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公司自願性停止在盈餘宣告中提供擬制性盈餘的原因與經濟後果之研究

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摘要

本文旨在探討為何有些公司自願停止在盈餘宣告中提供擬制性盈餘資訊, 並研究此一選擇如何影響這些公司後續的財務報導政策。我們以人工收集資料 的方式收集 2002-2010 年間樣本公司在盈餘宣告中所揭露的擬制性盈餘資訊。 我們發現有近五分之一的樣本公司在我們的樣本期間(2002-2010)內,停止了在 盈餘宣告中提供擬制性盈餘資訊。由於美國證管會在 2001 年 12 月起加強對擬 制性盈餘揭露的監管,並且實施 Regulation G 要求公司提高擬制性盈餘揭露的 透明度,我們發現在美國證管會加強對擬制性盈餘揭露的監管之前,公司若提 供擬制性盈餘資訊試圖誤導投資人或公司只從提供擬制性盈餘資訊獲得有限 的好處,則這些公司較可能在我們的樣本期間停止在盈餘宣告中提供擬制性盈 餘資訊,顯示在美國證管會加強對擬制性盈餘揭露的監管後,提供擬制性盈餘 資訊的成本提高而獲得的好處減少。此外,若公司曾收到美國證管會質疑該公 司擬制性盈餘的意見函,則這樣的公司也比較可能停止在盈餘宣告中提供擬制 性盈餘資訊。本文也發現若公司比較可能投機性的提供擬制性盈餘,則在停止 提供擬制性盈餘資訊後,公司會使用盈餘管理取代提供擬制性盈餘資訊,但投 資人察覺到這些公司可能在停止提供擬制性盈餘資訊後增加盈餘操縱使盈餘 品質變差,因此在停止提供擬制性盈餘資訊後投資人給予這些公司的未預期盈 餘較低的評價。

關鍵詞:擬制性盈餘、Regulation G、策略性揭露、盈餘管理

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Causes and Consequences of Firms' Decision to Discontinue Non-GAAP Earnings Disclosure in Earnings Releases

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Abstract

This paper investigates why firms voluntarily stop providing non-GAAP earnings disclosure in their earnings releases (hereafter, stopped firms) and whether this decision affects their subsequent financial reporting policies. Using hand-collected non-GAAP earnings disclosure data between 2002 and 2010, we observe that about one-fifth of our sample firms stopped non-GAAP earnings reporting altogether during our sample period. Consistent with the idea that the SEC's increased scrutiny and the transparency of non-GAAP disclosure required by Regulation G increase the costs and decrease the benefits of non-GAAP reporting, we find that firms issuing non-GAAP disclosure to mislead investors and firms deriving fewer benefits from non-GAAP reporting are more likely to relinquish non-GAAP disclosure. Moreover, firms receiving the SEC's comment letters questioning their use of non-GAAP financial measures in SEC filings are more inclined to stop providing non-GAAP disclosure in earnings releases. Furthermore, we find that stopped firms that are more likely to be opportunistic non-GAAP reporters tend to substitute accrual management for non-GAAP disclosure after they stop non-GAAP reporting. Interestingly, investors react less strongly to unexpected earnings of these firms after they stopped disclosing non-GAAP information, consistent with the market perceiving earnings news of opportunistic reporting firms as less informative after their stop decision.

Keywords: Non-GAAP (Pro-forma) earnings, Regulation G, Strategic disclosures, Earnings management.

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1. INTRODUCTION

This study examines why some firms choose to voluntarily stop providing non-GAAP earnings disclosure in their quarterly earnings releases (hereafter, stopped firms or stoppers) after the U.S. Securities and Exchange Commission (SEC) increased its scrutiny on non-GAAP reporting as well as how this practice affects stopped firms' subsequent financial reporting policies.¹ A non-GAAP earnings number—also referred to as core, recurring, or pro forma earnings—is an adjusted earnings figure that excludes certain items required to be included in earnings by the Generally Accepted Accounting Principle (GAAP) (Bhattacharya, Black, Christensen, and Larson 2003; Lougee and Marquardt 2004).² The primary concern with non-GAAP reporting is that unlike GAAP earnings, which are subject to a set of rules or standards, non-GAAP earnings remain at the full discretion of management in deciding which GAAP items to exclude. To address the concern that companies might abuse non-GAAP earnings reporting in order to mislead investors, the SEC issued a cautionary advice in December 2001 warning public companies on their use of non-GAAP financial information (SEC 2001) and later enacted Regulation G in January 2003. Regulation G stipulates that disclosures containing non-GAAP earnings must provide the most directly comparable GAAP number and a clearly understandable quantitative reconciliation of these two earnings numbers.

The extant studies examining the impact of the SEC's scrutiny on non-GAAP earnings focus on changes in the frequency and properties of non-GAAP exclusions as well as the market's perceptions of non-GAAP earnings before and after the SEC's increased scrutiny (e.g., Marques 2006; Kolev, Marquardt, and McVay 2008; Black, Black, Christensen, and Heninger 2012 among others). While prior literature finds that the frequency of non-GAAP disclosures as a percentage of total earnings releases have increased steadily since 1998, except for a temporary decrease during 2002 and 2003 (Black et al. 2012), we observe that about one-fifth of our sample firms terminate non-GAAP earnings reporting in the post-scrutiny period. However, there is limited research on the causes and consequence of firms' decision to relinquish the practice of non-GAAP earnings reporting (hereafter, the "stop" decision).³ We fill this gap in the

¹ Our research question is not simply why some firms provide non-GAAP disclosures while other firms do not. Our focus is on the choice of discontinuing the non-GAAP reporting practice for a sample of firms that report unusual or non-recurring (special) items in GAAP earnings but choose to forgo the flexibility of excluding these items from GAAP earnings on earnings releases.

² Our paper uses non-GAAP earnings and pro form earnings interchangeably. Former SEC chief accountant Lynn Turner was once quoted as saying that pro forma earnings include "everything but bad stuff."

³ One exception is Kolev et al. (2008), who find that firms that stopped releasing non-GAAP earnings numbers after the SEC intervention had more transitory exclusions in the pre-intervention period. Kolev et al. (2008) use I/B/E/S actual earnings to proxy for the non-GAAP earnings figure issued in press releases by managers. However, I/B/E/S actual earnings are known as a noisy proxy for non-GAAP earnings. Bhattacharya et al. (2003) indicate that the I/B/E/S actual earnings press releases are different about a third of the time. In addition, Jennings and Marques (2011) suggest that using analyst-adjusted earnings numbers

literature by seeking to understand why firms voluntarily give up the option of highlighting transitory or non-recurring items on earnings releases and how this non-disclosure choice affects other aspects of financial reporting.

Managers often assert that they disclose non-GAAP earnings measures because these measures exclude transitory items and are better able to capture the true economic performance of their companies than are GAAP earnings (information incentive). Critics, however, argue that these disclosures were primarily designed to portray better performance than would otherwise be presented by GAAP earnings (opportunistic incentive). Empirical research thus far provides evidence of both incentives. Bhattacharya et al. (2003) find that non-GAAP earnings numbers are, on average, more value-relevant than GAAP earnings, consistent with the information incentive. However, Doyle, Lundholm, and Soliman (2003) note that items excluded from non-GAAP earnings are predictive of future earnings, cash flows, and abnormal returns, suggesting that these expenses are not non-recurring. Bhattacharya et al. (2003) and Entwistle, Feltham, and Mbagwu (2006) present that 70-85% of their sample non-GAAP disclosing firms report non-GAAP earnings that are higher than their GAAP earnings, implying that non-GAAP disclosers mainly exclude transitory expenses rather than transitory gains, consistent with the opportunistic incentive.⁴

The costs of non-GAAP financial reporting increased substantially after the SEC's have increased scrutiny since 2001 (hereafter, post scrutiny period) because investors became aware of the potential misuses of non-GAAP reporting and were more skeptical about firms' motives of providing non-GAAP disclosures. The bad publicity of non-GAAP reporting (e.g., Henry 2001; Levitt 1998) raises potential reputation costs for firms providing non-GAAP disclosures.⁵ Firms choosing to continue non-GAAP reporting also run the risk of being questioned by the SEC, which could result in a substantial loss in investor confidence and market capitalization.⁶

from I/B/E/S to proxy for non-GAAP earnings misclassifies 38% of I/B/E/S firms where managers do not voluntarily disclose an adjusted earnings number in their quarterly earnings press releases as non-GAAP disclosers. As a result, we use hand-collected non-GAAP information from companies' earnings releases in this study.

⁴ Relatedly, Curtis, McVay, and Whipple (2014) find that 42 % of firms do not use non-GAAP disclosure to exclude non-recurring gains. Bowen, Davis, and Matsumoto (2005) show that when managers discuss financial performance in earnings releases, they tend to emphasize the earnings metric (GAAP or pro forma) that most favorably portrays company performance. Bhattacharya et al. (2003), Lougee and Marquardt (2004), and Doyle, Jennings, and Soliman (2013) further demonstrate that non-GAAP earnings measures are used to meet earnings benchmarks.

⁵ See "Companies Use Every Trick to Pump Earnings and Fool Investors. The Latest Abuse: Pro Forma Reporting" by Henry, David. Available at: http://www.bloomberg.com/news/articles/2001-05-13/ the-numbers-game, and "The Numbers Game" by Levitt, A. Available at: https://www.sec.gov/news/ speech/speecharchive/1998/spch220.txt.

⁶ On January 16, 2002, the SEC charge Trump Hotels & Casino Resorts Inc. with misleading investors because its non-GAAP earnings excluded a one-time charge to create the false and misleading impression that the Company had exceeded earnings expectations, when in fact it had not (SEC 2002). Trump Hotels'

While the incremental costs of non-GAAP disclosures in the post scrutiny period are born by all non-GAAP reporters, they are likely to be higher for firms disclosing non-GAAP earnings in an attempt to mislead (as opposed to better inform) investors because opportunistic exclusions of recurring items are more likely to be challenged by regulators in the post scrutiny regime than are informative exclusions. Moreover, Regulation G requires that references to a non-GAAP figure be reconciled to the most directly comparable GAAP number. This reconciliation requirement has little impact on firms providing non-GAAP earnings to better inform investors but it substantially decreases the benefits for firms attempting to deceive investors via non-GAAP disclosures. Requiring such reconciliation makes exclusions of recurring expenses more transparent to investors, thus reducing the benefits of opaque non-GAAP reporting to opportunistic reporters.

The above discussion suggests that firms issuing non-GAAP earnings opportunistically suffer from a greater increase in the costs and a larger decrease in the benefits from providing opaque disclosures post Regulation G. As a result, these firms are more likely to discontinue non-GAAP reporting than are firms issuing non-GAAP earnings to better inform investors. In addition, firms that derive fewer benefits from highlighting non-GAAP measures, such as firms with more informative GAAP earnings and those with fewer unusual accounting items, are also likely to drop non-GAAP disclosures during the post scrutiny period. This is because the increase in the costs of non-GAAP disclosure is more likely to offset the benefits of providing such disclosure for firms deriving marginal benefits from non-GAAP reporting.

The SEC's scrutiny on non-GAAP reporting involves not only implementing Regulation G but also issuing comment letters to ensure that firms provide high quality non-GAAP disclosures in compliance with Regulation G and related regulation. Firms receiving SEC comment letters need to satisfy the SEC's requests in order to close the back-and-forth comment letter process with the SEC.⁷ Anecdotal evidence suggests that managers' use of pro forma earnings is discouraged by the SEC's comment letters (Johnson 2010) and that the SEC prompts many companies to remove non-GAAP financial information from SEC filings. Thus, firms that received SEC comment letters inquiring about the use of non-GAAP earnings are more likely to discontinue non-GAAP reporting in earnings releases in order to avoid future disputes with the SEC.

stock price plummeted by roughly 10% on the same day.

⁷ The Sarbanes-Oxley Act of 2002 (SOX) requires that the SEC review SEC registrants' filings at least once every three years but they may review companies more often if the agency deems necessary. When a comment letter is issued, the company has ten business days to respond. If a company's responses to the SEC review letter comments expose financial reporting deficiencies, then the SEC staff may order the company to restate its filings. Follow-up comment letters and responses occur until all issues are resolved, at which point the SEC notifies the filer that the review is complete.

Using hand-collected non-GAAP earnings disclosures from 300 S&P 1,500 companies⁸ with fiscal quarters ended between August 2002 and December 2010,⁹ we find that firms that report non-GAAP earnings to mislead investors, as proxied by poor corporate governance, greater frequency to achieve earnings benchmarks through non-GAAP reporting, and more sporadic non-GAAP disclosure, exhibit a greater proclivity to discontinue non-GAAP reporting. In addition, firms deriving fewer benefits from highlighting non-GAAP figures, as proxied by more informative GAAP earnings, less frequent occurrence of unusual items, and fewer growth opportunities, are also more likely to discontinue non-GAAP reporting. Furthermore, firms receiving SEC comment letters questioning their use of non-GAAP financial metrics in SEC filings exhibit a greater tendency to stop disclosing non-GAAP earnings in earnings releases after they receive the SEC comment letters.

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If firms making non-GAAP adjustments opportunistically are more likely to stop providing non-GAAP disclosure, it is conceivable that these firms will seek alternative measures to portray a more favorable earnings picture. In addition to using non-GAAP earnings to achieve earnings targets, firms could also manage accruals or real activities to achieve the same results. Using accruals or real activities to manage reported numbers may even be preferred because they are within the confines of GAAP whereas non-GAAP adjustments are easier to spot in the post Regulation G period. Thus, we predict that stopped firms with opportunistic non-GAAP disclosures before the stop date are more likely to engage in accrual or real activity management in lieu of non-GAAP reporting after they stop providing non-GAAP disclosure.

We apply a difference-in-difference approach to investigate whether firms resort to earnings management after they stop disclosing non-GAAP earnings. Specifically, we compare changes in the extent of earnings management across stopped and non-stopped firms before and after the stop date. We find that stopped firms do not on average exhibit more accrual or real activity management, as proxied by discretionary accruals and abnormal changes in discretionary expenditures or production, after they discontinue non-GAAP reporting. However, accrual quality worsens after the stop date for stopped firms that are more likely to be opportunistic non-GAAP reporters. Interestingly, investors react less strongly to earnings news of stopped firms that are more likely to be

⁸ The S&P 1500 companies include the constituent companies of three leading indices: the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600.

⁹ Our sample period starts in quarters ended on or after August 1, 2002 because we are interested in the changes in earnings quality before and after a firm stopped non-GAAP reporting and the literature suggests that the implementation of the Sarbanes-Oxley Act of 2002 (SOX) affects the quality of earnings (Cohen, Dey, and Lys 2008). SOX was signed into law on July 30, 2002. To avoid any potential confounding effects arising from the enactment of SOX, we restrict our sample to the post-SOX period.

opportunistic non-GAAP reporters after these firms stopped releasing non-GAAP earnings disclosure, consistent with investors perceiving these firms' earnings as less credible.

This paper contributes to the literature along several important dimensions. First, we contribute to the literature by examining how voluntary disclosure and the quality of GAAP earnings interact with each other. Specifically, our results suggest that stopped firms that are more likely to be opportunistic non-GAAP reporters adapt to the SEC scrutiny by shifting away from non-GAAP reporting towards financial reporting practices that hurt the quality of GAAP earnings. Second, our paper contributes to the growing literature on the impact of the SEC's intervention on pro forma disclosure. Prior studies find considerable evidence on how the SEC's scrutiny on non-GAAP disclosure has changed the frequency and quality of non-GAAP disclosures in the post-Regulation G period. We show that firms receiving SEC comment letters questioning the use of non-GAAP financial measures in their SEC filings are more likely to stop reporting non-GAAP earnings in their earnings releases. This result implies that the SEC's comment letter process effectively discourages the use of non-GAAP earnings in earnings releases. Third, our results add to the literature on how firms respond to the SEC's increased scrutiny on non-GAAP disclosure. Kolev et al. (2008) find that managers shift more recurring expenses into special items in the post scrutiny period. Because accruals are defined as income before extraordinary items minus operating cash flows, which are insensitive to the expense shifting strategy, our finding that opportunistic non-GAAP reporters substitute accrual management for non-GAAP disclosure after the stop decision suggests that accrual management strategies are used above and beyond the expense shifting strategy documented by prior literature.

The rest of the paper proceeds as follows. Section 2 discusses the related literature and hypothesis development. Section 3 presents the research design. Section 4 addresses the sample and univariate analyses. Empirical findings are presented in section 5. Section 6 concludes this paper.

2. RELEVANT LITERATURE AND HYPOTHESIS DEVELOPMENT

2.1. Institutional Background of SEC Non-GAAP Reporting

The practice of reporting manager-adjusted non-GAAP earnings numbers in quarterly earnings press releases has gained popularity since the equity boom of the late 1990s.¹⁰ Non-GAAP earnings typically exclude certain items that management deems to be "unusual" or "non-recurring", but are required to be included in earnings under GAAP. This manager-adjusted earnings number is almost always higher than GAAP earnings because managers generally exclude expense items from the calculation of their adjusted earnings metric (Bhattacharya et al. 2003; Lougee and Marquardt 2004). Worried that investors may be misled by the disclosure of non-GAAP measures that are not well-defined, the SEC issued a cautionary advice on December 4, 2001, which alerted investors to the potential dangers of relying on such information and also warned public firms that they could violate the anti-fraud provisions of existing securities laws if the non-GAAP disclosure they provide obscures GAAP results and misleads investors (SEC 2001).

The SEC issued two rules on the use of non-GAAP financial measures in earnings disclosures. These rules became effective on March 28, 2003 and consist of: (1) Regulation G, which prohibits disclosure of non-GAAP financial measures without the disclosure of, and a reconciliation to, the most directly comparable GAAP financial measures; (2) Amendments to Item 10 (e) of Regulation S-K, which requires that the most directly comparable GAAP measure be presented with equal or greater prominence than the non-GAAP financial measure.¹¹ In addition, Item 10 (e) requires that firms disclose the reasons why they believe that the presentation of the non-GAAP financial measure provides useful information to investors regarding the company's financial condition and operating results.¹²

Managers argue that they disclose non-GAAP earnings because they believe these measures filter out transitory items, thus helping investors focus on the more permanent component of firm performance (information motive). Critics, however, note that these disclosures are self-serving and misleading because non-GAAP earnings are designed to portray better performance than would otherwise be portrayed with GAAP earnings

¹⁰ Entwistle et al. (2006) report that 77% of the S&P 500 firms disclosed a pro forma earnings number in their annual earnings release in the year 2001.

¹¹ Regulation G on its face simply requires a presentation of and a reconciliation to the GAAP number.

¹² Regulation G applies to all of a company's public disclosures, including SEC filings as well as other information made public in any other manner, including through earnings releases, investor and analyst calls, and company websites. In contrast, Item 10 (e) of Regulation S-K applies only to disclosure documents formally filed with the SEC, such as Form 10-Q quarterly reports, Form 10-K annual reports and registration statements, but does not apply to Form 8-K disclosures that are merely furnished to (as opposed to filed with) the SEC.

(opportunistic motive). The existing research has examined these two competing but not mutually exclusive motives for reporting pro forma earnings and finds support for both.

Consistent with the information motive, Bhattacharya et al. (2003) find that non-GAAP figures are, on average, more persistent and more strongly associated with stock prices than are GAAP earnings. A growing body of research examining market reactions to non-GAAP earnings disclosed in quarterly earnings releases (e.g., Bhattacharya et al. 2003; Lougee and Marquardt 2004; Marques 2006) presents that investors appear to pay more attention to pro forma earnings than they do to GAAP earnings.

Despite the evidence that some firms provide non-GAAP earnings to better inform investors, there is also evidence that firms disclose pro forma earnings for opportunistic purposes. Doyle et al. (2003) note that items excluded from non-GAAP earnings are predictive of future earnings, cash flows, and abnormal returns, suggesting that some recurring expenses have been excluded from pro forma earnings. There is also evidence that managers use non-GAAP earnings measures to meet earnings benchmarks (Lougee and Marquardt 2004; Bhattacharya, Black, Christensen, and Mergenthaler 2004; Doyle et al. 2013). Moreover, prior studies show that between 70% and 85% of their sample of pro forma disclosing companies report pro forma earnings that are higher than GAAP earnings (Bhattacharya et al., 2003; Lougee and Marquardt, 2004). Bowen et al. (2005) demonstrate that firms tend to emphasize in earnings releases the metric (GAAP or pro forma) that most favorably portrays company performance.

Marques (2006) and Entwistle et al. (2006) find that the practice of non-GAAP earnings reporting has become less frequent after Regulation G became effective in 2003. Black et al. (2012) offer that this decrease was short-lived (2002-2003) and that non-GAAP earnings disclosure has increased steadily in recent years. Studies examining the effect of Regulation G on the use of non-GAAP earnings measures generally show that items excluded from GAAP earnings are smaller in magnitude (Entwistle et al. 2006; Heflin and Hsu 2008), of higher quality, i.e., more transitory (Kolev et al. 2008; Yi 2012), and of higher disclosure quality (Zhang and Zheng 2011) after Regulation G was implemented. Heflin and Hsu (2008) document that non-GAAP earnings are less likely to slightly meet or beat analysts' earnings forecasts in the post-Regulation G period. Black et al. (2012) state that investors pay more attention to non-GAAP earnings disclosure in the post-SOX period, consistent with investors perceiving that Regulation G renders non-GAAP disclosures more credible.

2.2 Hypothesis Development

Karpoff, Lee, and Martin (2008) show that the costs associated with SEC enforcement actions are substantial, with reputation costs, as proxied by the expected loss in the present value of future cash flows due to lower sales and higher contracting and financing costs, being more than 7 times the total of all legal and regulatory penalties. As demonstrated by prior research, the decision to provide non-GAAP earnings disclosure may be motivated by incentives either to mislead or to better inform investors. The increased reputation costs of non-GAAP reporting are born by both opportunistic and non-opportunistic non-GAAP reporters. However, firms providing non-GAAP disclosure opportunistically are more likely to be censured by regulators, resulting in a higher reputation cost than that of firms disclosing non-GAAP earnings to better communicate with information users.

The reconciliation requirement under Regulation G makes the exclusion of recurring expenses more salient to information users. For firms disclosing non-GAAP earnings to better communicate with investors, the additional transparency brought about by Regulation G has little impact on the benefits they derive from disclosing non-GAAP earnings. However, for firms using non-GAAP earnings disclosures to mislead investors, the benefits of non-GAAP reporting decrease substantially post Regulation G as the reconciliation requirement prevents them from obscuring GAAP results. With the increased costs and decreased benefits of non-GAAP reporting, opportunistic non-GAAP reporters are more likely to stop providing non-GAAP earnings numbers. We thus posit the following hypothesis, stated in an alternative form:

H1a: Firms with a greater tendency to issue non-GAAP disclosure to mislead investors are more likely to stop non-GAAP reporting in the post scrutiny period.

Because Regulation G provides no remedy to any accidental violation and investors become more suspicious of the motives of firms providing non-GAAP disclosure, Regulation G raises the costs of non-GAAP reporting even for non-opportunistic disclosers. For firms that derive only marginal benefits from non-GAAP reporting, the increased costs of non-GAAP reporting likely will more than offset the benefits of such reporting. For example, firms with more informative GAAP earnings or less frequent occurrence of unusual items enjoy fewer benefits from providing non-GAAP disclosure. These firms are more likely to find non-GAAP reporting ineffective in the post scrutiny period. As a result, we posit the next hypothesis, stated in an alternative form:

H1b: Firms deriving fewer benefits from non-GAAP disclosure are more likely to stop non-GAAP reporting in the post scrutiny period.

If the increased transparency of non-GAAP disclosure is the only reason why firms stop providing non-GAAP disclosures, we would expect that most of our sample firms cease non-GAAP reporting around 2003, the year when Regulation G was implemented. However, a number of our sample firms discontinued non-GAAP reporting several years after the implementation of Regulation G, which suggests that the increased disclosure transparency required by Regulation G and the amendments to Regulation S-K cannot be the only explanation for why firms stopped making non-GAAP disclosures. Note that the regulation will be ineffective without proper enforcement. The SEC continuously monitor the compliance of disclosure requirements by SEC registrants through the comment letter process, suggesting that the SEC could also exert scrutiny over non-GAAP reporting via issuing comment letters.

The financial press reported that the SEC has shown continued interest in non-GAAP reporting since the issuance of its cautionary advice in December 2001, making it one of the top 10 issues in its correspondence with registrants (Johnson 2010). In 2009, one in five of SEC letters questioned the use of non-GAAP metrics. The SEC prompted many companies to remove non-GAAP financial information from SEC filings because the regulator believed the information was misleading or susceptible to misinterpretation. While the SEC does not require that firms using pro forma reporting in earnings releases provide non-GAAP disclosure in periodic SEC filings, the SEC staff may comment, however, if a firm discloses non-GAAP financial measures in other communications to investors (e.g., earnings releases) when such disclosure is omitted from, or contradicts with, the information in the firm's SEC filings. Put differently, if a firm emphasizes non-GAAP earnings measures in all of its outside communications, but does not include them in SEC filings, then the SEC staff likely will challenge the firm (Deloitte 2010). Anecdotal evidence suggests that managers' use of pro forma earnings is discouraged by the SEC's comment letters (Johnson 2010). As a result, we posit that firms receiving the SEC's comment letters asking them to justify the use of non-GAAP measures in SEC filings are more likely to discontinue non-GAAP reporting in earnings releases to avoid being questioned by the regulator.

H1c: Firms receiving SEC comment letters questioning the use of non-GAAP disclosures are more likely to stop non-GAAP reporting.

If opportunistic non-GAAP reporting firms are more likely to stop providing non-GAAP disclosure, it is probable that these firms will seek alternative measures to paint a better earnings picture. Asides from using pro forma earnings to achieve earnings targets, firms could also manage accruals or real activities to achieve the same results. Black, Christensen, Joo, and Schmardebeck (2014) examine a broad sample of firms that disclose non-GAAP earnings between 1998 and 2006, and find that companies that have used up

their accruals in prior periods and that engage in less current-period earnings management are more likely to report pro forma earnings aggressively. They also provide some evidence that companies using more real earnings management and with better current operating performance are less likely to report aggressive pro forma numbers. Black et al. (2014) suggest that there is likely a substitute relation between aggressive pro forma reporting and both abnormal accruals and real earnings management.

Using accruals or real activities to manage reported numbers may be preferred by managers in the post-Regulation G period because earnings management is harder to spot than non-GAAP disclosures. Since the capital market pressure to meet earnings benchmarks is not alleviated by Regulation G, one would expect firms providing opportunistic non-GAAP earnings disclosure prior to their stop decision to rely more heavily on accrual and real activities to achieve desired earnings results after they forgo non-GAAP reporting. We posit the following hypotheses, stated in an alternative form:

- H2a: Stopped firms reporting non-GAAP earnings opportunistically are more likely to engage in accrual management after they stop providing non-GAAP earnings disclosures in earnings releases.
- H2b: Stopped firms reporting non-GAAP earnings opportunistically are more likely to engage in real activity management after they stop providing non-GAAP earnings disclosures in earnings releases.

3. RESEARCH DESIGH

3.1 Determinants of Firms' Decision to Stop Providing Non-GAAP Disclosures

Our first set of hypotheses examines the determinants of firms' stop decision. To test this first set, we estimate the following regression model:

$$Prob(STOPFIRM) = \alpha_{0} + \alpha_{1}POORGOV_{PRE} + \alpha_{2}RELYMEET_{PRE} + \alpha_{3}DISC_{PRE} + \alpha_{4}DIFF_{PRE} + \alpha_{5}ERC_{PRE} + \alpha_{6}SPEC_{PRE} + \alpha_{7}SALEGROW_{PRE} + \alpha_{8}CHANALY + \alpha_{9}CHINSTOWN + \alpha_{10}CHSIZE + \alpha_{11}COMMENT + IndustryDummies + \zeta.$$
(1)

STOPFIRM is an indicator variable taking the value of one if the firm provided non-GAAP earnings disclosure in the immediately previous quarter's earnings release and did not provide non-GAAP earnings disclosure in earnings releases for the current and any of the subsequent quarters, and zero otherwise. To be classified as *STOPFIRM*, the firm needs to have at least eight quarters of earnings releases after the stop date and at least half

of these post stop-decision quarters need to have special items on Compustat.¹³ The reason we require *STOPFIRM* to have special items in the post-stop period is to rule out the possibility that firms discontinue non-GAAP reporting because they have no special items to be excluded from GAAP earnings. Y_{PRE} is the average Y calculated over the three-year period prior to the stop date, where $Y \in (POORGOV, RELYMEET, DISC, DIFF, ERC,$ *SPEC, SALEGROW, CHANALY, CHINSTOWN, CHSIZE*). The stop date is defined as the period end date for the quarter when a firm is first identified as *STOPFIRM*. Because non-stoppers have no stop date by construction, we match each non-stopped firm with one stopped firm having the closest size in the same industry. Non-stoppers' stop date is set to be the matching stopped firm's stop date. We include all of our 300 sample firms in estimating equation (1). Industry dummies are created based on Fama-French 48 industry classifications (Fama and French 1997).

As a robustness check, we employ the following two alternative tests to examine how sensitive our results are to the assignment of the stop date to non-stoppers. First, we artificially assign non-stopped firms a pseudo stop date of December 31, 2006, which is the median stop date for all stoppers and is roughly the median quarter end date for our entire sample. Second, we match each stopped firm with a Compustat non-stopped firm in the same industry with the closest size. The stop date for each non-stopped firm is set to be its matching stopped firm's stop date. Results from the above two tests are inferentially similar to our main results.¹⁴

To test H1a that firms using non-GAAP disclosures to deceive investors are more likely to stop providing non-GAAP earnings disclosure in earnings releases in the post scrutiny regime, we use four measures to proxy for firms' tendency to provide non-GAAP earnings disclosure opportunistically: *POORGOV*, *RELYMEET*, *DIFF*, and *DISC*. Frankel, McVay, and Soliman (2011) find that exclusions from non-GAAP earnings have a greater association with future GAAP earnings and operating earnings for firms with weaker corporate governance, suggesting that firms with weaker corporate governance are more likely to make misleading earnings adjustments. We use Gompers, Ishii, and Metrick's (2003) G-index to proxy for governance strength. We create an indicator variable, *POORGOV*, set equal to one if the G-index is greater than or equal to the sample median G-index, and zero otherwise.

Two recent studies show that firms with stronger corporate governance have higher quality exclusions (Frankel et al. 2011; Jennings and Marques 2011). The G-index is a

¹³ Our results are inferentially similar if we require *STOPFIRM* to have income-decreasing special items for at least 50% of the time in the post-stop decision period.

¹⁴ We do not employ the match pair sample in our main test because Palepu (1986) shows that in a binary state prediction model, especially when the two states of interest are present in the population with unequal frequencies, the use of non-random, equal-share samples in the model estimation leads to inconsistent and biased estimates of the model parameters and the acquisition probabilities.

measure of takeover vulnerability developed by Gompers et al. (2003). It measures shareholder rights based on 24 anti-takeover provisions from IRRC (Investor Responsibility Research Center, now Risk Metrics) and is formed by adding one point if the firm has a particular anti-takeover provision in place and zero otherwise. The higher the index, the less vulnerable the firm is to takeover threats. As a result, the existing literature views a high G-index as a proxy for poor corporate governance. Firms with a higher G-index are more likely to discontinue non-GAAP reporting in the post-scrutiny period. We thus expect the coefficient on *POORGOV* to be positive.

Black and Christensen (2009) and Doyle et al. (2013) find that firms use excluded recurring items opportunistically to meet earnings benchmarks. To capture firms' proclivity to meet or beat earnings benchmarks, we create *RELYMEET*, measured as the number of quarters that the firm relies on non-GAAP earnings either to avoid a loss or to meet or beat analysts' earnings forecasts using non-GAAP earnings, scaled by the number of quarters that the firm provides non-GAAP disclosures in earnings releases over the past three-year period.¹⁵ A firm-quarter is classified as a firm using non-GAAP earnings to avoid a loss if GAAP earning per share (EPS) before extraordinary items is negative (hereafter, GAAP EPS), but non-GAAP EPS is greater than or equal to zero. A firm-quarter is classified as a firm using non-GAAP earnings forecasts if GAAP EPS is less than the last analysts' EPS forecast prior to the earnings announcement date (FORECAST), but non-GAAP EPS is equal to or greater than FORECAST. Firms with higher *RELYMEET* are more likely to mislead investors via non-GAAP reporting and therefore should be more inclined to drop the non-GAAP disclosure in the post-scrutiny regime. The coefficient on *RELYMEET* is expected to be positive.

Black and Christensen (2009) show that firms reporting non-GAAP earnings only sporadically are more likely to exclude recurring items than firms reporting non-GAAP figures on a regular basis, implying that sporadic non-GAAP disclosers are more likely to be opportunistic disclosers. We create *DISC*, calculated as the number of earnings releases containing non-GAAP earnings disclosures issued during the past three years, divided by the number of earnings releases issued over the past three years, to capture the company's non-GAAP disclosure frequency. A firm with a lower *DISC* is more likely to be a sporadic non-GAAP discloser and thus is more likely to forgo the non-GAAP disclosure practice in the post-scrutiny regime. We expect the coefficient on *DISC* to be negative.

Prior studies find that the majority of pro forma disclosing companies report pro forma earnings that are higher than GAAP earnings (Bhattacharya et al. 2003; Lougee and Marquardt 2004), suggesting that non-GAAP disclosers are more likely to exclude

¹⁵ We do not include the "earnings increase" benchmark in the definition of *RELYMEET* because prior literature does not document that firms use non-GAAP earnings to achieve the "earnings increase" benchmark.

transitory expenses than transitory gains. We capture the direction of non-GAAP exclusions by including the difference between non-GAAP and GAAP earnings (*DIFF*), defined as non-GAAP EPS minus GAAP EPS, and scaled by the stock price at the beginning of the quarter. For firm-quarters in which firms do not disclose non-GAAP earnings, we set *DIFF* equal to zero. A positive (negative) *DIFF* is consistent with firms excluding net expenses (gains) from GAAP earnings. Firms with more positive *DIFF* are more likely to be opportunistic non-GAAP disclosers and thus are more likely to drop non-GAAP disclosure in the post-scrutiny period. We expect *DIFF* to be positive.

H1b predicts that firms deriving marginal benefits from non-GAAP disclosure are more likely to discontinue non-GAAP reporting as GAAP earnings are already informative and these firms have less need to use alternative performance metrics (i.e., non-GAAP earnings) to communicate their economic performance to market participants. We use three measures to capture a firm's need to communicate its performance using non-GAAP earnings measures: (1) *ERC*; (2) *SPEC*; and (3) *SALESGROW*. Lougee and Marquardt (2004) find that firms with less informative GAAP earnings are more likely to disclose pro forma earnings than are other firms. Following Lougee and Marquardt (2004), we regress quarterly market-adjusted returns, measured from two days after the previous quarter's earnings announcement date through one day after the current quarter's earnings announcement date (*ABRET*), on changes in quarterly net income before extraordinary items divided by total assets at the beginning of the quarter (*ΔEARN*) for each firm-quarter. Specifically, we run the following firm-specific regression for each firm-quarter using data from the past 10-year (40-quarter) period, ending one quarter prior to the current quarter.

$$ABRET_{i,t} = a_0 + a_1 \varDelta EARN_{i,t} + \zeta_{i,t}.$$
(1')

The coefficient on $\triangle EARN$ is referred to as *ERC*. We require at least eight quarters of data to estimate *ERC*. Firms with a higher *ERC* have more informative GAAP earnings and derive fewer benefits from providing non-GAAP disclosures. We expect the coefficient on *ERC* to be positive.

We include the occurrence of special items (*SPEC*), measured as the number of income statements containing special items over the past three years, scaled by the number of income statements issued over the past three years. Elliott and Hanna (1996) argue and show that unusual items obscure the information contained in reported earnings. Firms having a greater occurrence of unusual items, which are transitory components of earnings, have a greater need to highlight permanent earnings and thus are more likely to continue non-GAAP reporting. The coefficient on *SPEC* is expected to be negative.

Lev and Zarowin (1999) show that in fast-growing sectors of the economy, the usefulness of financial reports to corporate acquirers is significantly lower than it is in stable sectors, suggesting that GAAP earnings are less decision relevant for firms with substantial growth opportunities. We use the firm's quarterly sales growth over the same quarter of the prior year (*SALEGROW*) to proxy for its growth options. Firms with fewer growth opportunities are more likely to stop disclosing non-GAAP earnings. The coefficient on *SALEGROW* is expected to be negative.

Managers often justify the use of non-GAAP reporting by claiming that sophisticated information users find pro forma earnings to be informative.¹⁶ Firms are likely to drop non-GAAP reporting if they foresee a decrease in the number of sophisticated information users and thus a decrease in the demand for non-GAAP reporting. Similarly, when firms face increased attention from investors or the media, they are more likely to drop non-GAAP disclosure to avoid the bad publicity of non-GAAP reporting. Thus, it is important to control for changes in information environments in order to examine our hypotheses.

We use financial analysts and institutional investors to proxy for sophisticated information users and firm size to proxy for investor or media attention. Firms with a greater analyst following or number of institutional investors may provide non-GAAP disclosure in response to the demands from sophisticated investors. However, higher analyst following and institutional ownership are also proxies for rich information environments. For firms operating in a rich information environment, there is little incremental benefit to supplement GAAP earnings with non-GAAP disclosures, which could entail substantial reputation costs. As a result, we do not make directional predictions about how changes in analyst following and institutional ownership affect a firm's decision to drop non-GAAP disclosures. An increase in size proxies for greater investor/media attention and should be positively associated with the stop decision.

CHANALY, CHINSTOWN, and CHSIZE are changes in analyst following (ANALY), institutional ownership (INSTOWN), and firm size (SIZE), respectively. The variable for changes are calculated as the average value over the three-year period after the stop date minus the average value over the three-year period before the stop date. ANALY is measured as the logarithm of (1+ANAFOLLOW), where ANAFOLLOW is the number of analysts submitting at least one EPS forecast for the current quarter to IBES during the three-month period ending the current earnings announcement date. INSTOWN is the percentage of the firm's outstanding shares held by institutional shareholders at the beginning of the fiscal quarter. SIZE is the logarithm of the market value of equity at the beginning of the fiscal quarter.

¹⁶ A survey conducted jointly by the CFO Magazine and KPMG reveals that 27% of the 196 financial executives at a Financial Executives International conference indicated that they include pro forma numbers at analysts' request (NIRI 2001). Moreover, in a survey of 223 money managers, 76% noted that they found pro forma reporting somewhat useful and 67% opposed banning pro forma reporting from earnings releases (Taub 2001).

To examine H1c that the SEC's comment letter process discourages firms from providing non-GAAP disclosure, we create a dummy variable, *COMMENT*, set equal to one if a firm received a SEC comment letter questioning the use of non-GAAP financial measures in the firm's SEC filings before the stop date, and zero otherwise. Consistent with H1c, the coefficient on *COMMENT* is expected to be positive.

3.2 Comparing Earnings Quality Before and After Firms' Stop Decision

To investigate whether firms terminating non-GAAP reporting tend to seek alternative approaches to portray a better earnings picture, we estimate the following regression model:

$$AM_{i,i}/RM_{i,i} = \beta_0 + \beta_1 STOPFIRM_i + \beta_2 POST_{i,i} + \beta_3 STOPFIRM_i \times POST_{i,i} + \beta_4 HAB_BEAT_{i,i} + \beta_5 SHARE_{i,i} + \beta_6 ANALY_{i,i} + \beta_7 INSTOWN + \beta_8 BONUS_{i,i} + \beta_9 EUQITY_{i,i} + \beta_{10} ROA_{i,i} + \beta_{11} SIZE_{i,i} + \beta_{12} BM_{i,i} + \beta_{13} LEVERAGE_{i,i} + Industry Dummies + YearDummies + S_{i,i}.$$
(2)

We use two measures to capture earnings management: accrual quality (*AM*) and real activity management (*RM*). Accrual management is proxied by (1) the absolute value of discretionary accruals from a cross-sectional version of the modified Jones model (*ABSDA*); and (2) the degree to which accruals fail to map into past, current, or future cash flows (*NOISE*) per Dechow and Dichev (2002) as modified by McNichols (2002). Real activity management is proxied by discretionary cuts in expenses or the level of overproduction per Roychowdhury (2006). Our *AM* and *RM* measures are inversely related to earnings quality. Thus, explanatory variables with a predicted positive relation with the three measures are associated with lower accrual quality.

POST is an indicator variable set equal to one if the period end date for a firm-quarter observation is on or after the stop date, and zero otherwise. We include a few variables to control for factors affecting firms' incentives or abilities to manipulate earnings. Bartov, Givoly, and Hayn (2002) and Kasznik and McNichols (2002) show that firms receive a valuation premium for meeting/beating analysts' earnings forecast. The "meet/beat" premium is higher for "habitual beaters" that repeatedly meet/beat analysts' earnings forecasts. Accordingly, firms constantly meeting or beating earnings benchmarks have stronger incentives to manage earnings in order to achieve earnings targets and to avoid adverse stock price consequences if they fail to do so. We use *HAB_BEAT* to capture this earnings forecasts before the earnings announcement day in the past four quarters. We expect that the coefficient on *HAB_BEAT* to be positive.

Barton and Simko (2002) argue that it is more difficult to manage earnings toward expectations when the firm has a greater number of shares outstanding because a penny short in firms' EPS results in a greater dollar amount of actual earnings for firms with more shares outstanding than for firms with fewer shares outstanding. To capture this effect, we include the logarithm of the weighted average number of common shares outstanding during quarter q, which we refer to as *SHARE*, in equation (2). We expect the coefficient on *SHARE* to be negative.

We include the number of sophisticated information users in equation (2) because on the one hand, sophisticated information users could serve as a monitoring mechanism to discourage earnings management activities. On the other hand, being followed by analysts and institutional investors provides a greater incentive for managers to achieve earnings benchmarks. We include the number of analysts following the firm (*ANALY*) and institutional ownership (*INSTOWN*) to control for the effect of information user sophistication on firms' incentives to manage earnings, but are agnostic about their signs. *ANALY* is the natural logarithm of one plus the number of analysts covering the firm during the quarter; *INSTOWN* is the percentage of outstanding shares owned by institutional investors at the beginning of the quarter.

Managers' bonus and equity-based compensation have been shown to provide managers with incentives to misrepresent firm performance. Healy (1985) finds that the accrual policies of managers are related to their bonus maximizing incentives. Cheng and Warfield (2005) and Bergstresser and Philippon (2006) present that higher levels of equity incentives are associated with higher levels of earnings manipulation, consistent with stock-based compensation increasing managers' incentives to hype earnings and, consequently, stock prices. We include BONUS and EQUITY to control for the incentives provided by bonus and stock-based compensation to manipulate earnings. BONUS is the CEO's and CFO's bonus compensation as a percentage of cash and option-based compensation received by the CEO and the CFO of a firm.¹⁷ EQUITY is the logarithm of (1+ equity incentives received by the CEO and CFO). Equity incentives are defined as the change in the dollar value of the executive's wealth from a one percentage point change in the stock price. Equity incentives are calculated following Guay (1999) and Core and Guay (2002) and are the sum of incentives provided by the CEO's and CFO's stock and option holdings. Incentives provided by stockholdings are calculated as 1% multiplied by the value of the CEO's and CFO's holdings of stock and restricted stock at the end of the year.

¹⁷ We do not measure *BONUS* as a percentage of the manager's total compensation because Execucomp changed its reporting format starting 2006 in response to the SEC's new proxy disclosure rule issued on August 11, 2006, which no longer requires firms to disclose the value of long-term incentive payments, restricted stock grants, and other compensation items that are necessary to calculate total compensation prior to 2006 in Execucomp. As a result, the total compensation variable (TDC1) in Execucomp is not comparable before and after 2006.

Incentives provided by stock options are calculated as the partial derivative of the option value with respect to price (the option "delta") multiplied by 1% of the year-end stock price.

Finally, Cohen and Zarowin (2010) argue that empirical proxies for earnings management might include measurement errors that are correlated with these firm characteristics such as firm performance, size, growth opportunities, and capital structure. Thus, we include *ROA*, *SIZE*, *BM*, and *LEVERAGE* to account for the potential measurement errors in our dependent variable. *SIZE* is the logarithm of market value of equity (*MVE*), where *MVE* is calculated as the closing price at the fiscal year-end times the number of shares outstanding at the fiscal year end. *BM* is the book-to-market ratio, calculated as (book value of assets)/(book value of liabilities + market value of equity). *LEVERAGE* is calculated as the sum of short-term and long-term debts divided by total assets. To mitigate undue influence of outliers, we winsorize all continuous variables used in the regression analyses at the 1 percent and 99 percent levels.

4. SAMPLE AND UNIVARIATE ANALYSES

We begin the sample selection process by randomly selecting 100 non-financial firms each from the S&P 500, S&P 400 Mid-Cap, and S&P 600 Small-Cap indices, resulting in a total of 300 firms. Because the composition of these indices changes over time, we use the September 2011 version of S&P companies to select the sample. For each of the 300 firms in our sample, we manually collect non-GAAP earnings information from their earnings releases issued between August 2002 and December 2010.¹⁸ The above procedure yields a total of 9,802 firm-quarters. Our sample period starts in August 2002 because we are interested in the effect of discontinuing non-GAAP reporting on earnings quality and Cohen et al. (2008) suggest that the implementation of the Sarbanes-Oxley Act of 2002 (SOX) reduces accrual-based earnings management but increases real activity management. Given that SOX was signed into law in 2002, we restrict our sample to the post-SOX period to avoid potential confounding effects arising from SOX. We further eliminate 751 firm-quarters (24 firms) for firms that never provide non-GAAP disclosure during our sample period because by construction, these firms were unable to "stop" non-GAAP earnings reporting. Such selection procedures yield a total of 9,051 firm-quarter.

We obtain financial statement data from Compustat, stock price related information from the CRSP database, analysts' forecast data from I/B/E/S, institutional ownership data from Thomson Reuters, and governance data from RiskMetrics. The actual number of

¹⁸ Earnings releases before (after) 2003 are obtained from Factiva (Form 8-K on SEC's EDGAR database). In March 2003, the SEC amended Form 8-K to require that public companies that issue earnings releases or similar announcements furnish them to the SEC on a Form 8-K within five business days of public announcements.

observations varies across regression analyses depending upon the additional control variables required by each analysis. We create an indicator variable, DISCLOSE, set equal to one if a firm-quarter discloses in its quarterly earnings release non-GAAP earnings metrics that exclude any earnings components from income from continuing operations, and zero otherwise. We do not consider EBITDA (earnings before interest tax depreciation and amortization) as a non-GAAP earnings metric because it has been used for a long period of time before the proliferation of non-GAAP reporting. The number of observations varies across tables depending upon the variables needed to estimate each model.

Panels A and B of TABLE 1 report the frequency distribution of the sample by year and by industry. Panel A shows that the number of non-GAAP earnings releases as a percentage of total earnings releases issued by our sample firms is the lowest in 2003, the year when Regulation G and Item 10 (e)'s disclosure requirements took effect, and has increased steadily since 2004, consistent with Black et al.'s (2012) finding that the reduction in non-GAAP reporting is short-lived. Over the long run, we observe a steady increase in the use of non-GAAP disclosure. Panel B shows that firms from high-tech industries (i.e., computers and pharmaceutical industries) are most likely to provide non-GAAP earnings disclosures. Panel C of TABLE 1 presents descriptive statistics on non-GAAP adjustment categories during our sample period. The most common adjustment is restructuring charges, with 38.9% of the non-GAAP earnings releases making this adjustment, followed by impairment losses, with about one-fifth of the non-GAAP earnings releases making this adjustment.

Panel A: Distribution of Non-GAAP Earnings Releases by Year								
Year	Number of Press Releases with Non-GAAP Earnings Disclosures	Number of Earnings Releases	% of Earnings Releases with Non-GAAP Earnings Disclosures					
2002	209	457	45.7%					
2003	352	1,096	32.1%					
2004	385	1,101	35.0%					
2005	427	1,104	38.7%					
2006	535	1,104	48.5%					
2007	543	1,103	49.2%					
2008	599	1,103	54.3%					
2009	651	1,104	59.0%					
2010	543	879	61.8%					
Total	4,244	9,051	47.0%					

TABLE 1 Distribution of Non-GAAP Earnings Disclosure

Panel B: Distribution of Non-GAAP Earnings Releases by Industry

		•	
Industry	Number of Press Releases with Non-GAAP Earnings Disclosures (A)	Number of Earnings Releases (B)	% of Total Earnings Releases (A)/(B)
Mining and construction	29	98	29.6%
Food	125	328	38.1%
Textile, printing and publishing	376	664	56.6%
Chemicals	326	588	55.4%
Pharmaceuticals	140	231	60.6%
Extractive industries	183	332	55.1%
Durable manufacturers	1,020	2,652	38.5%
Computers	643	982	65.5%
Transportation	246	561	43.9%
Utilities	451	887	50.8%
Retail	449	1205	37.3%
Services	250	457	54.7%
Other	6	66	9.1%
Total	4,244	9,051	46.9%

TABLE 1 Distribution of Non-GAAP Earnings Disclosure (continued)

The industry membership is based on the following classifications: Mining and construction (SIC= 1000-1999, except 1300-1399), Food (SIC=2000-2111), Textile, printing and publishing (SIC=2200-2799), Chemicals (SIC=2800-2824 and 2840-2899), Pharmaceuticals (SIC=2830-2836), Extractive industries (SIC=2900-2999 and 1300-1399), Durable manufacturers (SIC=9997 and 3000-3999, except 3570-3579 and 3670-3679), Computers (SIC=7370-7379, 3570-379, and 3670-3679), Transportation (SIC=4000-4899), Utilities (SIC=4900-4999), Retail (SIC=5000-5999), and Services (SIC=7000-8999, except 7370-7379).

Panel C: Major Non-GAAP Adjustment Categories

Non-GAAP Adjustments	Number of Press Releases with Non-GAAP Exclusions	% of Earnings Releases with Non-GAAP Earnings Disclosures
RESTRUCTURING	1,650	38.9%
IMPAIRMENT	963	22.7%
COMPENSATION	874	20.6%
TAX_R	747	17.6%
MERGE	721	17.0%
SALE_GL	619	14.6%
MtoM	437	10.3%
LEGAL	340	8.0%
AMORTIZATION	306	7.2%
FINANCING	272	6.4%
DEBT_GL	238	5.6%
DEPRE	127	3.0%
EQUITY_GL	98	2.3%
RD	97	2.3%
INSURANCE	85	2.0%

This panel tabulates major types of non-GAAP exclusions that make up more than 1% of non-GAAP earnings disclosure. RESTRUCTURING: costs for restructuring an organization or segments in a company. IMPAIRMENT: impairment losses for fixed assets or intangible assets. COMPENSATION: compensation for employee. e.g., stock option expenses, severance pay, and pension expenses. Merge: costs related to merge or acquire other companies. Tax_R: tax related items, for example, tax expenses/benefits because of petition, changing in tax law et al. SALE_GL: gains or losses on sale of assets. MtoM: unrealized gains or losses from adjusting securities to market value. LEGAL: lawsuits related costs. AMORTIZATION: amortization for intangible assets. DEBT_GL: gains or losses on extinguishing debts. FINANCING: financing costs, for example, interest expenses. EQUITY_GL: incomes or losses from subsidiaries under the equity method. RD: research and development expenses. INSURANCE: proceeds from insurance recovery or payment for insurance expenses.

Panel A (Panel B) of TABLE 2 compares non-GAAP EPS, I/B/E/S actual EPS, and GAAP EPS for stopped firms (non-stopped firms) before and after the stop date. The PRE (POST) quarter is the firm-quarter ended before (on or after) the stop date. Panel A shows that for the stopped firms, the mean non-GAAP EPS is 0.4646, which is higher than IBES actual EPS of 0.4340, and GAAP EPS of 0.3678 in the PRE period. In addition, IBES actual and GAAP EPS are both larger in the POST period than in the PRE period. Panel B shows that for non-stopped firms, non-GAAP EPS is on average smaller than IBES actual EPS but is larger than GAAP EPS. All three EPS measures are larger in the POST period than in the PRE period.

Panel A: Comparison of Non-GAAP EPS, I/B/E/S Actual EPS, and GAAP EPS for Stopped Firms							
		PRE Mean [Median] {N}	POST Mean [Median] {N}	Two-sided <i>p</i> -value for Two-sample <i>t</i> Test POST - PRE (Wilcoxon rank sum test)			
(a) Non-GAAP EPS		0.4646 [0.3500] {227}	-	-			
(b) IBES Actual EPS		0.4340 [0.4000] {640}	0.5897 [0.4700] {954}	<0.0001 (<0.0001)			
(c) GAAP EPS excluding ex items and discontinued o	0.3678 [0.3200] {724}	0.5599 [0.4500] {1,029}	<0.0001 (<0.0001)				
	(a) - (b)	0.1510 (<0.0001)	-	-			
Two-sided <i>p</i> -value for two-sample t test (median rank test)	(a) - (c)	<0.0001 (<0.0001)	-	-			
	(b) - (c)	<0.0001 (<0.0001)	0.3215 (<0.0001)	-			

TABLE 2 Descriptive Statistics on Non-GAAP, IBES, and GAAP Earnings

All per share data are split adjusted. For stopped firms, PRE (POST) is the firm-quarters prior to (after) the firm's stop date. The stop date is defined as the quarter end date when a firm is first identified as a stopped firm (*STOPFIRM*). *STOPFIRM* is an indicator variable taking the value of one if the firm provided non-GAAP earnings disclosure in the immediately previous quarter's earnings release and does not provide non-GAAP earnings disclosure in earnings releases for the current and any of the subsequent quarters, and zero otherwise. To be classified as *STOPFIRM*, the firm needs to have at least eight quarters of earnings releases after the stop date and at least half of these eight post stop decision quarters need to have special items on Compustat. For non-stopped firms, PRE (POST) is the firm-quarters prior to (after) December 31, 2006, which is the median stop date for all stoppers and is roughly the median quarter end date for our entire sample.

TABLE 2 Descriptive	e Statistics o	n Non-GAAP, l	IBES, and GAAP I	Earnings continued)
Panel B: Comparison of No	on-GAAP EPS	, I/B/E/S Actual E	PS, and GAAP EPS fo	or Non-Stopped Firms
		PRE Mean [Median] {N}	POST Mean [Median] {N}	Two-sided <i>p</i> -value for Two-sample <i>t</i> test POST - PRE (Wilcoxon rank sum test)
(a) Non-GAAP EPS		0.4640 [0.4200] {1,454}	0.6012 [0.4700] {2,396}	<0.0887 (<0.0001)
(b) IBES Actual EPS		0.4908 [0.4200] {3,198}	0.5596 [0.4800] {3,390}	0.0007 (<0.0001)
(c) GAAP EPS excluding extraordinary items and discontinued operations		0.3937 [0.3500] {3,361}	0.4459 [0.4200] {3,507}	<0.0001 (<0.0001)
	(a) - (b)	<0.0001 (<0.0001)	0.0017 (<0.0001)	_
Two-sided <i>p</i> -value for two-sample t test (median rank test)	(a) - (c)	<0.0001 (<0.0001)	<0.0001 (<0.0001)	-
	(b) - (c)	<0.0001 (<0.0001)	<0.0001 (<0.0001)	-

All per share data are split adjusted. For stopped firms, PRE (POST) is the firm-quarters prior to (after) the firm's stop date. The stop date is defined as the quarter end date when a firm is first identified as a stopped firm. A firm is classified as a stopped firm if it provided non-GAAP earnings disclosure in the immediately previous quarter's earnings release and does not provide non-GAAP earnings disclosure in earnings releases for the current and any of the subsequent quarters, and zero otherwise. To be classified as a stopped firm the firm needs to have at least four quarters of earnings releases after the stop date and at least half of these eight post stop decision quarters need to have special items on Compustat. For non-stopped firms, PRE (POST) is the firm-quarters prior to (after) December 31, 2006, which is the median stop date for all stoppers and is roughly the median quarter end date for our entire sample.

Stop Year	Number of Firms (A)	% of Total Stopped Firms	Industry	Number of Firms (A)	% of Total Stopped Firms
2002	1	1.7%	Mining and Construction	1	1.7%
2003	14	24.1%	Food	4	6.9%
2004	4	6.9%	Textile, printing and publishing	2	3.4%
2005	5	8.6%	Chemicals	3	5.2%
2006	6	10.3%	Pharmaceuticals	1	1.7%
2007	10	17.3%	Extractive industries	3	5.2%
2008	8	13.8%	Durable manufacturers	16	27.6%
2009	10	17.3%	Computers	3	5.2%
			Transportation	5	8.6%
			Utilities	4	6.9%
			Retail	13	22.4%
			Services	2	3.4%
			Other	1	1.7%
Total	58	100%		58	100%

Panel C: Distribution of Stopped Firms by Stop Years and Industry

Panel C of TABLE 2 shows the distribution of stopped firms by the stop year, where the stop year is defined as the year when firms are first identified as stopped firms. About 24% of firms discontinued non-GAAP reporting in 2003. Interestingly, the number of firms abandoning non-GAAP reporting surged again since 2006, coinciding with the time when SEC's comment letters were made publicly available on EDGAR. Stopped firms are concentrated in durable and retail industries. Pharmaceutical firms are least likely to relinquish the practice of non-GAAP reporting. The number of firms that have stopped providing non-GAAP disclosure is 58, which is about one-fifth of our total sample firms (58/300=19.3%).

Panel A of TABLE 3 reports the descriptive statistics on variables used to test H1. The mean *POORGOV*_{PRE} is 10.3353, with a median of 10.2353, suggesting that the distribution of *POORGOV*_{PRE} is not particularly skewed. About 26% of our sample firms meet or beat earnings benchmarks via non-GAAP disclosures. The mean *DISC*_{PRE} is 0.3942, implying that our average firm provides non-GAAP disclosures in 39% of its earnings releases issued prior to the stop date. The mean and median *DIFF*_{PRE} are both positive, suggesting that our mean and median sample firms both report non-GAAP earnings that are higher than GAAP earnings. The mean (median) *SPEC*_{PRE} is 0.4857 (0.4706), suggesting that our average (median) firm includes special items in 49% (47%) of its financial statements issued prior to the stop date. The mean (median) change in analyst following is 0.4038 (0.0341), suggesting that the number of analysts following a firm generally does not change substantially over years. About 16% of our sample firms receive at least one SEC comment letter questioning their use of non-GAAP disclosure before the stop date.

Panel B of TABLE 3 presents descriptive statistics on variables used in earnings management (H2) tests. The mean absolute value of discretionary accruals is about 2% of total assets at the beginning of the quarter. The distribution of *NOISE* is skewed to the left with a mean value of 0.0221, which is slightly larger than its median value of 0.0171. On average, firms meet or beat analysts' forecasts 2.8 times over the past four quarters. The mean (median) firm in our sample is followed by 9.6448 (8.0000) analysts. About 62% (72%) of outstanding shares are held by institutional investors for our mean (median) firms. For our mean (median) firm, about 15% (2%) of the CEO and CFO compensation derives from cash bonus. The mean change in CEO and CFO wealth from a 1% change in stock price (*INCENTIVE*) is \$929,601, and this variable is substantially skewed, with a median of \$291,607. As discussed above, we use the logarithmic transformation of this measure, referred to as *EQUITY*, in our tests. *EQUITY* has a mean of 5.7035 and median of 5.6788.

TABLE 3 Descriptive Statistics									
Panel A: Descriptive Statistics on Variables Used in the Determinants of Firms' Voluntary									
Decision to Stop Non-GAAP Reporting									
	Mean	Std Dev	P25	Median	P75				
$POORGOV_{PRE}$	10.3353	2.5683	8.7059	10.2353	12.0000				
RELYMEET _{PRE}	0.2638	0.3003	0.0000	0.1847	0.4410				
$DISC_{PRE}$	0.3942	0.3405	0.0588	0.3091	0.7059				
$DIFF_{PRE}$	0.0014	0.0027	0.0000	0.0004	0.0019				
ERC_{PRE}	0.4258	1.0071	-0.1492	0.2505	0.8326				
$SPEC_{PRE}$	0.4857	0.3043	0.2353	0.4706	0.7647				
SALEGROW _{PRE}	0.1282	0.1080	0.0648	0.1095	0.1756				
CHANALY	0.4038	0.7563	-1.3100	0.0341	1.4803				
CHINSTOWN	0.0976	0.2241	0.0000	0.0598	0.1655				
CHSIZE	0.1162	0.5856	-0.2442	0.1100	0.4288				
COMMENT	0.1594	0.3667	0.0000	0.0000	0.0000				

Y_{PRE} is average Y calculated over the three-year period prior to the stop date for stoppers. Y is one of the following independent variables in the table, Y∈(POORGOV, RELYMEET, DISC, DIFF, ERC, SPEC, SALEGROW, CHANALY, CHINSTOWN, CHSIZE). POORGOV is an indicator variable, set equal to one if G-index is greater than the sample median G-index, and zero otherwise. G-index is a measure of takeover vulnerability developed by Gompers et al. (2003). G-index measures shareholder rights based on 24 anti-takeover provisions from the IRRC (Investor Responsibility Research Center, now Risk Metrics) and is formed by adding one point if the firm has a particular anti-takeover provision in place and zero otherwise. The higher the index, the less vulnerable the firm is to takeover threats and the poorer the governance is. RELYMEET is measured as the number of quarters that the firm relies on non-GAAP earnings either to avoid a loss or to meet or beat analysts' earnings forecasts using non-GAAP earnings, scaled by the number of quarters that the firm provides non-GAAP disclosures in earnings releases over the past three year period. A firm-quarter is classified as using non-GAAP earnings to avoid a loss if GAAP EPS before extraordinary item (hereafter, GAAP EPS) is negative but non-GAAP earnings is greater than or equal to zero. A firm quarter is classified as using non-GAAP earnings to meet or beat analysts' earnings forecasts if GAAP EPS before extraordinary item is less than the last analysts' EPS forecast prior to the earnings announcement date (FORECAST) but non-GAAP EPS is equal to or greater than FORECAST. DISC is calculated as the number of non-GAAP earnings disclosure issued during the past three years divided by the number of earnings releases issued over the past three years. DIFF is defined as non-GAAP EPS minus GAAP EPS before extraordinary item, and scaled by stock price at the beginning of the quarter. For firm-quarters that do not disclose non-GAAP earnings, we set DIFF equal to zero. ERC is the firm's the prior-period earning response coefficient. For each firm-quarter, we regress quarterly market-adjusted returns, measured from two days after the previous quarter's earnings announcement date through one day after the current quarter's earnings announcement date (ABRET), on changes in quarterly income before extraordinary items scaled by total assets at the beginning of the quarter (*AEARN*) using data from the past 10-year (40-quarter) period, ending one quarter prior to the current quarter, as follows:

 $ABRET_{i,t} = a_0 + a_1 \Delta EARN_{i,t} + \zeta_{i,t}.$

(1')

We require at least eight quarters of data to estimate the earnings response coefficient. The coefficient on $\triangle EARN$ is our first measure of GAAP earnings informativeness, which we thereafter refer to as *ERC*. *SPEC* is the number of income statements that contain special items over the past three years, scaled by the number of income statement issued over the past three years. *CHANALY, CHINSTOWN*, and *CHSIZE* are changes in analyst following (ANALY), institutional ownership (INSTOWN), and firm size (SIZE), respectively. Changes variables are calculated as the average value over the three-year period after the stop date minus the average value over the three-year period before the stop date. ANALY is measured as the logarithm of (1+ANAFOLLOW), where ANAFOLLOW is the number of analysts submitting at least one EPS forecast for the current quarter to IBES during the three-month period ending the current earnings announcement date. INSTOWN is the percentage of the firm's outstanding shares held by institutional shareholders at the beginning of the fiscal quarter. SIZE is the logarithm of market value of equity at the beginning of the fiscal quarter. *COMMENT* is an indicator variable set equal to one if a firm received a SEC comment letter questioning the use of non-GAAP financial measures in the firm's SEC filings before the stop date, and zero otherwise.

				/	
Panel B: Descriptive	Statistics on V	Variables Used in	the Earnings Ma	nagement Ana	lyses
	Mean	Std Dev	P25	Median	P75
ABSDA	0.0199	0.0197	0.0063	0.0139	0.0264
NOISE	0.0221	0.0195	0.0109	0.0171	0.0266
RM	0.0038	0.2866	-0.0734	-0.0058	0.0616
POST	0.5261	0.4993	0.0000	0.0000	0.0000
HAB_BEAT	2.8064	1.0540	2.0000	3.0000	4.0000
SHARE	4.4555	1.2163	3.5874	4.2048	5.1506
ANAFOLLOW	9.6448	7.0759	5.0000	8.0000	14.0000
INSTOWN	0.6196	0.3441	0.4682	0.7214	0.8620
BONUS	0.1481	0.1960	0.0000	0.0213	0.2739
INCENTIVE ('000)	929.6008	2,546.07	112.3896	291.6069	720.4904
EQUITY	5.7035	1.4022	4.8153	5.6788	6.5813
ROA	0.0145	0.0173	0.0064	0.0138	0.0228
MVE (million)	9,635.93	28,297.46	876.97	2,107.42	6,700.47
SIZE	7.8347	1.4818	6.7765	7.6532	8.8099
BM	0.6753	0.2266	0.5071	0.6810	0.8423
LEVERAGE	0.2398	0.1557	0.1393	0.2377	0.3284

TABLE 3 Descriptive Statistics (continued)

ABSDA is absolute value of the discretionary accrual (DA). DA is discretionary accrual used to proxy for accrual-based earnings management. DA is estimated using the modified Jones (1991) model as discussed in Dechow, and Sloan (1995), controlling for performance as in Kothari, Leone, and Wasley (2005). Specifically, we estimate the following regression for each Fama-French 48 industry-quarter with at least 10 firms in quarter q (Fama and French 1997).

$$TA_{i,q} / ASSET_{i,q-1} = c_0 + c_1 1 / ASSET_{i,q-1} + c_2 (\Delta ARE_{i,q} - \Delta AR_{i,q}) / ASSET_{i,q-1} + c_3 PPE / ASSET_{i,q-1} + c_4 ROA_{i,q} + \zeta_{i,q}.$$
(2a)

where *TA* is firm *i*'s total accruals, computed as income before extraordinary items less cash flows from operations adjusted for extraordinary items and discontinued operations; *ASSET* is firm *i*'s total assets at the beginning of quarter *q*; ΔREV is change in revenues, *PPE* is net value of property, plant, and equipment, *ROA* is income before extraordinary items scaled by total assets at the beginning of the quarter. The residual from equation (2a) is labeled as DA. *NOISE* is used to measure the degree to which accruals fail to map into past, current, or future cash flows. *NOISE* is the standard deviation of the residual estimated from the following Dechow and Dichev (2002) model as modified by McNichols (2002):

$$TCA_{i,q}/ASSETS_{i,q-1} = \varphi_{o,i} + \varphi_1 CFO_{i,q-1}/ASSETS_{i,q-1} + \varphi_2 CFO_{i,q}/ASSETS_{i,q-1} + \varphi_3 CFO_{i,q+1}/ASSETS_{i,q-1} + \varphi_4 \Delta REV_{i,q}/ASSETS_{i,q-1} + \varphi_5 PPE_{i,q}/ASSETS_{i,q-1} + v_{i,q}.$$
(2b)

We estimate the above regression for each of the Fama-French 48 industries (Fama and French 1997) and for each quarter with at least 20 firms in quarter q. where TCA is total current accruals for quarter q. TCA is calculated as △CA-△CL-△CASH+△STDEBT. △CA is change in current assets between quarter q-1 and quarter q. △CL is change in current liabilities between quarter q-1 and quarter q. ⊿CASH is change in cash between quarter q-1 and quarter q. ASTDEBT is change in debt in current liabilities between quarter q-1 and quarter q. ASSETS is total assets at the end of the quarter. CFO_{q-1} is cash flows from operations adjusted for extraordinary items and discontinued items summed over the past four quarters. CFO_q is cash flows from operations adjusted for extraordinary items and discontinued items for the current quarter. CFO_{q+1} is cash flows from operations adjusted for extraordinary items and discontinued items summed over the next four quarters. *AREV* is change in revenues between quarter q-1 and quarter q. *PPE* is net property, plant, and equipment at the end of the quarter. NOISE is the standard deviation of the firm- and quarter-specific residual from estimating equation (2b), calculated over quarters q-11 through q (i.e., over the past 3 years). RM is equal to the negative of abnormal operating cash flows (i.e., R_CFO×(-1)) plus the negative of abnormal discretionary expenses (i.e., R_DISEXP×(-1)) plus abnormal production costs (R_PROD), where R_CFO, R_DISEXP, and R_PROD are calculated per Roychowdhury (2006). POST is an indicator variable set equal to one if the period end date for a firm-quarter observation is on or after the stop date, and zero otherwise. If a firm continues to provide non-GAAP earnings disclosure till the end of our sample period, POST is set equal to one for firm-quarters ending on or after December 31, 2006, and zero otherwise. HAB_BEAT is the frequency of meeting/beating analysts' earnings forecasts in the past four quarters. SHARE is the weighted average number of common shares outstanding at the beginning of the year, prior to the SEO.

ANALY is the logarithm of (1+ANAFOLLOW), where ANAFOLLOW is the number of analysts following the firm, calculated as the number of analysts submitting at least one EPS forecast for the current quarter to IBES during the three-month period ending the current earnings announcement date. INSTOWN is the percentage of the firm's outstanding shares held by institutional shareholders at the beginning of the fiscal quarter. SIZE is the logarithm of market value of equity (MVE), where MVE is calculated as the closing price at the quarter-end times the number of shares outstanding at the quarter-end. BONUS is the CEO's and CFO's bonus compensation as a percentage of cash and option-based compensation received by the CEO and the CFO of a firm. EQUITY is the logarithm of (1+equity incentives for the CEO and CFO). Equity incentives are defined as the change in the dollar value of the CEO's' and CFO's wealth for a one percentage point change in stock price. Equity incentives are calculated following Guay (1999) and Core and Guay (2002) and are the sum of the incentives provided by the CEO's and CFO's stock and option holdings. Incentives provided by stockholdings are calculated as 1% multiplied by the value of the CEO's holdings of stock and restricted stock at the end of the year. Incentives provided by stock options are calculated as the partial derivative of option value with respect to price (the option "delta") multiplied by 1% of year-end stock price. ROA is income before extraordinary items scaled by total assets at the beginning of the quarter. SIZE is the logarithm of MVE, where MVE is market value of equity calculated as number of shares outstanding at the end of the quarter multiplied by the close price at the quarter end. BM is the book-to-market ratio, calculated as (book value of assets)/(book value of liabilities+market value of equity). LEVERAGE is calculated as total debt divided by total assets.

The mean and median income before extraordinary items are both positive and are about 1% of lagged total assets. Since our sample includes firms from S&P 500 as well as S&P mid-cap and small-cap firms, the market value of equity varies substantially across our sample with a mean of \$9.6 billion and a median of \$2.1 billion. The average firm has a total debt that is 24% of its total assets.

TABLE 4 presents the correlation matrix on selected regression variables. Pearson (Spearman) correlation coefficients are reported in the upper (lower) triangle. As expected, our two measures of earnings quality are positively correlated with each other. On average, stopped firms have poorer quality earnings, as indicated by the significant correlation between *STOPFIRM* and earnings management proxies. There is no consistent evidence that earnings management activities are higher in the post period. Consistent with the idea that a greater number of shares outstanding requires more earnings management activities in order to achieve a given per share earnings target, which discourages earnings management (Barton and Simko 2002), *SHARE* is negatively associated with both *ABSDA* and *NOISE*. *ANALY* is negatively associated with accrual management proxies, suggesting that analysts' scrutiny and monitoring constrain earnings management activities.

5. EMPIRICAL FINDINGS

5.1 Determinants of Firms' Decision to Stop Non-GAAP Reporting

TABLE 5 presents the results from estimating equation (1). Model (1) shows that the coefficients on $POORGOV_{PRE}$, $RELYMEET_{PRE}$, and $DIFF_{PRE}$ are significantly positive and the coefficient on $DISC_{PRE}$ is significantly negative, suggesting that firms with weaker corporate governance, habitually relying on non-GAAP earnings to meet or beat earnings targets, excluding more expenses from GAAP earnings, and providing more sporadic non-GAAP disclosures, are more likely to stop providing non-GAAP earnings disclosure, consistent with H1a that firms providing non-GAAP disclosure opportunistically will find

	EVERAGE	-0.01	0.06	-0.02	-0.03	0.00	0.00	0.14	0.05	-0.01	-0.01	-0.16	0.11	0.14	1	iables are
	BM LI	-0.04	-0.06	0.08	-0.07	0.14	-0.23	-0.16	-0.19	-0.05	-0.32	-0.58	-0.32	1	0.29	ctively. All var
	SIZE	-0.15	-0.14	0.00	-0.07	0.02	0.31	0.85	0.60	0.04	0.65	0.25	1	-0.31	0.21	or better, respe
	ROA	0.01	-0.01	-0.07	0.10	-0.05	0.17	0.08	0.11	0.09	0.25	1	0.25	-0.58	-0.16	0.10 levels o
ubles	INCENTIVE	-0.08	-0.06	-0.03	-0.01	-0.05	0.26	0.44	0.41	0.06	1	0.29	0.67	-0.34	0.02	e 0.01, 0.05, and
sion Varia	BONUS	-0.01	0.02	-0.01	0.00	-0.45	-0.04	0.01	-0.03	1	0.07	0.05	0.00	-0.07	0.02	icance at the
d Regress	ANALY	-0.12	-0.16	0.02	-0.11	0.07	0.39	0.64	1	-0.06	0.51	0.14	0.66	-0.17	0.06	ndicate signif
on Selecte	SHARE	-0.12	-0.13	0.01	-0.08	0.05	0.27	1	0.69	-0.04	0.51	0.07	0.85	-0.15	0.24	ed numbers in
tion Matrix	HAB_BEAT	-0.04	-0.10	-0.03	-0.11	-0.02	1	0.28	0.34	-0.04	0.26	0.21	0.32	-0.24	-0.03	lic, and underline
4 Correla	POST	0.02	0.02	0.04	0.05	1	-0.03	0.04	0.07	-0.52	-0.07	-0.03	0.02	0.13	-0.02	gle. Bold, ita
TABLE	STOPFIRM	0.11	0.07	0.00	1	0.05	-0.10	-0.07	-0.11	-0.02	-0.01	0.12	-0.07	-0.07	-0.06	ber (lower) triang
	RM	-0.02	0.01	1	-0.01	0.04	0.00	0.02	0.05	-0.02	0.01	-0.08	0.01	0.11	-0.02	are in the up
	NOISE	0.25	1	0.02	0.09	-0.02	-0.06	-0.16	-0.17	0.03	-0.05	0.06	-0.16	-0.11	-0.01	on coefficients a
	ABSDA	1	0.21	-0.03	0.09	0.02	-0.02	-0.12	-0.10	-0.02	-0.07	0.04	-0.13	-0.06	-0.04	nan) correlati
		ABSDA	NOISE	RM	STOPFIRM	POST	HAB_BEAT	SHARES	ANALY	BONUS	INCENTIVE	ROA	SIZE	BM	LEVERAGE	Pearson (Spearn

TABLE 5 Determinants of Firms' Decision to Stop Providing Non-GAAP Earnings

	Disclosure						
Predicted		Coefficient	Coefficient				
variable	Sign	(z-statistic)	(z-statistic)				
Model		(1) All	(2) After Aug 2, 2004				
Dependent Variable		STOPFIRM	STOPFIRM				
Intercept		-5.0877**	-5.5497^{*}				
		(-2.84)	(-1.96)				
$POORGOV_{Pre}$	(H1a) +	0.0928^{**}	0.0912**				
		(2.23)	(2.34)				
RELYMEET _{Pre}	(H1a) +	0.6553^{*}	0.8801^{**}				
		(1.86)	(2.51)				
$DISC_{Pre}$	(H1a) -	-0.8112***	-0.7653**				
		(-2.69)	(-1.98)				
$DIFF_{pre}$	(H1a) +	21.6148***	22.8470^{**}				
		(2.80)	(1.98)				
ERC_{Pre}	(H1b) +	0.3102***	0.2975^{***}				
		(3.32)	(3.21)				
$SPEC_{Pre}$	(H1b) -	-0.5082^{*}	-0.8492***				
		(-1.71)	(-2.35)				
$SALESGROW_{Pre}$	(H1b) -	-1.9813***	-1.9526**				
		(-2.88)	(2.29)				
CHANAFOLLOW	?	-0.3312**	-0.2627				
		(-2.02)	(-1.34)				
CHINSTOWN	?	-0.2624	-0.2341				
		(-1.31)	(-0.93)				
CHSIZE	+	2.2672^{***}	2.1563**				
		(1.82)	(2.11)				
COMMENT	(H1c) +		0.6350^{*}				
			(1.84)				
Year dummies		No	No				
Industry dummies		Yes	Yes				
Ν		267	246				
Pseudo R^2		0.4274	0.5803				

*, **, **** significant at the 0.1, 0.05 and 0.01 levels (two-tailed). *STOPFIRM* is an indicator variable taking the value of one if the firm provided non-GAAP earnings disclosure in the immediately previous quarter's earnings release and does not provide non-GAAP earnings disclosure in earnings releases for the current and any of the subsequent quarters, and zero otherwise. To be classified as *STOPFIRM*, the firm needs to have at least eight quarters of earnings releases after the stop date and at least half of these eight post stop decision quarters need to have special items on Compustat. Standard errors are calculated based on Petersen's (2009) double cluster procedure to allow inter-correlations of residuals across firms or across time. Industry dummies are suppressed for ease of exposition. All variables are as defined in Panel A of TABLE 3.

non-GAAP reporting less cost-beneficial in the post-scrutiny period. The coefficients on ERC_{pre} , is significantly positive, and the coefficients on $SPEC_{pre}$ and $SALEGROW_{pre}$ are significantly negative, suggesting that firms having more informative GAAP earnings, less frequent occurrence of unusual items, and fewer growth opportunities, are more likely to forgo the practice of non-GAAP reporting. These findings are consistent with H1b that firms deriving fewer benefits from providing non-GAAP earnings are more likely to stop non-GAAP reporting in light of the increased reputation cost resulting from the SEC's questioning and investor suspicion in the post scrutiny period.

To examine H1c that the surge of firms' decision to discontinue non-GAAP reporting is associated with the SEC's comment letter process, we eliminate firms with STOPDATE prior to August 2, 2004, the date of the first SEC comment letter citing problematic non-GAAP use in Audit Analytics' Comment Letter dataset. We eliminate these observations because we are unable to determine whether or not their stop decision is made after receiving the SEC's comment letter. We re-estimate equation (1) using this reduced sample and add *COMMENT* to equation (1). The results are reported in model (2) of TABLE 5. Most of the coefficients in model (2) are consistent with those in model (1). Moreover, the coefficient on *COMMENT* is significantly positive, implying that firms receiving comment letters from the SEC are more likely to cease non-GAAP reporting than firms that do not receive the SEC's comment letters.

5.2 Comparing Proxies of Earnings Management Before and After the Stop Date

TABLE 6 investigates whether firms that cease to provide non-GAAP disclosures engage in more earnings management than do non-stopped firms. Panel A of TABLE 6 presents the results when accrual management is proxied by the absolute value of discretionary accruals. Model (1) reports the results when equation (2) is estimated using all sample observations. As indicated by the insignificant coefficient on STOPFIRM, stopped firms do not seem to have a different level of unsigned discretionary accruals than non-stopped firms before the stop date. The coefficient on *POST* is significantly negative, suggesting that the absolute value of discretionary accruals decreased significantly for non-stopped firms from the pre to the post period. However, the significantly positive coefficient on STOPFIRM×POST suggests that earnings quality for stopped firms deteriorates after the firm stops providing non-GAAP disclosure, as indicated by the higher level of ABSDA. The coefficient on SHARE is significantly positive, consistent with the notion that a greater number of outstanding shares induce greater earnings management to achieve earnings targets (Zang 2012). In addition, firms that have smaller analyst following, more growth opportunities, and are smaller in size are more likely to engage in accrual management activities.

Panel A: Using Discretionary	y Accruals as a Proxy for E	arnings Management	
	Coefficient	Coefficient	Coefficient
Variable	(<i>t</i> -statistic)	(<i>t</i> -statistic)	(<i>t</i> -statistic)
Model	(1) All	(2) <i>OPP</i> =1	(3) <i>OPP</i> =0
Dependent Variable	ABSDA	ABSDA	ABSDA
Intercept	0.0301***	0.0272^{***}	0.0570^{***}
	(6.47)	(2.73)	(9.28)
STOPFIRM	-0.0011	0.0005	-0.0029
	(0.21)	(0.09)	(0.31)
POST	-0.0073**	-0.0082^{*}	-0.0053**
	(2.86)	(1.72)	(2.59)
STOPFIRM× POST	0.0027^{***}	0.0041^{***}	-0.0007
	(3.02)	(3.75)	(-0.67)
HAB_BEAT	0.0002	0.0004^{*}	0.0000
	(1.33)	(1.79)	(-0.39)
SHARE	0.0020^{**}	0.0006	0.0026^{**}
	(2.51)	(0.64)	(2.61)
ANALY	-0.0019***	-0.0025***	-0.0011
	(-3.14)	(-2.68)	(-1.27)
INSTOWN	0.0016^{*}	0.0019^{**}	0.0012^{\ast}
	(1.74)	(1.98)	(1.82)
BONUS	0.0017^{\ast}	-0.0003	0.0029^{*}
	(1.66)	(-0.12)	(1.87)
EQUITY	-0.0001	0.0001	-0.0003
	(-0.33)	(0.27)	(-1.12)
ROA	-0.0372	-0.0461	-0.0163
	(-1.07)	(-1.14)	(-0.26)
SIZE	-0.0030****	-0.0022***	-0.0037***
	(-10.64)	(-4.71)	(-6.97)
BM	-0.0103***	-0.0092***	-0.0153***
	(-8.47)	(-4.38)	(-8.26)
LEVERAGE	0.0001	0.0004	-0.0005^{*}
	(0.61)	(1.47)	(-1.72)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
Ν	8,101	4,103	3,998
Adj. R^2	0.0986	0.1033	0.1258

TABLE 6 Earnings Management Before and After the Firm's Decision to Stop Providing Non-GAAP Disclosures

^{*, **, ***} significant at the 0.1, 0.05 and 0.01 levels (two-tailed). *OPP* is an indicator variable, set equal to one if the firm's factor score from a factor analysis on $POORGOV_{Pre}$, $RELYMEET_{Pre}$, $DISC_{Pre}$, and $DIFF_{Pre}$ is greater than or equal to the median factor score in the sample, and zero otherwise. Industry dummies are indicator variables based on the 48 Fama-French industries (Fama and French 1997). Standard errors are calculated based on Petersen's (2009) double cluster procedure to allow inter-correlations of residuals across firms or across time. Year and industry dummies are suppressed for ease of exposition. All other variables are as defined in Panel B of TABLE 3.

Variable	Coefficient	Coefficient	Coefficient
variable	(<i>t</i> -statistic)	(<i>t</i> -statistic)	(<i>t</i> -statistic)
Model	(1)	(2)	(3)
	All	OPP=1	OPP=0
Dependent Variable	NOISE	NOISE	NOISE
Intercept	0.0487^{***}	0.0328***	0.0631***
	(6.62)	(7.04)	(7.58)
STOPFIRM	0.0001	-0.0014	0.0001
	(0.03)	(-0.71)	(0.09)
POST	-0.0079^{*}	-0.0092	-0.0067^{*}
	(1.67)	(-0.36)	(1.71)
STOPFIRM× POST	0.0037^{***}	0.0053^{***}	0.0014^{**}
	(3.71)	(3.38)	(2.78)
HAB_BEAT	-0.0001	-0.0004	0.0001
	(-1.35)	(-1.49)	(-0.17)
SHARE	0.0001	-0.0019***	0.0022^{***}
	(0.71)	(-3.35)	(2.64)
ANALY	-0.0022***	-0.0024***	-0.0017
	(-4.21)	(-4.36)	(-0.28)
INSTOWN	-0.0009	-0.0010	0.0031
	(-1.23)	(-0.87)	(0.23)
BONUS	0.0032*	0.0012	0.0063
	(1.95)	(0.64)	(1.39)
EQUITY	0.0003	0.0005*	0.0002
	(1.27)	(1.82)	(0.51)
ROA	-0.0571****	-0.0598**	-0.0332
	(-2.82)	(-2.63)	(-1.01)
SIZE	-0.0017***	-0.0005	-0.0039***
	(-5.76)	(-0.42)	(-4.14)
ВМ	-0.0101***	-0.0049**	-0.0183***
	(-7.35)	(-2 67)	(-6.97)
LEVERAGE	0.0007***	0.0007***	0.0005
-	(4 39)	(4.61)	(1.50)
Year dummies	(T.J) Ves	Vec	(1.50) Vec
Industry dummies	Vas	Vas	Vos
N	108	105	2 751
Ad: P^2	1,133	4,002	3,731

 TABLE 6 Earnings Management Before and After the Firm's Decision to Stop Providing Non-GAAP Disclosures (continued)

*, **, **** significant at the 0.1, 0.05 and 0.01 levels (two-tailed). OPP is an indicator variable, set equal to one if the firm's factor score from a factor analysis on $POORGOV_{Pre}$, $RELYMEET_{Pre}$, $DISC_{Pre}$, and $DIFF_{Pre}$ is greater than or equal to the median factor score in the sample, and zero otherwise. Industry dummies are indicator variables based on the 48 Fama-French industries (Fama and French 1997). Standard errors are calculated based on Petersen's (2009) double cluster procedure to allow inter-correlations of residuals across firms or across time. Year and industry dummies are suppressed for ease of exposition. All other variables are as defined in Panel B of TABLE 3.

Troviding from official Disclosures (continued)				
Panel C: Using Real Activity M	lanagement as a Proxy for 1	Earnings Management		
Variable	Coefficient	Coefficient	Coefficient	
v arrable	(<i>t</i> -statistic)	(<i>t</i> -statistic)	(<i>t</i> -statistic)	
Model	(1)	(2)	(3)	
	All	OPP=1	OPP=0	
Dependent Variable	<i>RM</i>	<i>RM</i>	RM	
Intercept	-0.1743	-0.2034	0.0611	
	(-3.27)	(-2.87)	(0.09)	
STOPFIRM	0.0286	0.0308	-0.0040	
	(0.72)	(1.35)	(-0.36)	
POST	0.0092	0.0301	0.0178	
	(1.57)	(1.62)	(0.90)	
<i>STOPFIRM× POST</i>	-0.0139	-0.0083	-0.0481	
	(-1.19)	(-0.27)	(-1.61)	
HAB_BEAT	-0.0014	-0.0054***	0.0018	
	(-1.03)	(-2.94)	(0.38)	
SHARE	-0.0232***	-0.0371***	-0.0332***	
	(-2.97)	(-3.21)	(-2.70)	
ANALY	0.0045	0.0152	-0.0031	
	(0.26)	(1.49)	(-0.33)	
INSTOWN	0.0153	0.0170	0.0203	
	(1.33)	(1.05)	(1.61)	
BONUS	0.0383^{***}	0.0307	0.0396	
	(3.34)	(1.57)	(1.63)	
EQUITY	-0.0047	0.0003	-0.0143**	
	(-1.80)	(0.45)	(-2.17)	
ROA	-1.2537****	-1.9413***	-0.9108**	
	(-3.66)	(-3.86)	(-2.37)	
SIZE	0.0238^{***}	0.0237***	0.0392^{**}	
	(3.93)	(3.67)	(2.41)	
BM	0.1095^{***}	0.1582^{***}	0.0491^{*}	
	(4.77)	(4.85)	(1.84)	
LEVERAGE	-0.0028	-0.0022	-0.0053	
	(-1.59)	(-0.67)	(-1.26)	
Year dummies	Yes	Yes	Yes	
Industry dummies	Yes	Yes	Yes	
N	7,946	4,109	3,837	
Adj. R^2	0.0479	0.0604	0.0546	
-				

TABLE 6 Earnings Management Before and After the Firm's Decision to Stop Providing Non-GAAP Disclosures (continued)

^{*, **, ***} significant at the 0.1, 0.05 and 0.01 levels (two-tailed). *OPP* is an indicator variable, set equal to one if the firm's factor score from a factor analysis on $POORGOV_{Pre}$, $RELYMEET_{Pre}$, $DISC_{Pre}$, and $DIFF_{Pre}$ is greater than or equal to the median factor score in the sample, and zero otherwise. Industry dummies are indicator variables based on the 48 Fama-French industries (Fama and French 1997). Standard errors are calculated based on Petersen's (2009) double cluster procedure to allow inter-correlations of residuals across firms or across time. Year and industry dummies are suppressed for ease of exposition. All other variables are as defined in Panel B of TABLE3

TABLE 5 finds that firms that provide non-GAAP disclosure to mislead investors as well as those that derive fewer benefits from non-GAAP reporting are more likely to discontinue non-GAAP reporting. However, only the former firms have incentives to misrepresent earnings results after the stop date. To investigate whether the full sample results are driven by the subsample of firms that provide non-GAAP disclosure opportunistically, we create a proxy for opportunistic non-GAAP reporter based on the factor score obtained from a factor analysis on the four variables used to test H1a-H1c (namely, *POORGOV*_{Pre}, *RELYMEET*_{Pre}, *DISC*_{Pre}, and *DIFF*_{Pre}). One factor naturally results from the factor analysis and this factor explains 78% of total variation in the four variables. A higher factor score from the factor analysis indicates a higher level of opportunistic non-GAAP reporting behavior. We create an indicator variable, *OPP*, to capture opportunistic reporter. *OPP* is set equal to one if the firm's factor score is greater than or equal to the median factor score in the sample, and zero otherwise. Firms with *OPP* equal to one are more likely to provide non-GAAP reporting opportunistically then firms with *OPP* equal to zero.

We partition the full sample based on *OPP*. We expect that stopped firms with a higher level of opportunistic reporting behavior are more likely to disclose non-GAAP earnings to mislead investors and thus have greater incentives to manage accruals or real activities to window dress its operating performance after they stop providing non-GAAP disclosure. Models (2) and (3) report the results for firms with *OPP* equals to one and zero, respectively. Consistent with our expectations, we find that the coefficient on *STOPFIRM*× *POST* is significantly positive only in the *OPP*=1 but not in the *OPP*=0 sample, suggesting that the full sample results are driven by firms that are more likely to provide non-GAAP disclosure opportunistically.

Panel B of TABLE 6 reports the results when accrual management is measured by the degree to which accruals fail to map into past, current or future cash flows (i.e., *NOISE*). Consistent with results in Panel A of TABLE 6, we find that stopped firms experienced an increased level of *NOISE* in the post period while non-stopped firms experience a decrease in the level of *NOISE*. Moreover, the increase in *NOISE* is driven by the subsample of firms that provide non-GAAP disclosure opportunistically before the stop date.

Panel C of TABLE 6 examines if firms substitute real activity management for non-GAAP reporting after they discontinue non-GAAP disclosure. The coefficient on *STOPFIRM* is insignificant, suggesting that level of real earnings management do not differ across stopped firms and non-stopped firms before the stop date. The coefficient on *POST* is positive but not significant, indicating that non-stopped firms do not experience an increase in the level of real activity management after the stop decision. The coefficient on *STOPFIRM*× *POST* is not significantly different from zero, suggesting that there is no

significant change in real activity management after the stop date across stopped and non-stopped firms. The above results are also found in both the opportunistic and non-opportunistic non-GAAP reporting subsample.

Taken together, results in this section suggest that opportunistic non-GAAP reporters are more likely to substitute accrual management for non-GAAP disclosure after the stop date.¹⁹ We find no evidence that opportunistic reporting firms replace non-GAAP reporting with real activity management. However, Cohen et al. (2008) find that firms tend to switch from accrual management to real activity management methods after the passage of SOX. Given that our sample period starts after SOX, our results appear to be at odds with Cohen et al. (2008) at first glance. To reconcile our results with those of Cohen et al. (2008), we replicate Cohen et al. (2008) and find that accrual management decreases in later part of our sample period, consistent with Cohen et al. (2008). This finding holds both for the whole Compustat universe and for our sample firms. However, after subsetting our sample firms into stopped firm and non-stopped firms, we find that while the level of accrual management increases for stopped firms, it actually decreases for non-stopped firms after the stop date, also consistent with Cohen et al. (2008). Moreover, we find that while the level of real activity management increases in later part of our sample period for all Compustat firms, it does not increase significantly for our sample firms, suggesting that the lack of real activity management results is driven by different sample between our study and that of Cohen et al. (2008).²⁰

5.3 Additional Analyses: Market Reaction to Earnings News Before and After the Stop Decision

Our evidence so far suggests that not all stopped firms substitute earnings management for non-GAAP reporting. Such a substitution effect occurs only in firms providing non-GAAP disclosures to mislead investors. We next examine two related questions about the firm's stopped decision. First, does the market respond differently to stopped firms' unexpected earnings before and after their stop decision? Second, does the

¹⁹ A natural question is whether firms substitute accrual management for non-GAAP disclosure even before the implementation of Regulation G. We were unable to answer this question conclusively because only 7 firms in our sample discontinue non-GAAP reporting prior to 2003.

²⁰ Given that our results suggest that accrual management and non-GAAP reporting are substitutes for each other, a potential alternative explanation for our TABLE 5 results may be that firms expecting that the costs of managing accruals will decrease in the near future so they discontinue non-GAAP reporting and switch to a lower cost method to present misleading financial results (i.e., accrual management). To examine this possibility, we include proxies for the changes in accrual management costs used in Zang (2012) in equation (1). If the alternative explanation is valid, we would expect the decreases in accrual management costs to be associated with the stop decision. Untabulated results suggest that none of the changes in accrual management costs exhibits explanation power of the stop decision, inconsistent with the idea that firms' stop decision is driven by lower future accrual management costs.

differential market reaction vary across firms that are more or less likely to use non-GAAP disclosure opportunistically?

To investigate, we estimate the following regression model:

$$CAR_{i,t} = \theta_0 + \theta_1 UE_{i,t} + \theta_2 STOPFIRM_{i,t} + \theta_3 UE_{i,t} \times STOPFIRM_{i,t} + \theta_4 POST_{i,t} + \theta_5 UE_{i,t} \times POST_{i,t} + \theta_6 STOPFRIM_{i,t} \times POST_{i,t} + \theta_7 UE_{i,t} \times STOPFIRM_{i,t} \times POST_{i,t} + \theta_8 SIZE_{i,t} + \theta_9 BM_{i,t} + \theta_{10} BETA_{i,t} + \theta_{11} LOSS_{i,t} + \theta_{12} UE_{i,t} \times SIZE_{i,t} + \theta_{13} UE_{i,t} \times BM_{i,t} + \theta_{14} UE_{i,t} \times BETA_{i,t} + \theta_{15} UE \times LOSS_{i,t} + \varsigma_{i,t}.$$
(3)

where *CAR* is the market-adjusted cumulative abnormal return over one trading day before and ending one trading day after the earnings announcement for the current quarter, i.e., [-1,+1] window, where the market returns are the return on the CRSP value-weighted market portfolio. *UE* is decile ranking of unexpected earnings, where unexpected earnings are calculated as IBES actual EPS minus the last analyst EPS forecast prior to the firm's earnings announcement day, scaled by stock price at the beginning of the period. *BETA* is market beta, defined per the CRSP decile assignment tape, where CRSP provides annual betas computed over all days on which the security was traded, beginning with the first trading day and ending with the last trading day of the calendar year. The nearest preceding available market beta to the beginning of the quarter is used. *LOSS* is an indicator, set equal to one if the firm-quarter's income before extraordinary items is less than zero, and zero otherwise.

Panel A of TABLE 7 reports the descriptive statistics on variables used in estimating equation (3). The mean size-adjusted cumulative abnormal return (*CAR*) is about 0.0043, with a median of 0.0034, suggesting that our mean and median firm experience positive *CAR* during the earnings announcement window. The average firm has positive unexpected earnings (0.0010) during our sample period. About 11% of our sample firms report a GAAP loss during our sample period.

Panel A: Descriptive Statistics on Variables Used in the Market Reaction Analyses					
	Mean	Std Dev	P25	Median	P75
CAR	0.0043	0.0687	-0.0311	0.0034	0.0402
UE	0.0010	0.0056	-0.0003	0.0005	0.0023
BETA	1.1523	0.5153	0.7813	1.1090	1.4727
BM	0.6753	0.2266	0.5071	0.6810	0.8423
LOSS	0.1111	0.3142	0.0000	0.0000	0.0000

 TABLE 7 Market Response to Earnings Surprise Before and After Firms Stop

 Providing Non-GAAP Earnings Disclosure

CAR is the market-adjusted cumulative abnormal return over one trading day before and ending one trading day after the earnings announcement for the current quarter, i.e., [-1,+1] window, where the market returns are the return on the CRSP value-weighted market portfolio. *UE* is unexpected earnings, calculated as IBES actual earnings per share minus the latest individual analyst EPS forecast, deflated by the stock price at the beginning of quarter t. *BETA* is market beta taken from the CRSP decile assignment tape. The market beta prior to and closest to the beginning of the quarter is used in the model. *BM* is calculated as book value of assets divided by the sum of book value of liability and market value of equity. *LOSS* is an indicator variable, set equal to one if the firm-quarter's income before extraordinary items is less than zero, and zero otherwise.

STOPFIRM

POST

SIZE

BM

BETA

LOSS

UE× SIZE

 $UE \times BM$

BM× BETA

UE×LOSS

Ν

Year dummies

Industry dummies

UE× POST

UE×STOPFIRM

STOPFIRM× POST

 $UE \times STOPFIRM \times POST$

Providing Non-GAAP Earnings Disclosure (continued)				
Panel B: Multivariate Regression Analysis of the Market Reaction to Earnings Surprise				
Before and After Firms Stop Providing Non-GAAP Earnings				
Variable	Coefficient	Coefficient	Coefficient	
variable	(<i>t</i> -statistic)	(<i>t</i> -statistic)	(<i>t</i> -statistic)	
Modal	(1)	(2)	(3)	
WIOdel	All	OPP=1	OPP=0	
Dependent Variable	CAR	CAR	CAR	
Intercept	-0.0603***	-0.1234***	-0.0877^{***}	
	(-6.78)	(-7.18)	(-2.97)	
UE	0.0212^{***}	0.0204^{***}	0.0229^{***}	
	(8.07)	(7.13)	(4.94)	

-0.0039

0.0017

-0.0187***

0.0025***

(-1.03)

(1.41)

(-4.38)

(3.61)

(1.34)

(-2.04)

(3.24)

(2.67)

(-0.21)

(1.69)

(-4.34)

(-2.24)

(0.61)

(-4.26)

Yes

Yes

4,317

-0.0022

 0.0082^{*}

-0.0013***

-0.0048**

0.0007

-0.0040***

0.0146

-0.0027*

0.0045***

0.0277***

-0.0028

0.0016

-0.0161***

0.0020***

(-0.38)

(1.61)

(-4.11)

(3.22)

(1.18)

(-1.86)

(4.82)

(3.87)

(-1.98)

(1.42)

(-6.53)

(-3.97)

(2.59)

(-5.86)

Yes

Yes

8,336

0.0107

-0.0022*

 0.0047^{***}

0.0295***

-0.0060**

0.0048

-0.0014***

-0.0068***

0.0014***

-0.0043***

TABLE 7 Market Response to Earnings Surprise Before and After Firms Stop

Adj. R^2	0.1617	0.1532	0.1602
*, **, *** significant at the 0.1, 0.05 and 0	0.01 levels (two-tailed).	OPP is an indicator variable,	set equal to one if the firm's
factor score from a factor analysis on P	POORGOV _{Pre} , RELYME	ET_{Pre} , $DISC_{Pre}$, and $DIFF_{Pre}$	s greater than or equal to the
median factor score in the sample, an	nd zero otherwise. Ind	ustry dummies are indicator	variables based on the 48
Fama-French industries (Fama and Fr	ench 1997). Standard	errors are calculated based	on Petersen's (2009) double
cluster procedure to allow inter-correla	ations of residuals acro	oss firms or across time. Yea	r and industry dummies are
suppressed for ease of exposition. All ot	ther variables are as defi	ined in Panel B of TABLE 3 a	and Panel A of TABLE 7.

37

0.0067

0.0006

-0.0127*

0.0018*

(0.91)

(0.31)

(-1.84)

(1.69)

(-0.37)

(-0.21)

(3.76)

(3.52) -0.0119***

(-2.71)

0.0060

-0.0016***

-0.0084***

0.0031***

-0.0048***

(0.77)

(-4.65)

(-4.27)

(2.97)

(-3.37)

Yes

Yes 4,023

-0.0039

-0.0001

0.0063***

0.0403***

Panel B of TABLE 7 reports the results from estimating equation (3). Consistent with prior literature, *UE* is significantly positive. The coefficient on *UE*×*STOPFIRM* is not statistically different from zero, suggesting that the market values *UE* of stopped and non-stopped firms similarly before the stop date. The positive coefficient on *UE*×*POST* indicates that the market assigns a higher valuation multiple on non-stoppers' unexpected earnings after the firm stops providing non-GAAP earnings. Our main variable of interest, *UE*×*STOPFIRM*×*POST*, is significantly negative in the full sample, consistent with the notion that the market discounts stopped firms' unexpected earnings more heavily after they stop providing non-GAAP disclosures. Moreover, this discount is driven by the subsample of firms that are more likely to use non-GAAP reporting opportunistically prior to the stop date, as evidenced by the negative coefficient on *UE*×*STOPFIRM*×*POST* in model (2) and the insignificant *UE*×*STOPFIRM*×*POST* in model (3). These results are consistent with market participants incorporating into their valuation decisions opportunistic non-GAAP reporters' incentives to manipulate accruals to portrait a better picture of firm performance after these firms terminate non-GAAP reporting.

6. CONCLUDING REMARKS

This research examines the relation between firms' decision to discontinue non-GAAP earnings disclosure in quarterly earnings releases and their subsequent financial reporting strategies, as proxied by their earnings quality after they stop providing non-GAAP disclosure. One unique feature of non-GAAP earnings is that managers have considerable discretion in deciding which GAAP items to exclude. Different companies define non-GAAP earnings differently and items excluded from non-GAAP earnings could change over time even for the same firm. Noting that managers have considerable discretion over the definition of non-GAAP earnings, the SEC issued a warning in December 2001, cautioning public companies not to mislead investors. Moreover, on January 22, 2003, the SEC issued Regulation G that requires companies to reconcile non-GAAP earnings with the most comparable GAAP earnings number.

Consistent with the notion that Regulation G's reconciliation requirement reduces the net benefits of providing non-GAAP disclosures, we find that firms using non-GAAP earnings to mislead investors, as proxied by poor corporate governance, a greater frequency to achieve earnings benchmarks through non-GAAP reporting, excluding more expenses from GAAP earnings, and reporting non-GAAP disclosures sporadically, tend to stop non-GAAP reporting in the post Regulation G period. By contrast, firms deriving fewer benefits from communicating firm performance through non-GAAP disclosures, as proxied by more infomative GAAP earnings, less occurrence of unusual items, and fewer growth opportunities, are less likely to discontinue non-GAAP reporting. Finally, we find that firms receiving SEC comment letters questioning the use of non-GAAP measures in

SEC filings are also more likely to discontinue non-GAAP reporting in quarterly earnings releases.²¹

Examining whether stopped firms use other reporting mechanisms to substitute for non-GAAP reporting, we find that on average, firms stopping non-GAAP disclosure tend to have poorer accrual quality after the stop date. Moreover, the poor accrual quality is driven by the subsample of firms that are more likely to use non-GAAP disclosure to mislead investors. Finally, we examine if stopped firms receiving the SEC's comment letters questioning the use of non-GAAP reporting actually resort to earnings management to achieve a desired performance to a greater extent than stopped firms that do not receive comment letters. Our examination of several accrual and real management proxies do not suggest that stopped firms that receive the SEC's comment letters engage in more earnings management after they relinquish the practice of non-GAAP reporting.

This paper contributes to the literature by investigating how voluntary disclosure and the quality of GAAP earnings interact with each other. Specifically, we investigate whether other financial reporting mechanisms, earnings management activities in particular, are used to substitute for non-GAAP disclosures in order to portray more favorable firm performance once firms decide to forgo the practice of providing voluntary non-GAAP disclosures. Our results suggest that on average, the decision to stop providing non-GAAP earnings disclosure does not by itself motivate more accrual or real activity management. However, firms with poor corporate governance engage in more accrual management after they cease providing non-GAAP disclosure. Second, our paper contributes to the growing literature on the impact of the SEC's intervention on pro forma disclosure. Prior studies find considerable evidence on how Regulation G changes the frequency and quality of non-GAAP disclosure in the post-Regulation G period. We show that firms receiving SEC comment letters questioning the use of non-GAAP financial measures in their SEC filings are more likely to stop reporting non-GAAP earnings in their earnings press releases, suggesting that the SEC's comment letter process effectively discourages the use of non-GAAP earnings in earnings releases. Finally, we add to the literature on how companies respond to the SEC's increased scrutiny on non-GAAP reporting. Kolev et al. (2008) show that firms adapt to the SEC's scrutiny by shifting more recurring expenses into special items. We complement Kolev et al. (2008) by showing that opportunistic reporting firms substitute accrual management for non-GAAP disclosures above and beyond the expensing shifting strategy.

²¹ To be sure, earnings releases are required to be furnished to rather than filed with the SEC. As a result, earnings releases are not part of SEC filings.

APPENDIX: CALCULATION OF ACCRUAL MANAGEMENT AND REAL ACTIVITY MANAGEMENT MEASURES

1. Creating Accrual Management Variables

The cross-sectional version of the modified Jones model we use is based on the version discussed in Dechow and Sloan (1995) and control for performance as in Kothari et al. (2005). It is important to adjust abnormal accruals for performance because discretionary accruals have been shown to be associated with firm performance. Specifically, we estimate the following regression for each of the Fama-French 48 industries (Fama and French 1997) and for each quarter with at least 20 firms in quarter q.

$$TA_{i,q}/ASSET_{i,q-1} = c_0 + c_1 1/ASSET_{i,q-1} + c_2 (\Delta REV_{i,q} - \Delta AR_{i,q}) / ASSET_{i,q-1} + c_3 PPE/ASSET_{i,q-1} + c_4 ROA_{i,q} + \zeta_{i,q}.$$
(2a)

Here, *TA* is firm *i*'s total accruals, computed as earnings before extraordinary items less cash flows from operations adjusted for extraordinary items and discontinued operations. *ASSET* is total assets at the end of the quarter. ΔREV is the change in revenues between quarters q-1 and q, ΔAR is the change in accounts receivable between quarters q-1 and q, PPE is net property, plants, and equipment, and *ROA* is income before extraordinary items scaled by lagged total assets. The residual from equation (2a) is our measure of the discretionary accrual and is labeled as DA. Because accruals reverse over time, we compute the absolute value of discretionary accruals to proxy for earnings management and refer to it as *ABSDA* in order to avoid the offsetting effect due to accrual reversals.

Our second measure of accrual management is the degree to which accruals fail to map into past, current, or future cash flows, referred to as *NOISE*. *NOISE* is the standard deviation of the residual estimated from the following Dechow and Dichev (2002) model as modified by McNichols (2002):

$$TCA_{i, q}/ASSETS_{i, q-1} = \varphi_{o, i} + \varphi_1 CFO_{i, q-1}/ASSETS_{i, q-1} + \varphi_2 CFO_{i, q}/ASSETS_{i, q-1} + \varphi_3 CFO_{i, q+1}/ASSETS_{i, q-1} + \varphi_4 \Delta REV_{i, q}/ASSETS_{i, q-1} + \varphi_5 PPE_{i, q}/ASSETS_{i, q-1} + v_{i, q}.$$
(2b)

We estimate the above regression for each of the Fama-French 48 industries (Fama and French 1997) and for each quarter with at least 20 firms in quarter q, where *TCA* is total current accruals for quarter q. *TCA* is calculated as Δ CA- Δ CL- Δ CASH+ Δ STDEBT. Δ CA is the change in current assets between quarter q-1 and quarter q. Δ CL is the change in cash between quarter q-1 and quarter q. Δ CASH is the change in cash between quarter q. Δ STDEBT is the change in debt in current liabilities

between quarter q-1 and quarter q. CFO_{q-1} is cash flows from operations adjusted for extraordinary items and discontinued items summed over the past four quarters. CFO_q is cash flows from operations adjusted for extraordinary items and discontinued items for the current quarter. CFO_{q+1} is cash flows from operations adjusted for extraordinary items and discontinued items summed over the next four quarters. ΔREV is the change in revenues between quarter q-1 and quarter q. *PPE* is net property, plant, and equipment at the end of the quarter. *NOISE* is the standard deviation of the firm- and quarter-specific residuals from estimating equation (2b), calculated over quarters q-11 through q (i.e., over the past 3 years). Larger standard deviations of residuals indicate poorer accruals quality.

2. Creating Real Activity Management Variables

Following Roychowdhury (2006), we use the abnormal levels of the following measures to capture real activity management: (1) cash flow from operations (CFO); (2) discretionary expenses; and (3) production cost.

The normal level of cash flow from operations is a linear function of sales and change in sales. To estimate this model, we run the following cross-sectional regression for each industry and year-quarter:

$$CFO_{q}/ASSET_{q-1} = e_{0} + e_{1}(1/ASSET_{q-1}) + e_{2}(REV_{q}/ASSET_{q-1}) + e_{3}(\Delta REV_{q}/ASSET_{q-1}) + \eta_{q}.$$
(2c)

The normal level of production cost (*PROD*) is estimated using the following regression, where *PROD* is defined as the cost of goods sold (COGS) plus the change in inventory in quarter q. We estimate normal production costs from the following industry-year-quarter regression

$$PROD_{q} / ASSET_{q-1} = f_{0} + f_{1}(1 / ASSET_{q-1}) + f_{2}(REV_{q} / ASSET_{q-1}) + f_{3}(\Delta REV_{q} / ASSET_{q-1}) + f_{4}(\Delta REV_{q-1} / Asset_{q-1}) + \varsigma_{q}.$$
(2d)

The normal level of discretionary expenses is estimated cross-sectionally by each industry-year-quarter as follows, where *DISEXP* represents the discretionary expenditures in quarter q, defined as the sum of advertising expenses, R&D expenses and selling, general, and administrative (SG&A) expenses.

$$DISEXP_{q} / ASSET_{q-1} = f_{0} + f_{1}(1 / ASSET_{q-1}) + f_{2}(REV_{q-1} / ASSET_{q-1}) + \tau_{q}.$$
 (2e)

The abnormal CFO (R_CFO), abnormal production costs (R_PROD) and abnormal discretionary expenses (R_DISEXP) are computed as the difference between the actual CFO, PROD, and DISEXP and the predicted normal levels from Eqs. (2c), (2d), and (2e),

respectively. We use R_CFO, R_PROD, and R_DISEXP to proxy for real activity management. Lower (higher) levels of R_CFO, (R_PROD) and R_DISEXP suggest higher levels of real activity management. To capture the total effects of real activity management, we combine the three individual measures by first multiplying R_CFO and R_DISEXP by negative one and add them to R_PROD. The resulting measure is labeled as *RM*. The higher the *RM*, the more likely the firm is to engage in real activity management.²²

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²² Cohen and Zarowin (2010) note that the same activities that result in abnormally high production costs also lead to abnormally low cash flow from operations. Thus, adding these two amounts leads to double counting. To avoid this problem, we follow Zang (2012) and construct two other measures of real activity management: RM1 and RM2. RM1 is calculated as $(-1) \times R_DISEXP$ plus R_PROD. RM2 is $(-1) \times (R_CFO+R_DISCEXP)$. Using RM1 and RM2 in place of *RM* does not change the tenor of our real activity management results.

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