms with positive GAAP earnings may experience negative returns (i.e., have bad news) because investors have anticipated even better results.

⁴In theory, firms with opportunistic motives can choose to provide non-opportunistic pro forma earnings after Reg G. However, the empirical findings in Kolev et al. (2008) and Yi (2007) indicate that those firms tend to stop disclosing pro forma earnings altogether, suggesting that for those firms, the marginal cost of issuing non-opportunistic pro forma disclosures outweighs the marginal benefit.

⁵Our search may not be comprehensive. However, this measurement error is likely to bias towards insignificant findings. To the extent that our results are significant, this is unlikely to be a serious concern.

⁶We obtain similar inferences when we use the average C_Score in the pre-Reg G period to form the deciles.

⁷For example, before winsorization at the top and bottom percentile, the raw C_Score can be as large as 13,657.47, which may unduly affect the regression results.

⁸This alternative view however cannot explain our finding that relative to firms with more conservative accounting, firms with less conservative accounting experience a decline in the likelihood of issuing pro forma earnings after Reg G.

⁹The marginal effect of a binary variable on the odds of the event coded as 1 can be computed as raising to the power of the coefficient estimate. The power of -0.350 is 0.70 while the power of 1.139 is 3.12.

¹⁰The value of 15% is estimated by raising to the power of -0.165, which is obtained by multiplying 1.489 with the decrease in the value of the decile rank when we move to the next lower level (-0.111).

¹¹Our inferences remain unchanged when we allow the coefficients on all control variables to vary across Reg G in both regressions.

¹²Another approach is to directly control for managerial characteristics, corporate governance and demands for conservatism in the regression by interacting them with the variable, $DIFF$. This approach is not desirable because it produces severe multicollinearity among independent variables. Since many explanatory variables are interactions with $DIFF$, by definition, they are correlated through $DIFF$. These severe multicollinearity effectively amount to a substantial reduction in the number of observations, leading to a low-power test. In comparison, our approach does not suffer from this problem.

¹³We are unable to test whether our results related to Hypothesis 3 are robust to the Basu (1997) measure, because the approach used to measure the quality of excluded items requires a firm-year specific measure of accounting conservatism.

¹⁴Hui et al. (2009) use R&D expenditures, leverage and dividends as instruments in addressing the endogeneity problem of accounting conservatism. Using their instrumental variables, we find that our results are robust to the endogeneity concern.

¹⁵*Opt_Sensitivity* is added so that the simultaneous equation system can be estimated.