

**Orphans Deserve Attention: Financial Reporting in the Missing Months When
Corporations Change Fiscal Year**

Kai Du
Yale University
School of Management
kai.du@yale.edu

Frank Zhang
Yale University
School of Management
(203) 432-7938
frank.zhang@yale.edu

September 2011

We received many helpful comments from two anonymous reviewers, Abhijit Barua (discussant), Mary Brooke Billings, Shuping Chen, Michael Clement, April Klein, Dong Lou, Alexander Nezlobin, Shyam Sunder, Jake Thomas, Wayne Thomas (the editor), Paul Zarowin, and workshop participants at the 2011 FARS Mid-Year Meeting, NYU-Yale Conference, Texas A&M University, and University of Texas at Austin. We thank Jingjing Xu for excellent research assistance. Zhang thanks the Yale School of Management for financial support.

Orphans Deserve Attention: Financial Reporting in the Missing Months When Corporations Change Fiscal Year

Abstract

We examine firms' financial reporting practices during stub periods that are induced by fiscal year changes and not covered by regular quarters. We find that firms report much lower income for the missing months than for adjacent quarters, mainly by recording higher operating expenses. We also find that managers have various incentives to manage earnings. Executive compensation is not tied to firm performance in the transition period as it is in adjacent fiscal years. Growth firms, firms with poor stock returns, and firms with poor external and internal monitoring tend to manage earnings more. Finally, we find that firms are more likely to meet or beat earnings targets in the subsequent quarter by reporting lower income in the missing months. Investors and analysts perceive the earnings surprise to be less persistent in the quarter after the missing months than in the quarter before.

Keywords: Earnings management, incentives, consequences, fiscal year end.

1. Introduction

When a public company elects to change its fiscal year ending date, it often introduces a stub period that is not covered by regular quarterly reports, sell-side analysts, or financial databases such as Compustat. One recent example comes from Goldman Sachs. In 2008, in connection with becoming a bank holding company, Goldman Sachs changed its fiscal year end from November to December, rendering December 2008 a stub period that does not belong to any fiscal quarter. For the one-month period, Goldman Sachs reported a pre-tax loss of \$1.3 billion; in contrast, for the first quarter of 2009, it reported a pre-tax income of \$2.6 billion. Floyd Norris, the chief financial correspondent of *The New York Times*, was among the first to notice the missing month. After Goldman's conference call on April 14, 2009, he wrote:¹

6:50 a.m. | Where's December?: Goldman Sachs reported a profit of \$1.8 billion in the first quarter, and plans to sell \$5 billion in stock and get out of the government's clutches, if it can.

How did it do that? One way was to hide a lot of losses in not-so-plain sight. Goldman's 2008 fiscal year ended Nov. 30. This year the company is switching to a calendar year. That leaves December as an orphan month, one that will be largely ignored. In Goldman's earnings statement, and in most of the news reports, the quarter ended March 31 is compared to the quarter last year that ended in February.

The orphan month featured—surprise—lots of write-offs. The pretax loss was \$1.3 billion, and the after-tax loss was \$780 million.

Would the firm have had a profit if it had stuck to its old calendar, and had to include December and exclude March?

We'll see if they discuss that.

7:50 a.m. | Call Over: The call ended quietly with little additional talk about December.

This note registers an undocumented method of creative accounting—hiding big losses in the orphan month that receives little publicity. Goldman Sachs is just one of the 1,786 public

¹ "The case of the missing month," <http://norris.blogs.nytimes.com/2009/04/14/the-case-of-the-missing-month/>.

firms (or 7.8% of the Compustat universe) that changed their fiscal year during 1993–2008.² When firms shift their fiscal year ends by an interval that is not a multiple of three months, they induce stub periods different from regular fiscal quarters. The stub periods are not covered by sell-side analysts or other market intermediaries, and are not reported in computerized financial databases such as Compustat. As a result, many individual and institutional investors are unaware that an episode of a firm’s history is missing. In addition, academic research has been silent on the missing months.³

This paper examines the financial reporting in the missing months induced by fiscal year changes. In particular, we address the following questions. Does the Goldman Sachs approach to managing earnings generalize to other fiscal year-changing firms?⁴ If so, how do firms shift earnings inter-temporarily? What are the managerial incentives for income shifting during the missing months? What are the consequences of earnings management?

We identify a sample of 224 fiscal year-changing firms with non-missing data over the orphan months in the 1993-2008 period. Because computerized databases tend to be incomplete during fiscal year changes, we hand-collect accounting, executive compensation, corporate governance, and management and institutional holdings data from SEC filings.⁵

² For 45.4% of the 1,786 firms, the fiscal year end is shifted by an interval that is not a multiple of a quarter, which may give rise to a stub period that is not covered by any quarterly report and is not part of any fiscal year.

³ To our knowledge, the only existing study of fiscal year end changes is by Porter et al. (2000). Porter et al. and this paper have two main differences. First, Porter et al. focus on whether firms comply with SEC rules in disclosing the decision to change fiscal year ends, whereas we examine firms’ financial reporting behavior. Second, Porter et al. include all types of fiscal year end changes, whereas we focus on the missing months that are not covered by any fiscal quarter.

⁴ The Goldman Sachs example has broader implications than earnings management. Norris noted that most of the politically sensitive AIG payment was booked in December, and “for the first quarter [of 2009], the total AIG effect on earnings was, in round numbers, zero.” As an anonymous commentator wrote on Norris’s blog, shareholders paid little attention to the “orphan months packed with losses and AIG fuzziness that don’t resolve into any fiscal quarter.”

⁵ Compustat often fails to cover adjacent regular quarters around the missing months. For example, Burlington Coat Factory Warehouse Corporation shifted its fiscal year end from June to May in 1997. The whole transition period (July 1997–May 1998) is missing in Compustat, even though the company filed three quarterly reports with the SEC with ending dates of September 1997, December 1997, and March 1998, respectively.

A key research design of our study is to compare a company's operating performance of the missing months with that of adjacent quarters. As long as firms' fundamentals do not change significantly in the short period of time surrounding the missing months, as confirmed in the data, adjacent quarters are a natural choice of the control sample. This research design essentially eliminates contemporaneous firm effects and circumvents the misspecification issues that plague cross-sectional expected-accruals models.

We find a "V"-shaped path of financial performance around the missing months. Specifically, firms report lower net income and operating income for the missing months than they do for adjacent quarters. On average, firms report an extra after-tax loss equivalent to 4.8% of beginning book value of equity per month in the missing-month period—which lasts on average for 1.78 months—relative to adjacent quarters. Firms shift income mainly by reporting disproportionately high recurring operating expenses (e.g., COGS and SGA) in the missing months.

We posit that earnings management varies systematically with managerial incentives. We first test whether management compensation is less tied to firm performance during the stub periods than in regular times. We find this is the case: although CEO compensation in adjacent fiscal years exhibits a strong positive correlation with firm performance, CEO compensation in the transition period is unrelated to financial performance. We then test whether the magnitude of income shifting varies with incentive proxies in predicted directions. We find that growth firms, firms with poor stock returns, and firms with poor external and internal monitoring tend to manage earnings more.

Finally, we examine the consequences of earnings management, focusing on the implications for managers and capital market participants. We find that firms are more likely to

meet or beat earnings targets in the quarter after the missing months than in the quarter before. When firms release information for the missing months, investors barely react to the earnings surprise. In the subsequent quarter, as the implications of the missing months become clear, investors and analysts consider the earnings surprises to be less persistent, and do not react as much as they do in the quarter before the missing months.

Our results suggest that firms opportunistically report lower income in the missing months without drawing attention from various constituencies, and that such opportunism is associated with management compensation, capital markets incentives, and external and internal monitoring.

In additional analyses, we rule out endogeneity and self-selection as the likely explanation for our results. To address the endogeneity issue, we identify a sample of firms with fiscal year ends shifted by three, six, or nine months and redo our main analyses. For these firms, a fiscal year change does not induce a stub period that escapes public scrutiny. We find no evidence of income shifting for this sample. To address the concern that firms in our sample may self-select to manage earnings, we partition the sample by whether the new fiscal year end conforms to the industry norm, in which case self-selection is less of an issue. We find consistently strong evidence of earnings management in both subsamples.

Our study contributes to the literature in several respects. First, we document substantial income shifting for fiscal year-changing firms with missing months, and we call for investors and analysts to pay more attention to this important period. Second, our finding that operating expenses play an important role in income shifting has broad implications. Academic literature and the business press often emphasize the role of non-recurring items, such as special items and

“cookie jar” reserves, in discussions of earnings management.⁶ Our results suggest that firms exert more discretion in managing recurring operating expenses than previous studies have documented. Given that recurring operating expenses are often related to real economic decisions, our finding corroborates the survey evidence of Graham et al. (2005) that firms frequently take real rather than accounting actions to meet earnings benchmarks.

The rest of the paper is organized as follows. Section 2 presents background information of the setting and a review of related literature, and develops the main hypotheses. Section 3 describes the sample selection process and the data used in this study. Section 4 conducts empirical tests on the facts, incentives, and consequences of earnings management. Section 5 discusses endogeneity issues and conducts additional tests. Section 6 concludes.

2. Background, literature, and hypotheses

2.1 Fiscal year changes: Reasons and regulation

Firms change fiscal year ends for a variety of reasons, which they may voluntarily disclose in SEC filings.⁷ Our reading of the SEC filings reveals three most-cited reasons for the change: changes in corporate control, regulation, and business seasonality coupled with industry norms.

(i) *Changes in corporate control.* A firm that has just experienced a merger or acquisition may choose to align its fiscal year with that of the counterparty in the deal to facilitate the pooling of financial interests. In particular, many acquirers choose to align their fiscal year ends with those of the acquired firms following reverse-acquisition accounting procedures.

⁶ For examples, see Barnea et al. (1971), Elliott and Shaw (1988), Elliott and Hanna (1996), and McVay (2006) on special items; see Beaver et al. (1989), Scholes et al. (1990), Beatty et al. (1995) on loan loss provisions; see Miller and Skinner (1998) and Schrand and Wong (2003) on valuation allowance.

⁷ Because the majority of firms in our sample do not disclose reasons for fiscal year changes, we do not partition the sample on such information in our analysis.

(ii) *Regulation.* A firm has to change its fiscal year end when it is subject to regulations imposed on certain industries. For example, in connection with becoming a bank holding company or a real estate investment trust, a firm is required to change the fiscal year end to December. Both Goldman Sachs and Morgan Stanley changed their fiscal year end from November to December in 2008 as the two investment banks became bank holding companies. As another example, firms that expand in the natural gas industry usually adopt a calendar-year reporting cycle because business partnerships in this industry have statutory calendar year ends. In fact, regulation is an important reason industries cluster fiscal year ends. Smith and Pourciau (1988) find that industries in which 90% or more of the firms have December year ends (e.g., banking, insurance, and transportation) tend to be regulated or recently deregulated.

(iii) *Business seasonality and industry norms.* Firms may want to align their financial reporting cycles with seasonal business activities. For example, firms tend to set their fiscal year ends to a time when inventories are lowest (e.g., Huberman and Kandel 1989), and tend to avoid the overlap of fiscal year end and the peak of business activities in an effort to coordinate conflicting demands for administrative resources.⁸ Business seasonality is often reflected in industry norms and conventions. To enhance the comparability of its financial results with industry peers for the purpose of evaluating and compensating managers,⁹ a firm may choose to conform its reporting cycle to the predominant one in the industry. For example, retailers often elect to align their reporting cycle with the National Retail Federation fiscal calendar.

⁸ For example, in 1994, Lehman Brothers (LEH) changed its fiscal year end from December to November to shift “year-end administrative activities to a time period that conflicts less with the business needs of institutional customers” (from “Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934,” filed on February 28, 1995).

⁹ For the relevance of industry peers’ performance in compensation contracts, see the literature on relative performance evaluation of corporate executives (e.g., Antle and Smith 1986; Gibbons and Murphy 1990).

Two additional factors are also relevant for fiscal year-change decisions. First, firms may change their fiscal years to extend the deadline for complying with certain regulations. For example, in 2004, at least four companies changed their fiscal year ends from December to other months allegedly in order to defer the date on which they had to comply with Section 404 of Sarbanes-Oxley.¹⁰ Second, firms may use the choice of fiscal year end to control the information environment in the context of industry competition (e.g., Fried and Sinha 2008).

Rules 13a-10 and 15d-10 of the Securities Exchange Act of 1934 (Securities and Exchange Commission 1934) require every public firm that changes its fiscal year end to file a current report on Form 8-K responding to Item 8 within 15 days of the decision to change fiscal year end date. Rules 13a-10 and 15d-10 also mandate that a firm file a transition report covering the transition period between the closing date of its most recent fiscal year and the opening date of its new fiscal year. Firms must file transition reports on the form appropriate for annual reports of the issue unless the transition period is less than six months, in which case they may file a report for the transition period on Form 10-Q or Form 10-QSB. The financial statement for the transition period must be audited unless it covers less than six months.¹¹ However, financial statements for the comparable period of the prior year may be unaudited.

¹⁰ According to *Compliance Week*, published by Haymarket Media, Inc., in 2004, four companies—Chordiant Software, Inc. (CHRD), GoRemote Internet Communications, Inc. (GRIC), Activcard Corp. (ACTI), and Tripath Technology (TRPH)—changed their fiscal year ends in an effort to extend the approaching SOX deadline. (See “Companies changing fiscal year end to buy 404 time,” available at <http://www.complianceweek.com/article/1546/companies-changing-fiscal-year-end-to-buy-404-time>.) Of the four companies, Chordiant and Goremote explicitly expressed such intentions. Chordiant stated that “[management] would not complete documenting Chordiant's internal control over financial reporting by Dec. 31, 2004, and that it was unlikely that the Company could complete its assessment of design and operating effectiveness of internal control over financial reporting by April 30, 2005, the extended time period allowed by the SEC” (from the Current Report filed on December 29, 2004). GoRemote's fiscal year change was also in part to “improve the Company's ability to obtain and schedule external audit and audit-related support required to ensure ongoing compliance with regulatory requirements” (from the Current Report filed on December 29, 2004).

¹¹ Whether a transition report is audited does not seem to matter for our main analysis. We find similar results when we partition the sample into two groups (audited and non-audited).

Rules 13a-10 and 15d-10 also stipulate the timeliness of transition reports. If transition reports are to be filed on the form appropriate for annual reports, firms must file such reports within 90 days after either the close of the transition period or the date of the determination to change the fiscal closing date, whichever is later. Large accelerated filers and accelerated filers need to file such reports in a more timely fashion (60 days and 75 days, respectively).¹² For transition reports to be filed on Form 10-Q or 10-QSB, the statutory filing deadline is 40 days for large accelerated filers and accelerated filers and 45 days for all other issuers.

2.2 Prior literature

This study is related to the vast literature of earnings management (see reviews by Schipper 1989; Healy and Wahlen 1999; Dechow and Skinner 2000; Fields et al. 2001; Dechow et al. 2010). In the following, we restrict our discussion on the approaches to detecting earnings management. For the incentives and consequences of earnings management, see the comprehensive review by Dechow et al. (2010).

The literature provides three approaches to detecting earnings management: large-sample statistical models, external indicators, and specific corporate events. Large-sample statistical models, such as variants of Jones (1991), are used to decompose accruals into components that reflect different levels of managerial discretion. The basic assumption underlying these models is that higher levels of accruals that are not associated with a firm's fundamental earnings process are attributable to greater managerial discretion and more earnings management. However, abnormal accruals models are faced with two main challenges. First, lack of power and specification errors could make the residuals from an accruals model a poor proxy for earnings management (e.g., McNichols and Wilson 1988; Dechow et al. 1995). Second, recent studies

¹² Large accelerated filers and accelerated filers are defined in Rule 240.12b-2. (See <http://www.sec.gov/rules/final/33-8618.pdf>.)

point to a connection between accruals and “discretionary” accruals and economic fundamentals such as investment and growth.¹³

The second approach is to identify firms that have managed earnings based on ex post indicators such as SEC Accounting and Auditing Enforcement Releases (AAERs), restatements, and lawsuits (e.g., Dechow et al. 1996).

The third line of studies examines specific events during which managers have economic incentives to manage earnings, such as stock-for-stock mergers, management turnover, and changes in accounting choices. For instance, Moore (1973) finds that income-reducing discretionary accounting decisions are more prevalent after management changes, and Erickson and Wang (1999) find that acquiring firms manage interim earnings upward in the period preceding the announcement of stock-for-stock mergers. Our study joins this line of research by identifying a change in accounting choices—shift of fiscal year end—that offers a relatively clean setting for studying earnings management.

2.3 Hypothesis development

The missing months represent a corporate event during which, for a number of reasons, managers are more likely to engage in earnings management. First, analysts do not cover the missing months. By shifting income over time, firms can report higher earnings in other periods, making it easier to meet or beat earnings targets. Second, firms often release financial information for the missing months in an obscure way, and even if investors pay attention to that information, they usually have more recent information about the firm to rely on. As a result, lower income for the missing months is not severely penalized by the capital market. Given that

¹³ See McNichols (2000); Zhang (2007); Wu et al. (2010). The literature has long recognized that the accrual component used to detect earnings management could potentially be related to economic factors and thus could result in spurious correlation between earnings management and the partition variable of interest (see McNichols and Wilson 1988; Schipper 1989).

the capital market reaction is a primary concern for managers when reporting financial results (e.g., Healy and Wahlen 1999; Graham et al. 2005), a muted market response leaves firms with little incentive to report good performance for the missing months. Third, standard data vendors do not collect information on the missing months. When institutional investors rely on computerized financial data to make investment decisions, they do not even realize a piece of a company's history is totally lost. Finally, if compensation is independent of firm performance, managers have little compensation incentive to report high income during the transition periods. Following the above discussion, we hypothesize that the missing months offer management an opportunity to manage earnings.

H1: Firms are likely to report lower earnings for the missing months than for adjacent quarters.

The second hypothesis concerns managerial incentives to manage earnings. First, we posit that firms may not tie executive compensation to firm performance in the transition period as they do in regular times. For regular fiscal years, many firms in our sample specify that cash bonuses are directly related to firm performance.¹⁴ For transition periods, however, no firms in our sample set systematic guidelines for executive compensation. The reason for this practice is that financial measures in transition periods are believed to be “transitional” and less relevant for evaluating managerial performance. We thus hypothesize a less pronounced pay–performance association during transition periods,¹⁵

¹⁴ For example, Cambex Corp. (CBEX) has “an Incentive Bonus Plan which provides for annual cash bonuses to certain key employees of the Company based on the Company’s operating results for the year up to an aggregate maximum of 15% of the Company's pre-tax income” (from the Proxy Statement filed on December 27, 1995); Hallwood Group Inc. (HWG) has a “Management’s Executive Incentive Plan [that] authorizes Hallwood Management to pay annual cash bonuses in an amount up to 10% of Hallwood Management’s net operating income for the prior year” (from the Proxy Statement filed on November 28, 1995).

¹⁵ The compensation data are reported for the entire transition period rather than individual months, making it impossible to study executive compensation for the missing months alone when the missing-month period is shorter than the transition period

H2a: Executive compensation is less responsive to firm performance in the transition period than in adjacent fiscal years.

We also draw on extensive managerial incentives documented in the literature, such as growth (e.g., Skinner and Sloan 2002; McVay 2006), past performance (e.g., Keating and Zimmerman 1999), equity incentives (e.g., Bergstresser and Philippon 2006), external monitoring (e.g., Yu 2008), and internal monitoring and corporate governance (e.g., Dechow et al. 1996). We hypothesize that the magnitude of income shifting varies with managerial incentives in predicted directions.

H2b: The magnitude of earnings management varies cross-sectionally with managerial incentives to manage earnings.

The last hypothesis examines the consequences of earnings management from different angles. First, as abundant evidence suggests that managers have strong incentives to meet or beat earnings benchmarks (e.g., Graham et al. 2005; Fan et al 2010), we expect that income shifting using the missing months helps firms meet or beat earnings targets in the subsequent quarter.

H3a: Firms are more likely to meet or beat earnings targets in the quarter after the missing months than in the quarter before.

We also examine the market reaction and expect the capital market to be less responsive to earnings surprises in the missing months and the quarter after. For the missing months, the release of transition period results is untimely and less noteworthy, and investors often have more recent information when a firm releases its financial information for the transition period.¹⁶ In addition, earnings surprises may be more transitory in the missing months than in regular quarters. For the quarter after, the market reaction to earnings news is also likely to be small as

¹⁶ Financial results in the missing months tend to be released in SEC filings, which are less noteworthy than press releases.

investors become lukewarm toward the positive earnings surprise achieved by income shifting. We summarize the above discussion in H3b,

H3b: The market tends to be less responsive to earnings surprises in the missing months and the quarter after than in the quarter before.

Finally, we examine how analysts react to the earnings surprises in the quarter after. When a firm announces actual earnings that differ from the prevailing consensus forecast, analysts will assess the persistence of the earnings surprise and revise their forecasts of future quarters accordingly, which suggests a positive correlation between earnings surprises and analysts' forecast revisions around earnings announcements. On the other hand, if analysts perceive earnings surprises to be transitory due to earnings management, they may not revise their forecasts of future earnings. Therefore, we expect a smaller correlation between earnings surprises and analyst forecast revisions in the quarter after than in the quarter before,

H3c: Analyst forecast revisions are less correlated with earnings surprises in the quarter after than in the quarter before.

3. Sample and descriptive statistics

3.1 Sample selection and data

Our sample consists of public firms whose fiscal year changes created stub periods not covered by quarterly reports. The sample period is 1993–2008, as the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system provides SEC filings dating back to 1993. We begin with all firms that have shifted their fiscal year closing dates by other than three, six, or nine months. We exclude firms for which financial results for the transition period are not available from EDGAR, and firms that change their fiscal year ends immediately after a merger or acquisition. We identify merger or acquisition firms by examining SEC filings and double-

checking all firms with acquisitions income contribution in excess of 5% of sales as reported on the annual Compustat tape. We also exclude firms that have emerged from bankruptcy, in which case fiscal year changes are part of post-bankruptcy restructuring plans. These exclusions ensure that our sample and its controls (adjacent quarters of the same firm) are indeed representative of the operations of the same business entity.

We designate a transition period or part of a transition period as “missing” if it is not covered in any regular quarterly reports. In many cases, regular quarterly reports encompass at least part of the transition period. When the transition period is longer than one quarter, firms typically continue to file up to three quarterly reports under the old fiscal year scheme because transition periods are often defined retrospectively. More than half of the firms decide to change fiscal year ends during the transition periods, and another 29.3% of firms decide to do so after the transition periods. Therefore, by the time firms decide to change their fiscal years, some quarterly reports have already been filed under the old fiscal year regime. In this case, the part of the transition period covered by regular quarters is not missing. In cases in which a part of the transition period is missing, firms may opportunistically allocate earnings so that the missing part is associated with disproportionately low income. The Appendix describes in more detail how we identify the missing months and subtract non-missing months from the transition periods.

Table 1 shows the sample selection procedure. Of 1,786 firms with fiscal year changes between 1993 and 2008, 976 firms shifted their fiscal year ends by three, six, or nine months. Among the remaining 810 firms, 423 have no financial data available on EDGAR: Either the firm had not filed electronically with EDGAR by the time of the fiscal year change, or the firm provided no information concerning the transition period. We exclude these firms, along with another 118 firms for which the fiscal year change is driven by a merger or acquisition or by a

post-bankruptcy restructuring plan. We lose another 43 observations for which the entire transition periods are covered by regular quarterly reports and are therefore classified as “non-missing.” Our final sample consists of 224 firms with hand-collected data that changed their fiscal year ends and had one or more missing months not covered by regular quarterly reports. For 93 out of the 224 cases, the transition periods are completely missing.

We hand-collect balance sheet and income statement items from transition reports or 10-Qs that contain financial results for transition periods. We also obtain filing dates of quarterly or transition reports from EDGAR. We then combine the financial data of the missing months with those of adjacent quarters extracted from Compustat where available. We caution that the Compustat data may be incomplete, because Compustat routinely fails to cover quarterly reports that are part of the transition period.¹⁷ Whenever a regular quarter is missing from Compustat, we hand-collect financial data from EDGAR filings.

We also hand-collect data on executive compensation, corporate governance, and management holdings from proxy statements (DEF 14A) filed with the SEC. We do not use data from Execucomp because its coverage is limited (only 21% of firms in our sample are covered) and because it does not report compensation data for the transition periods. For each firm, we collect compensation data for the CEO and CFO in the transition period and the two fiscal years surrounding it. We obtain corporate governance and management holdings data from the last proxy statement filed before the closing of the transition period.

We acquire institutional ownership data from CDA/Spectrum Institutional (13f) Holdings. Stock return data are from the Center for Research in Security Prices (CRSP). Analyst forecast data are from I/B/E/S.

¹⁷ Such omissions occur because the omitted quarters carry the same fiscal year-quarter label as some quarters under the new fiscal year scheme. For example, if a firm has two 2008Q1s, the one that falls into the transition period is typically dropped from Compustat coverage if data preparers use fiscal year-quarter as a sorting index.

3.2 Descriptive statistics

Table 2, Panel A presents the summary statistics. On average, our sample firms have a market value of \$367 million, a book-to-market ratio of 0.400, and a life of 11.43 years from the initiation of coverage by Compustat. Profitability is low for our sample of fiscal year changing firms, with mean (median) return on equity (*ROE*) of -0.231 (0.021).

Panel B of Table 2 reports the pattern of fiscal year changes. Among 224 sample firms, 120 firms (53.6%) adopted December as the new fiscal year end, while 42 firms (18.8%) shifted their fiscal year ends from December to other months. Old fiscal year ends are fairly evenly distributed in months other than March (two firms), June (nine firms), September (three firms), and December (42 firms), whereas new fiscal year ends are concentrated in January (29 firms) and December (120 firms). Because we have excluded all fiscal year shifts by three, six, and nine months, the patterns in Panel B may not be descriptive of the overall fiscal year-changing sample.¹⁸

Panel C of Table 2 reports the sample distribution by year. After 2002, the number of observations per year drops significantly: The six-year period of 2003–2008 accounts for only 20.1% of the sample, possibly because of closer monitoring by the SEC and more diligent auditing as a result of the Sarbanes-Oxley Act of 2002. To mitigate the concern that self-selection issues might be stronger for the post-SOX period, we examine whether firms' financial reporting differs significantly in the pre-SOX period (1993–2002) and post-SOX period (2003–2008). Untabulated results suggest that our results are not specific to either period.

¹⁸ Untabulated results based on all 1,786 fiscal year-changing firms show that 1,075 firms, or 56.8%, adopted December as the new fiscal year end, while 409 firms or 22.9% shifted their fiscal year ends from December to other months. Other popular fiscal year end choices include March, June, and September, accounting for 10.8%, 16.1%, and 11.9% of old fiscal year ends, and 7.7%, 8.7%, and 9.9% of new fiscal year ends, respectively. The concentration of fiscal year end in March, June, September, and December explains why three-, six-, nine- month shifts constitute the majority (54.6%) of fiscal year changes.

Panel D of Table 2 reports the industry composition of the sample, where industry is defined by two-digit SIC code. Four industries account for about 30% of the sample: business services (10.8%), electronic equipment (7.2%), chemicals and allied products (6.3%), and industrial, commercial machinery, computers (5.8%). The industry composition of our sample is similar to that of Compustat.

Panel E of Table 2 provides statistics on reporting timeliness. The mean reporting lag (the number of days between fiscal period end and the information release date) is 112.1 days for the missing months, compared with 52.8 and 41.8 days for the quarter before and the quarter after the missing months, respectively. Even though transition reports have more lenient filing deadlines than regular quarterly reports,¹⁹ firms are still more likely to miss the deadline for the transition period than for regular quarters (46.7% for the transition period, compared with 20.2% and 28.6% for the quarter before and the quarter after, respectively).

4. Research design and empirical results

4.1 Do firms report lower earnings in the missing months than in adjacent quarters?

To test H1 that firms tend to manage earnings downwards during the missing months, we take the same firm's surrounding quarters (the quarter before and the quarter after) as the control sample. As long as firm characteristics do not change substantially over such a short period of time, our research design effectively controls for many observed and unobserved firm characteristics.²⁰

¹⁹ For example, transition reports in the 10-K format must be filed no more than 90 days after either the close of the transition period or the date of the determination to change the fiscal closing date, whichever is later. In contrast, after 2004, regular 10-Ks should be filed no more than 60 days after fiscal year end.

²⁰ We check firm characteristics in the quarter before and the quarter after and find that fundamentals do not change significantly around the transition period.

We compare the level and change of a firm's operating performance in the missing months with those of two surrounding quarters. We consider three measures of performance: net income (NI), operating income ($Opinc$), and net sales (S). Operating income is revenue minus operating expenses, where operating expenses include cost of goods sold ($COGS$), selling, general and administrative expenses (SGA), depreciation, and other operating expenses.

We calculate changes in performance by seasonal comparisons. Because fiscal quarters under different fiscal year regimes correspond to different calendar months, we make seasonal comparisons on a calendar basis, based on the observation that a firm's operational cycle through a calendar year remains stationary despite the cosmetic fiscal year change. The Goldman Sachs example illustrates how we conduct seasonal comparisons. The financial results for the missing month (December 2008) are compared to those of December 2007, which is approximately one-third of the fiscal quarter 2008Q1. Therefore, change in net income (NI) for the missing month is given by

$$\Delta NI_{miss} = NI_{Dec2008} - \frac{1}{3} NI_{2008Q1}$$

Similarly, the fiscal quarter 2009Q1 (January–March 2009) is compared to the three-month period of January–March 2008, which is best approximated by two-thirds of 2008Q1 plus one-third of 2008Q2,

$$\Delta NI_{2009Q1} = NI_{2009Q1} - \left(\frac{2}{3} NI_{2008Q1} + \frac{1}{3} NI_{2008Q2} \right)$$

To make financial results comparable between the missing months and regular quarters, we transform all financial measures of the missing months into quarterly numbers by multiplying $3/NMONTH$, where $NMONTH$ is the number of months in the missing-month period. We scale level variables by the book value of equity (BV) at the beginning of the period, and scale change variables by BV at the beginning of the same period one year ago.

Table 3 presents tests of H1. The second column of Panel A compares the level of earnings (NI/BV) for the missing months with those of surrounding quarters. An average firm in the sample registers bad performances for the quarter before and the quarter after the missing months, with an average NI/BV of -0.075 and -0.083, respectively. The difference between the two quarters is statistically insignificant (p-value = 0.79), suggesting that firms' fundamentals are relatively stationary around the transition period. However, firms report a disproportionate loss of -0.214 for the missing months, which is significantly different from the quarter before at the 0.01 level. As the deflator is the beginning book value of equity, the mean difference in net income (about 14.5% of beginning book value) between the missing months and adjacent quarters is also economically significant. On average, firms report an extra loss equivalent to 4.8% (=14.5%/3) of beginning book value of equity per month in the missing months relative to adjacent quarters. Median statistics exhibit a similar pattern, with the missing months associated with significantly lower net income (-0.064) than the quarter before (-0.011) and the quarter after (-0.006). The practice of reporting lower income for the missing months is pervasive in our sample, as untabulated analysis shows that about 78% of sample firms choose to do so.²¹

The last two columns of Panel A, Table 3 report the results on revenues (S) and operating income ($Opinc$). Little evidence indicates that S differs between the missing months and adjacent quarters. In contrast, $Opinc$ is significantly lower in the missing months than in adjacent quarters. The quarter after is not statistically different from the quarter before for any measure of performance, in support of our assumption that fundamentals change little around the missing months.

Panel B of Table 3 conducts the same analysis on changes of performance measures. Overall, the results are similar to the level analysis in Panel A. The missing months register a

²¹ The percentage of firms reporting lower income should be 50% for a random sample.

mean earnings change ($\Delta NI/BV$) of -0.317, which is significantly lower at the 0.01 level than the quarter before (-0.025) and the quarter after (0.016). Operating income change ($\Delta Opinc/BV$) is also significantly lower in the missing months than in adjacent quarters. When compared to the level analysis, the only exception is that revenue change ($\Delta S/BV$) is statistically different between the missing months and the quarter before at the 0.05 level. However, the difference in revenue change is economically small if translated into earnings changes.

Overall, both level and seasonal change analyses provide evidence in support of H1 that firms report lower net income in the missing months than in adjacent quarters. Operating income is also considerably lower in the missing months, whereas sales are relatively stable.

4.2 How do firms report lower earnings in the missing months?

To provide direct evidence on the drivers of lower earnings in the missing months, we examine total operating expense and its individual components around the missing months. Specifically, we compare total operating expense ($OPEXP$), $COGS$, SGA , and one-time items (ONE) between the missing months and adjacent quarters. One-time items are defined as special items multiplied by $(1-t)$ plus extraordinary items, where t is the top statutory tax rate (35%). We scale expenses by revenue (S), which we show in the previous section to be relatively stable around the missing months.

Table 4 reports the mean and median values of expenses around the missing months. Consistent with the evidence in Table 3, we find that the mean operating expense as a percentage of sales is considerably higher in the missing months than in the quarter before (2.207 vs. 1.424). $COGS$ and SGA are also significantly higher in the missing months. On average, increases in $COGS$ and SGA account for over 70% of the increase in total operating expense.²²

²² From Table 4, $((0.933 - 0.692) + (0.731 - 0.451))/(2.157 - 1.424) = 71.1\%$.

The last column in Table 4 reports the magnitude of one-time items. Even though the magnitude of the one-time items in the missing months is larger than the quarter before (-0.044 vs. -0.023), the difference is statistically insignificant. However, one-time items in the quarter after are significantly smaller at the 10% level, which provides some evidence that firms tend to shift negative one-time items to the missing months.

Results based on median numbers are similar. Operating expenses are significantly higher in the missing months than in the quarter before, and the higher operating expense is mainly driven by higher *COGS* and *SGA*. The quarter after is not statistically different from the quarter before, regardless of the choice of performance measure, confirming that fundamentals are relatively stable around the missing months.

Overall, our evidence highlights the importance of recurring operating expenses, such as *COGS* and *SGA*, as a means of shifting income. This finding stands in sharp contrast to prior studies that emphasize more discretionary items, such as special items and other one-time items (e.g., Elliott and Shaw 1988). One implication of our evidence is that firms potentially have much larger discretion on recurring expense recognition than prior literature suggests.

4.3 Incentives to manage earnings

4.3.1 Executive compensation and firm performance

H2a states that executive compensation in the transition periods is less responsive to firm performance than in adjacent fiscal years. To test this hypothesis, we estimate a simple model of the pay–performance relationship on the transition periods and adjacent fiscal years.²³ Firm performance is measured by net income (*NI*). Executive compensation variables include bonus

²³ Ideally researchers of the pay–performance relationship would want to estimate pay–performance for each firm, but that would require a prohibitively long time series (e.g., Lambert and Larcker 1988). Instead, we assume that time trends and pay–performance relationships are constant across executives and estimate one single pay–performance sensitivity measure (e.g., Murphy 1999).

(*BONUS*), annual compensation (*ANN_PAY*), long-term compensation (*LT_PAY*), and total compensation (*TOT_PAY*). *ANN_PAY* is the sum of salary, bonus, and other annual compensation. *LT_PAY* is the sum of the dollar value of restricted stock granted, value of options (*OPT_VAL*), and other long-term compensation. *OPT_VAL* is equal to the dollar value of options granted; if this value is not disclosed in the proxy statement, we value options according to the Black-Scholes methodology as used by Execucomp.²⁴ *TOT_PAY* is the sum of *ANN_PAY*, *LT_PAY*, and all other compensation. We focus on the compensation of CEOs and CFOs, as research shows that CEOs have dominating power (e.g., Bebchuk et al., forthcoming) and that CFOs are often involved in accounting manipulations (e.g., Jiang et al. 2010; Feng et al. 2011).

Panel A of Table 5 reports the association between CEO compensation and firm performance. We estimate a simple compensation–performance relationship on three different samples: Sample (-1, 1) includes the fiscal year before and the fiscal year after the transition period; Sample (-1, T, 1) includes Sample (-1, 1) and the transition period; and Sample T includes the transition period only. We find that Sample (-1, 1) exhibits a strong positive association between compensation variables and *NI* (e.g., for *ANN_PAY*, $t=8.33$). However, when we also include the transition period in the regression, the absolute value and t-statistic of the coefficient on *NI* are greatly reduced, although still significant (e.g., for *ANN_PAY*, $t=2.55$). Sample T alone does not exhibit a discernable association between compensation and firm performance ($t=0.29$). The results on CFO compensation are similar, as Table 5, Panel B shows. Untabulated results reveal that the conclusions are not changed when we use operating income (*Opinc*) as the measure of firm performance.

Overall, the results provide support to H2a. While executive compensation in adjacent fiscal years is positively correlated with firm performance, compensation in the transition period

²⁴ For details on the Black-Scholes methodology, see http://umi.compustat.com/docs-mi/help/blk_schol.htm.

does not seem to depend on performance. Therefore, managers have little incentive to report high earnings in the transition period, which contains the missing months.

4.3.2 Managerial incentives and the cross-section of income shifting

Researchers have identified a plethora of potential determinants of earnings management (Dechow et al. 2010). In particular, prior studies show that high-growth firms have stronger incentives to meet earnings forecasts (e.g., Skinner and Sloan 2002); firms with poor past performance have stronger incentives to manage earnings (e.g., Keating and Zimmerman 1999); firms for which CEO compensation carries stronger equity incentives are more likely to manipulate earnings (e.g., Bergstresser and Philippon 2006); firms with better external monitoring, as proxied by analyst coverage, manage earnings less (e.g., Yu 2008); and firms that manage earnings are more likely to have poor internal monitoring and corporate governance, as proxied by the CEO–chairman indicator, blockholders, and institutional ownership (e.g., Dechow et al. 1996; Collins et al. 2003). Based on these studies, we develop several proxies for managerial incentives and test whether they explain the magnitude of income shifting in the cross-section test (H2b),

$$\begin{aligned} IncomeShift = & \beta_0 + \beta_1 BM + \beta_2 RET5Y + \beta_3 ANALYST + \beta_4 CEO_CHAIR + \beta_5 AFFDIRECTORS \\ & + \beta_6 BLOCK + \beta_7 INST + \beta_8 CFO_ONEPCT + e_i \end{aligned} \quad (1)$$

where *IncomeShift* is the proxy for the magnitude of income shifting, calculated as the difference in earnings change between the missing months (transformed into quarterly numbers) and adjacent quarters,

$$IncomeShift = \frac{1}{2} \left[\left(\frac{\Delta NI}{BV} \right)_{before} + \left(\frac{\Delta NI}{BV} \right)_{after} \right] - \left(\frac{\Delta NI}{BV} \right)_{miss}$$

. A higher value of *IncomeShift* means more downward earnings management in the missing months. *BM* is the book-to-market ratio at the prior year end, a proxy for growth. *RET5y* is the past five-year stock returns up to three months before the missing-month period, a measure of past performance.

ANALYST is the logarithm of one plus the number of analysts that cover the company in the quarter before the transition period. If no analyst coverage occurs, we set the value of *Analyst* to 0. *CEO_CHAIR* is an indicator variable that takes the value 1 if the CEO is also the chairman of the board. *AFFDIRECTORS* is the percentage of board members as affiliated directors, a measure of the level of board independence. *BLOCK* is the logarithm of one plus the number of outside blockholders (5% ownership or more). *INST* is the institutional holdings as a percentage of outstanding shares. *CFO_ONEPCT* is CFO's monetary gain from a 1% increase in stock price, measured as $0.01 \times P \times (SHARES + OPTIONS)$, where P is the company share price, $SHARES$ is the number of shares held by the CFO, and $OPTIONS$ is the number of options held by the CFO and exercisable within 60 days.

Table 6 reports the regression results of equation (1). Models 1-8 are univariate tests of individual incentive variables, while Model 9 collectively tests all variables. In the univariate tests, we find that the coefficients on most incentive variables are in the right direction and four (*BM*, *RET5Y*, *ANALYST*, *BLOCK*) are statistically significant at the 0.05 level. Growth firms, firms with poor stock returns, firms with low analyst coverage, firms with few blockholders, and firms with low institutional holdings tend to manage earnings more. Firms with more affiliated directors on their board also tend to manage earnings more, but the coefficient is statistically insignificant. In the multivariate test, the results still hold except that the coefficient on institutional ownership becomes insignificantly positive. *CEO_CHAIR* and *CEO_ONEPCT* have predicted signs in the multivariate tests, but their coefficients are insignificant in all models, a result generally in line with recent studies (e.g., Larcker et al. 2007; Armstrong et al. 2010).

Overall, in support of H2b, our results suggest that income shifting varies cross-sectionally in a predictable way with earnings management incentives documented in prior literature.

4.4 The consequences of earnings management

In this section, we examine three potential consequences of earnings management: whether firms are more likely to meet or beat earnings targets in subsequent quarters (H3a); how the stock market reacts to earnings surprises (H3b); and how future earnings news affects analyst forecast revision (H3c).

4.4.1 Meeting or beating earnings targets

Firms manage earnings to meet or beat a range of earnings benchmarks, such as analysts' forecasts, prior earnings (earnings in the same quarter of the last year), and zero earnings (e.g., Fan, Barua, Cready, and Thomas 2010). In our setting, prior earnings are not a salient benchmark because of the misalignment of reporting cycles due to fiscal year changes. Instead, our test of H3a focuses on the other two earnings targets, analysts' forecasts and zero earnings. With the aid of earnings management in the missing months, firms are expected to meet or beat earnings targets more in the quarter after than in the quarter before.

Forecast error (FE/P) is measured as actual earnings minus I/B/E/S consensus forecast scaled by stock price on the forecast date.²⁵ Following Fan et al. (2010), we classify a firm-quarter as “Just Meet or Beat Analysts' Forecasts” (*JustMBAF*) if the forecast error falls between \$0.00 and \$0.01, and classify a firm-quarter as “Just Meet or Beat Zero Earnings” (*JustMBZ*) if the reported earnings per share is between \$0.00 and \$0.04.

²⁵ If firms release financial information for the missing months and for the quarter after at the same time, as in the Goldman Sachs example, analysts often do not have more recent information for updating their forecasts for the quarter after, suggesting a more positive earnings surprise in the quarter after than in the quarter before.

Panel A of Table 7 reports the empirical results on meeting/beating earnings targets. The first column shows that the average forecast errors are -0.99% and -0.30% for the quarter before and the quarter after, respectively. The difference of 0.69% is statistically significant at the 0.10 level, suggesting that firms tend to have more favorable earnings surprises in the quarter after. The second column of Panel A shows that the fraction of *JustMBAF* firms is similar between the quarter before and the quarter after the missing months. In the last column of Panel A, we find that firms just meet or beat the zero earnings target (*JustMBZ*) in the quarter after twice as often as they do in the quarter before (14.10% vs. 7.69%). Overall, the evidence provides some support for H3a that earnings management in the missing months helps firms meet or beat earnings targets in the subsequent quarter.

4.4.2 Market reaction to earnings surprises

H3b predicts smaller market reactions to earnings surprises in the missing months and the quarter after than the quarter before. To measure the market reaction, we need to accurately identify the information release date, i.e., the date on which earnings information becomes available to the public. We manually collect press releases from major newswire services via Factiva. For press releases that contain earnings information for certain fiscal periods, we use the press release dates as information release dates. Otherwise, we use the corresponding SEC filing date available from EDGAR as the information release date. While financial results for regular fiscal periods are released in earnings announcements that precede SEC filings, financial results for transition periods are often first released in SEC filings. We define the information release date as the earnings announcement date or the SEC filing date, whichever comes earlier.

We measure “announcement” returns ($ARET$) over the five-trading-day $[-2, 2]$ window, where date 0 is the information release date. We estimate the following two models on a pooled sample that includes the missing months, the quarter before, and the quarter after,

$$ARET_t = \beta_0 + \beta_1 D_{miss} + \beta_2 D_{after} + \beta_3 \Delta NI + \beta_4 \Delta NI \times D_{miss} + \beta_5 \Delta NI \times D_{after} + e_t \quad (2)$$

$$ARET_t = \beta_0 + \beta_1 D_{miss} + \beta_2 D_{after} + \beta_3 \Delta Opinc + \beta_4 \Delta Opinc \times D_{miss} + \beta_5 \Delta Opinc \times D_{after} + e_t \quad (3)$$

where D_{miss} and D_{after} are indicator variables that take the value 1 for the missing months and the quarter after, respectively; ΔNI and $\Delta Opinc$ are changes in net income and operating income relative to one year ago, respectively. For the missing months and the quarter after, we calculate ΔNI and $\Delta Opinc$ by seasonal comparisons, as discussed in details in Section 4.1. Following the earnings-return literature, we scale both ΔNI and $\Delta Opinc$ by market value of equity one year ago. To mitigate nonlinearity and outlier concerns and facilitate the interpretation of coefficients, we substitute actual values of ΔNI by percentile rankings and convert them to a $[0, 1]$ scale, where rankings are obtained by ranking observations and assigning them to 100 portfolios.

The earnings response coefficient (ERC) for the quarter before is given by β_3 , the ERC for the missing months is $\beta_3 + \beta_4$, and the ERC for the quarter after is $\beta_3 + \beta_5$. Since firms release financial information for the missing months in an obscure and untimely manner, H3b predicts that the ERC for the missing months is smaller than the ERC for the quarter before, i.e., $\beta_4 < 0$. When firms report earnings in the quarter subsequent to the missing months, the information about the transition period is typically disseminated. If the market perceives that earnings in the quarter after are overstated and will not persist, the market reaction should be smaller than the reaction to the quarter before, i.e., $\beta_5 < 0$.

Panel B of Table 7 presents the results on market reactions to earnings surprises. Consistent with prior literature on earnings–return relations, the ERC for the quarter before is positive and significant: β_3 is 0.138 ($t=1.98$) when earnings surprises are measured by ΔNI , and 0.211 ($t=2.64$) when earnings surprises are measured by $\Delta Opinc$. In contrast, the overall ERC for the missing months is statistically indifferent from zero, suggesting that the market barely reacts to earnings surprises in the missing months. The ERC for the quarter after is smaller than the ERC for the quarter before. A one-sided test shows that the coefficient on $\Delta NI \times D_{after}$ (-0.147; $t= -1.50$) and the coefficient on $\Delta Opinc \times D_{after}$ (-0.148; $t= -1.32$) are both marginally significant. Therefore, the market perceives earnings in the quarter after the missing months as managed and less persistent.

The main takeaway from the market reaction test is that, regardless of the earnings surprise proxy used, the market does not react to earnings news of the missing months, which contrasts sharply with the quarter before.²⁶ In addition to other incentives, the lack of a market penalty serves as a strong incentive for firms to manage earnings.

4.4.3 Analysts' forecast revision around earnings announcements

H3c predicts analysts do not revise their forecasts conditional on the earnings surprises in the quarter after as much as they do in the quarter before. To test this hypothesis, we examine whether analysts' forecast revision (REV) is conditioned on earnings surprises measured by forecast error (FE/P). REV is analysts' forecast revisions on next quarter's earnings, defined as

²⁶ Even though market reaction to financial results in the missing months is mostly measured around SEC filing dates, our finding is not subsumed by studies on the market reaction surrounding SEC filings (e.g., Li and Ramesh 2009). In those studies, SEC filings are mostly preceded by earnings announcements; therefore, SEC filings only matter to the extent that they provide confirmation of or information incremental to the preliminary earnings numbers contained in earnings announcements. In our setting, however, SEC filings constitute the initial and sole source of financial information for the transition periods.

the change in consensus forecast around earnings announcement scaled by stock price on the forecast date prior to earnings announcement.

Panel C of Table 7 reports results. We find that analyst forecast revisions are positively correlated with earnings surprises in the quarter before. On average, 62.7% of earnings surprises are perceived to be permanent. In contrast, earnings surprises and analyst forecast revisions are uncorrelated in the quarter after the transition period. Apparently, when firms announce their earnings in the quarter after, analysts are already aware of the missing months and view the earnings surprises achieved through earnings management to be less persistent. As a result, they do not revise their future earnings forecasts in the way that they do in the quarter before.

In sum, we find that earnings management in the missing months helps firms meet or beat earnings targets in the quarter after the transition period. Investors and analysts consider the earnings surprises less persistent and show a smaller reaction in the quarter after than in the quarter before.

5. Alternative explanations and additional tests

5.1 Endogeneity of fiscal year changes

A firm's decision to change its fiscal year end could be endogenous. A firm is more likely to change its fiscal year end in bad times, as indicated by the negative profitability for our sample in Table 3. It seems possible that our performance measure, which is meant to capture earnings management, is endogenously determined by a firm's underlying fundamental factors unrelated to managerial opportunism. We emphasize, however, that our research design of using adjacent quarters as the control sample has addressed the endogeneity issue to some degree, since any fundamental factor should also affect the firm's financial performance in the short periods of time surrounding the missing months. Therefore it cannot explain why the financial

performance is much worse in the missing months than in adjacent quarters. Given that firm performance in the quarter after is remarkably similar to that in the quarter before, it seems implausible that firms experience a sudden decrease in profitability and fully recover in a matter of several months (the “V” shape). Nevertheless, we conduct two additional tests to address any remaining concerns.

5.1.1 Three-, six-, and nine-month shifts

To further alleviate the endogeneity concern, we consider firms with their fiscal year ends shifted by three, six, or nine months. This sample is a natural control for our main sample. On one hand, firms in this sample have less incentive to manage earnings in the transition periods. When firms shift their fiscal year ends by multiples of a quarter, either the transition periods are entirely covered by regular quarterly reports, or the transition reports can be easily interpreted as quarterly reports (although labeled as transition period reports in EDGAR). Furthermore, analysts continue their coverage for such periods and treat them as regular quarters. As a result, these firms are less likely to manage earnings than firms with the missing months. On the other hand, both this sample and our main sample are subject to the endogeneity issue: Firms change their fiscal years endogenously. If any fundamental factor related to fiscal year changes is the underlying reason for bad performance for the transition period, we should observe similar results between this sample and our missing month sample.

From the 976 firms with the fiscal year end shifted by three, six, or nine months, we randomly select 250 firms. We then exclude firms with missing data, firms experiencing mergers and acquisition, and firms emerging from bankruptcy. Our final sample consists of 114 firms that shifted their fiscal year ends by three, six, or nine months between 1993 and 2008. We hand-

collect financial data for the transition period not covered by Compustat and obtain financial data for surrounding quarters from Compustat.²⁷

We find similar firm characteristics between the 3-/6-/9-month shifts sample and our main sample. As reported in Panel A of Table 8, return on equity (*ROE*), market value of equity (*MV*), the book-to-market ratio (*BM*), past one-year stock returns (*RET1y*) and past five-year stock returns up to three months before the missing month period (*RET5y*) are all statistically indifferent between the two samples. This finding alleviates the concern that firms in the 3-/6-/9-month shifts sample are self-selected and not comparable to firms in our main sample.

We repeat our main analysis of Table 3 on the 3-/6-/9-month sample, and report the results in Panel B of Table 8. For firms shifting their fiscal years by three, six, or nine months, financial performance is similar between the transition period and adjacent quarters, in contrast to our main sample results in Table 3. No single financial measure is statistically different at the 0.05 level between the quarter before, the transition period, and the quarter after. Figure 1 presents the comparison between the two samples. While earnings for the orphan-month sample exhibit a clear “V” shape, the earnings pattern for the 3-/6-/9-month sample is relatively flat.

5.1.2 Industry norm conformation

To address the possibility that firms with missing months are self-selected to manage earnings, we examine whether firms that change to industry norms manage earnings less. Firms with new fiscal year ends conforming to industry norms (or industry-wide regulation) are less likely to have self-selection biases.

We define the industry norm as the fiscal year end adopted by the largest number of firms within the two-digit SIC industry in the year after the fiscal year change. We then partition the 224 firms in our sample into two groups based on whether the new fiscal year end conforms to

²⁷ For about one-third of firms in this sample, the transition period is not followed by Compustat.

the industry norm, and replicate the analysis of Table 3. We measure the magnitude of earnings management by the difference between the performance in the missing months and the average performance in the two adjacent quarters (*DIFF*). Table 9 reports results. In both conforming and non-conforming subsamples, we find strong evidence of earnings management (*DIFF*) based on various performance measures. The difference in earnings management between the two subsamples ($DIFF(\text{conforming}) - DIFF(\text{non-conforming})$) is statistically insignificant, regardless of the choice of performance measure.

Overall, analyses based on 3-/6-/9-month shifts and industry norms suggest that endogeneity and self-selection are unlikely to be the explanation for our main results. Rather, substantially lower earnings in the missing months are probably due to earnings management.

5.2 Expenses associated with fiscal year changes

Fiscal year-changing firms may incur substantial administrative expenses associated with changes in the accounting system. In addition, firms may experience disruptions to operations during fiscal year changes. The administrative expenses and disruptions to operations may be concentrated in the transition period, resulting in lower earnings. However, any cost associated with fiscal year changes is likely to affect the sample of the 3-/6-/9-month shifts as much as the orphan-month sample. However, in contrast to the “V” shape of earnings for the orphan-month sample, we find no significant changes in earnings around the transition period for the 3-, 6-, and 9-month shifts. The contrast between the two samples suggests that expenses associated with fiscal year changes are unlikely to explain our results.

5.3 Business seasonality

Another explanation for the lower earnings in the missing months is that corporate business exhibits strong seasonality, with troughs in the missing months. However, given that the

missing months last only 1.78 months on average, we view such a coincidence as less likely. Seasonality is also an unlikely explanation for the similar financial results of the quarter before and the quarter after. Moreover, in the main analysis, our measures of changes in financial performance (ΔNI , $\Delta Opinc$, and ΔS) control for seasonality.

To further alleviate the seasonality concern, we examine the management discussion and analysis in transition reports for indications of business seasonality. We find no anecdotal evidence that seasonality plays a major role. Finally, as the missing months are typically the last one or two months in firms' new fiscal year schemes, we explore the possibility that unusual year-end business activities, such as the Christmas shopping season for retailers, are responsible for the lower income in the missing months. For 50.2% of our main sample, the missing months are the two-month period of November–December or the month of December. We partition the sample conditional on whether November and/or December are part of the missing months, but find no statistical difference between the two subsamples.

5.4 The hierarchy of financial misreporting

Firms could manage earnings in a variety of ways, such as through accruals management (e.g., Barton and Simko 2002) and classification shifting (e.g., McVay 2006; Fan et al. 2010). In this section, we attempt to shed light on the hierarchy of financial misreporting. Specifically, we test whether classification shifting and accrual management are more prevalent in our sample before fiscal year changes, compared with other firms.

For classification shifting, we follow McVay (2006) and calculate unexpected core earnings (UE_CE) and special items as a percentage of sales ($\%SI$). Then we estimate the following model,

$$UE_CE = \alpha_0 + \alpha_1 \%SI + \alpha_3 D + \alpha_4 \%SI \times D + e \quad (4)$$

where D is an indicator variable that takes the value 1 for firms in our missing month sample in the years prior to fiscal year change and 0 otherwise. Equation (4) is estimated on the Compustat universe from 1993 to 2008. We find a positive coefficient on $\%SI$ (0.282, $t=22.67$). More importantly, we find a positive coefficient on the interaction term (0.297, $t=2.26$), suggesting that our sample firms are more likely than other firms to employ classification shifting prior to fiscal year changes.

For accrual management, we estimate the Dechow and Dichev (2002) model and use the residual to proxy for discretionary accruals. We find that firms in our sample have higher discretionary accruals in the years prior to the fiscal year changes, but the difference in discretionary accruals between our sample and other firms in the Compustat universe is statistically insignificant ($t=1.07$).

Overall, we find some evidence that firms engage in other forms of earnings management before resorting to the missing months. Given our small sample, we view this evidence as suggestive rather than conclusive regarding the hierarchy of financial misreporting.

6. Concluding remarks

We identify a specific event—the shift in fiscal year end—during which firms are likely to engage in earnings management. We study the financial reporting practices around this event using a unique hand-collected data set. We find that firms report lower income in the missing months than they do in adjacent quarters, and that they shift income mainly by recording higher recurring operating expenses. We find that managers have various incentives to shift income around the missing months, and that executive compensation in the transition period is less responsive to firm performance than in adjacent fiscal years. Growth firms, firms with poor stock returns, firms with low analyst coverage, firms with few blockholders, and firms with low

institutional holdings tend to manage earnings more. As a consequence of income shifting, firms are more likely to meet or beat their earnings target in the quarter after, but investors and analysts perceive the earnings surprise as less persistent.

Our findings underscore the role of infrequent corporate events in financial reporting practices. Fiscal year changes are similar to accounting restatements, accounting policy changes (e.g., from LIFO to FIFO), cross-listings, regulatory changes, stock-for-stock mergers, and other events that have been extensively examined in the literature. Each of these events occurs infrequently, but taken together, they may provide plenty of opportunities to manage earnings.

Our study also illustrates a unique setting for studying the interplay of investor attention, corporate reporting, and disclosure policies. Not all fiscal year-changing firms manage earnings. Firms that shift fiscal year ends by three, six, or nine months do not engage in substantial income shifting, because their transition periods are as visible as regular quarters. This finding implies that investor inattention, along with frictions in compensation contracts and weaknesses in external and internal monitoring, fosters corporate opportunism in financial reporting.

References

- Antle, R., and A. Smith. 1986. An empirical investigation of the relative performance evaluation of corporate executives. *Journal of Accounting Research* 24: 1-39.
- Armstrong C., A. Jagolinzer, and D. Larcker. 2010. Chief executive officer equity incentives and accounting irregularities. *Journal of Accounting Research* 48: 225-271.
- Barnea, A., J. Ronen, and S. Sadan. 1976. Classificatory smoothing of income with extraordinary items. *The Accounting Review* 51: 110-122.
- Barton, J., and P. Simko. 2002. The balance sheet as an earnings management constraint. *The Accounting Review* 77 (Supplement): 1-27.
- Bartov, E., D. Givoly, and C. Hayn. 2002. The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics* 33: 173-204.
- Beatty, A., S. Chamberlain, and J. Magliolo. 1995. Managerial financial reports of commercial banks: The influence of taxes, regulatory capital and earnings. *Journal of Accounting Research* 33: 231-261.
- Beaver, W., C. Eger, S. Ryan, and M. Wolfson. 1989. Financial reporting, supplemental disclosures, and bank share prices. *Journal of Accounting Research* 27: 157-178.
- Bebchuk, L., M. Cremers, and U. Peyer. Forthcoming. CEO Pay Slice and Firm Performance. *Journal of Financial Economics*.
- Bergstresser, D., and T. Philippon. 2006. CEO incentives and earnings management. *Journal of Financial Economics* 80: 511-529.
- Collins, D., G. Gong, and P. Hribar. 2003. Investor sophistication and the mispricing of accruals. *Review of Accounting Studies* 8: 251-276.
- Dechow, P., and I. Dichev. 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77: 35-59.
- Dechow, P., W. Ge, and C. Schrand. 2010. Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics* 50: 344-401.
- Dechow, P., and D. Skinner. 2000. Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons* 14: 235-250.
- Dechow, P., R. Sloan, and A. Sweeney. 1995. Detecting Earnings Management. *The Accounting Review* 70: 193-225.
- Dechow, P., R. Sloan, and A. Sweeney. 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13: 1-36.
- Elliott, J., and J. Hanna. 1996. Repeated accounting write-offs and the information content of

- earnings. *Journal of Accounting Research* 34: 135-155.
- Elliott, J., and W. Shaw. 1988. Write-offs as accounting procedures to manage perceptions. *Journal of Accounting Research* 26: 91-119.
- Erickson, M., and S. Wang. 1999. Earnings management by acquiring firms in stock for stock mergers. *Journal of Accounting and Economics* 27: 149-176.
- Fan, Y., A. Barua, W. Cready, and W. Thomas. 2010. Managing earnings using classification shifting: Evidence from quarterly special items. *The Accounting Review* 85: 1303-1323.
- Feng, M., W. Ge, S. Luo, and T. Shevlin. 2011. Why do CFOs become involved in material accounting manipulations? *Journal of Accounting and Economics* 51: 21-36.
- Fields, T., T. Lys, and L. Vincent. 2001. Empirical research on accounting choice. *Journal of Accounting and Economics* 31: 255-307.
- Fried, D., and N. Sinha. 2008. Clustered disclosures by competing firms: The choice of reporting periods. Working Paper.
- Gibbons, R. and K. Murphy. 1990. Relative performance evaluation for chief executive officers. *Industrial and Labor Relations Review* 43: 30-51.
- Graham, J., C. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3-73.
- Healy, P., and J. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13: 365-383.
- Hirshleifer, D., S. Lim, and S. Teoh. 2009. Driven to distraction: Extraneous events and underreaction to earnings news. *Journal of Finance* 64: 2289-2325.
- Huberman, G., and S. Kandel. 1989. Firms' fiscal year, size and industry. *Economics Letters* 29: 69-75.
- Jiang, J., K. Petroni, and I. Wang. 2010. CFOs and CEOs: Who have the most influence on earnings management. *Journal of Financial Economics* 96: 513-526.
- Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29: 193-228.
- Keating, A. and J. Zimmerman. 1999. Depreciation-policy changes: Tax, earnings management, and investment opportunity incentives. *Journal of Accounting and Economics* 28, 359-389.
- Lambert, R., and D. Larcker. 1988. An analysis of the use of accounting and market measures of performance in executive compensation contracts. *Journal of Accounting Research* 25: 85-129.
- Larcker, D., S. Richardson, and I. Tuna. 2007. Corporate governance, accounting outcomes, and organizational performance. *The Accounting Review* 82: 963-1008.
- Li, E., and K. Ramesh. 2009. Market reaction surrounding the filing of periodic SEC reports. *The*

- Accounting Review* 84: 1171-1208.
- McNichols, M. 2000. Research design issues in earnings management studies. *Journal of Accounting and Public Policy* 19: 313-345.
- McNichols, M., and P. Wilson. 1988. Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research* 26: 1-31.
- McVay, S. 2006. Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review* 81: 501-531.
- Miller, G., and D. Skinner. 1998. Determinants of the valuation allowances for deferred tax assets under SFAS No. 109. *The Accounting Review* 73: 213-233.
- Moore, M. 1973. Management changes and discretionary accounting decisions. *Journal of Accounting Research* 11: 100-107.
- Murphy, K., 1999. Executive compensation. In: Orley, A., and C. David (eds.), *Handbook of Labor Economics*, Vol. 3. North-Holland, Amsterdam.
- Porter, T., E. Swanson, M. Wilkins, and L. Holder-Webb. 2000. Corporate disclosure of the decision to change the fiscal year end. *Research in Accounting Regulation* 14: 81-100.
- Schipper, K. 1989. Commentary on earnings management. *Accounting Horizons* 3 (4): 91-102.
- Scholes, M., G. Wilson, and M. Wolfson. 1990. Tax planning, regulatory capital planning, and financial reporting strategy for commercial banks. *Review of Financial Studies* 3: 625-650.
- Schrand, C., and F. Wong. 2003. Earnings management using the valuation allowance for deferred tax assets under SFAS No. 109. *Contemporary Accounting Research* 20: 579-611.
- Securities and Exchange Commission (SEC). 1934. *General Rules and Regulations Promulgated under the Securities Exchange Act of 1934* (as amended in 1989). Washington, DC.
- Skinner, D., and R. Sloan. 2002. Earnings surprises, growth expectations, and stock returns or don't let an earnings torpedo sink your portfolio. *Review of Accounting Studies* 7: 289-312.
- Smith, D., and S. Pourciau. 1988. A comparison of the financial characteristics of December and non-December year-end companies. *Journal of Accounting and Economics* 10: 335-344.
- Wu, J., L. Zhang, and X. F. Zhang. 2010. The *q*-theory approach to understanding the accrual anomaly. *Journal of Accounting Research* 48: 177-223.
- Yu, F. 2008. Analyst coverage and earnings management. *Journal of Financial Economics* 88: 245-271.
- Zhang, X. F. 2007. Accruals, investment, and the accrual anomaly. *The Accounting Review* 82: 1333-1363.

Appendix

Transition periods and missing months

In many cases in our initial sample, part or all of the transition periods are not “missing,” in the sense that they are covered by some quarterly reports. For the purpose of accurately identifying missing months, we divide our sample firms into three categories, based on whether (part of) the transition period is “missing.”

Case 1: The entire transition period is missing

For firms in this category, no regular quarterly report is filed for any part of the transition period. Figure A.1 illustrates the example of Price Legacy Corporation (PLRE): “Effective September 1, 1997, the Company changed its fiscal year end from August 31 to December 31 as required by the Internal Revenue Service for REITs” (from “Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934,” filed on March 27, 1998). The first row of Figure A.1 shows the timeline under the old fiscal year scheme. The second row shows the timeline under the new fiscal year scheme. The third row underpins the calendar months that correspond to fiscal quarters.

Figure A.1 The entire transition period is missing: Price Enterprises, Inc.

1997 Q3			1997 Q4				Transition Period (4 months)				1998 Q1			1998 Q2			
2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7

Case 2: Part of the transition period is missing

Firms in this category typically report one or several quarterly financial statements using the old fiscal year scheme after the closing date of the most recent fiscal year and before the opening date of the new fiscal year. Missing months are defined as the months not covered by any of these quarterly reports. Two cases exist, depending on whether the operation results for the missing months are separately reported: (i) The transition report separately reports operation results for the quarters that have already been covered and for the missing months; (ii) the transition report only reports operation results for the entire transition period. In the second case, we subtract the operation results that have already been reported in quarterly reports, and use the difference as the operation results for the missing months.²⁸ Whenever Compustat data are incomplete (see discussion in Section 3.1), we supplement the data by hand-collected data from EDGAR. Figure A.2 illustrates the example of Acorn Products, Inc. (ACRN): “We have changed our fiscal year end from the Friday closest to July 31 to December 31” (from “Transition Report

²⁸ This procedure should be as accurate as it is intuitive, except in one case, Remote Dynamics, Inc. (RMTD), where the mapping of non-missing months (11 months, not a multiple of three) to quarterly reports is not exact. As a result, we use two-thirds of a quarter plus another three quarters as subtraction.

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934,” filed on February 23, 2000). In this case, we define November and December 1999 as the missing months, as August–October 1999 (2000Q1 in the old fiscal year scheme) was treated as a regular quarter by the capital markets.

Figure A.2 Part of the transition period is missing: Acorn Products, Inc.

1999 Q3			1999 Q4				2000 Q1											
							Transition Period (5 months)					2000 Q1			2000 Q2			
2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	

Case 3: No missing months

For firms in this category, the entire transition period is covered by regular quarterly reports. We exclude these observations from our sample. This coverage happens when firms report under the new fiscal year scheme in partial overlap with reports under the old fiscal year. For example, Blount International Inc. (BLT) states that “[e]ffective April 15, 1996, the Board of Directors of Blount International, Inc. approved the change of [its] fiscal year from a year ending on the last day of February, which was the fiscal year end used in its most recent filing with the Securities and Exchange Commission, to the new fiscal year end of December 31. The report on Form 10-K for the ten-month period ending December 31, 1996, will be the form on which the report covering the transition period will be filed by [BLT]. During the transition period, [the company] will file quarterly reports on Form 10-Q on the basis of the quarter-ends of the newly adopted fiscal year, March 31, June 30 and September 30” (from “Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934,” filed on March 3, 1997). Blount International’s case is illustrated by Figure A.3.

Figure A.3 Transition period with no missing months: Blount International, Inc.

1995 Q3			1995 Q4			Transition Period (10 months)												
			1996 Q1			1996 Q2			1996 Q3			1996 Q4			1997 Q1			
10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	

Table 1 Sample selection

Selection criteria	No. of firms
All Compustat firms with fiscal year change, 1993-2008	1,786
Less: Firms with fiscal year end shifted by 3, 6, or 9 months	-976
All firms with fiscal year change but not by 3, 6, or 9 months	810
Less: No financial data available on EDGAR (including foreign issuers, observations before 1994, and delinquent filers)	-423
Less: Mergers and acquisitions, and firms emerging from bankruptcy	-118
Less: Firms whose entire transition periods are covered by quarterly reports	-43
Less: Data inconsistency	-2
Final sample	224
Firms with entire transition periods missing	93
Firms with only part of transition periods missing	131

Table 2 Descriptive statistics

Panel A: Descriptive statistics

	Mean	Stdev	Min	Q1	Median	Q3	Max
<i>MV</i>	367.36	900.56	0.41	21.13	60.01	278.18	5032.2
<i>BM</i>	0.400	0.716	-2.877	0.156	0.355	0.657	2.195
<i>ROE</i>	-0.231	0.611	-2.599	-0.271	0.021	0.092	0.532
<i>Age</i>	11.43	10.25	1	4	8	17	46
<i>RET_{t-14,t-3}</i>	0.120	0.933	-0.990	-0.404	-0.080	0.411	6.580

Panel B: Patterns of fiscal year end changes

Old FYE	New FYE												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Jan	0	0	0	0	0	2	0	0	2	0	1	15	20
Feb	2	0	1	0	0	0	0	0	0	1	0	13	17
Mar	0	0	0	2	0	0	0	0	0	0	0	0	2
Apr	0	0	1	0	0	1	1	0	1	0	0	11	15
May	1	0	3	0	0	2	0	0	2	0	0	14	22
Jun	6	0	0	2	0	0	0	0	0	1	0	0	9
Jul	1	1	2	0	0	2	0	0	1	0	0	18	25
Aug	0	0	2	0	0	0	0	0	5	0	0	21	28
Sep	0	1	0	0	1	0	0	0	0	1	0	0	3
Oct	0	0	1	0	1	2	0	2	2	0	1	16	25
Nov	1	0	0	0	0	0	1	1	1	0	0	12	16
Dec	18	1	1	4	5	1	1	4	0	7	0	0	42
Total	29	3	11	8	7	10	3	7	14	10	2	120	224

Panel C: Distribution by year

Year	Frequency	Percent	Year	Frequency	Percent
1993	5	2.23%	2001	21	9.38%
1994	10	4.46%	2002	11	4.91%
1995	15	6.70%	2003	7	3.13%
1996	19	8.48%	2004	9	4.02%
1997	21	9.38%	2005	9	4.02%
1998	27	12.05%	2006	7	3.13%
1999	30	13.39%	2007	9	4.02%
2000	20	8.93%	2008	4	1.79%

Panel D: Distribution by industry

Industry (two-digit SIC code)	Frequency	Percent	Compustat Percent
Business Services (73)	24	10.76%	10.39%
Electronic Equipment (36)	16	7.18%	6.26%
Chemicals and Allied Products (28)	14	6.28%	6.82%
Industrial, Commercial Machinery, Computers (35)	13	5.83%	4.86%
Oil and Gas Extraction (13)	9	4.04%	3.27%
Engineering, Accounting, Research, Management, Relations Services (87)	8	3.59%	1.68%
Measurement Instruments, Photo Goods, Watches (38)	7	3.14%	4.98%
Durable Goods–Wholesale (50)	7	3.14%	1.99%
Miscellaneous Manufacturing Industries (39)	5	2.24%	0.81%
Electric, Gas, Sanitary Services (49)	5	2.24%	2.48%
Miscellaneous Retail (59)	5	2.24%	1.52%
Security & Commodity Brokers (62)	5	2.24%	1.12%
Real Estate (65)	5	2.24%	0.98%
Others	101	44.84%	52.85%

Panel E: Reporting timeliness

	Reporting lag (Mean)	Reporting lag (Median)	Percentage of late filers
The quarter before	52.8	45	20.2%
The missing months	112.1	90	46.7%
The quarter after	41.8	42	28.6%

The sample consists of 224 companies that changed their fiscal year ends and had one or more missing months not covered by regular quarterly filings between 1993 and 2008. Panel A reports the descriptive statistics. *MV* is the company's market value of equity at the prior year end (in million dollars). *BM* is the book-to-market ratio at the prior year end. *ROE* is the return on equity, defined as earnings before extraordinary items scaled by beginning book value of equity, in the fiscal year prior to the missing months. *Age* is the number of years since the firm was first covered by Compustat. $RET_{i-1,t-3}$ is the 12-month return up to three months before the missing month period. Panel B reports the frequency of fiscal year end (FYE) changes for each old FYE–new FYE combination. Panel C and Panel D report the distributions by year and industry, respectively. In Panel D, *Compustat Percent* is the proportion of Compustat firms in each two-digit SIC code industry and serves as a benchmark of the percentage of missing-month firms by industry. All variables except for *Age* in Panel A are winsorized at 2% and 98%. Panel E reports descriptive statistics of the reporting lag and percentage of late filers. Reporting lag is defined as the number of days between the fiscal period ending date and the earlier of the earnings announcement date and the SEC filing date. We classify a firm as a late filer if the filing lag (the number of days between the fiscal period ending date and the filing date of 10-Q or 10-K.) is larger than the maximum days allowed by corresponding SEC rules.

Table 3 Operating performance around the missing months

Panel A: The level of operating performance around the missing months

	NI/BV	Opinc/BV	S/BV
	Mean		
The quarter before	-0.075	-0.033	0.869
The missing months (t-stat)	-0.214*** (-3.38)	-0.289*** (-3.25)	0.905 (0.20)
The quarter after (t-stat)	-0.083 (-0.26)	-0.060 (-0.65)	1.117 (1.20)
	Median		
The quarter before	-0.011	0.009	0.516
The missing months (z-stat)	-0.064*** (-4.07)	-0.080*** (-4.56)	0.441 (-1.50)
The quarter after (z-stat)	-0.006 (0.27)	0.016 (0.30)	0.509 (-0.14)

Panel B: The change of operating performance (relative to one year ago) around the missing months

	Δ NI/BV	Δ Opinc/BV	Δ S/BV
	Mean		
The quarter before	-0.025	-0.012	0.149
The missing months (t-stat)	-0.317*** (-3.53)	-0.198*** (-3.74)	0.018** (-2.09)
The quarter after (t-stat)	0.016 (1.45)	0.014 (1.11)	0.207 (0.90)
	Median		
The quarter before	-0.003	-0.001	0.045
The missing months (z-stat)	-0.061*** (-4.53)	-0.091*** (-4.98)	0.000** (-2.11)
The quarter after (z-stat)	0.000 (0.55)	0.001 (0.61)	0.036 (-0.44)

** Significantly different from the corresponding number in the quarter before at the 0.05 level.

*** Significantly different from the corresponding number in the quarter before at the 0.01 level.

Panel A reports three measures of operating performance for the missing months and two surrounding quarters (the quarter before and the quarter after). Panel B reports the change of these three measures. In both panels, operating performance in the missing months and the quarter after is compared with that in the quarter before, with t- or z-statistics of the difference reported in parenthesis. *NI/BV* is the company's net income scaled by beginning book value of equity. *Opinc/BV* is the company's operating income scaled by beginning book value of equity. *S/BV* is the company's net sales scaled by beginning book value of equity. To make financial measures comparable between the missing months and adjacent quarters, we transform all financial measures in the missing months into quarterly numbers by multiplying $3/NMONTH$, where *NMONTH* is the number of months in the missing-month period. Changes are based on seasonal comparison on a calendar basis and scaled by the book value of equity at the beginning of the same period one year ago. The sample consists of 224 companies that changed their fiscal year ends and had one or more missing months not covered by regular quarterly filings between 1993 and 2008. All variables are winsorized at 2% and 98%.

Table 4 Operating expense and individual expense items around the missing months

	OPEXP/S	COGS/S	SGA/S	ONE/S
Mean				
The quarter before	1.424	0.692	0.451	-0.023
The missing months (t-stat)	2.157*** (2.46)	0.933*** (3.42)	0.731*** (2.29)	-0.044 (0.57)
The quarter after (t-stat)	1.612 (0.74)	0.711 (0.46)	0.449 (-0.03)	-0.006** (-1.94)
Median				
The quarter before	0.981	0.640	0.310	0
The missing months (t-stat)	1.123*** (4.07)	0.783*** (4.80)	0.356 (1.48)	0 (0.12)
The quarter after (t-stat)	0.975 (-0.45)	0.659 (0.53)	0.304 (-0.11)	0 (-1.01)

** Significantly different from the corresponding number in the quarter before at the 0.05 level.

*** Significantly different from the corresponding number in the quarter before at the 0.01 level.

This table reports operating expense and individual expense items scaled by sales for the missing months and two surrounding quarters (the quarter before and the quarter after). *OPEXP/S* is operating expense scaled net sales. *COGS/S* is cost of goods sold scaled net sales. *SGA/S* is selling, general, and administrative expense scaled net sales. *ONE/S* is one-time items scaled net sales, where one-time items are defined as extraordinary items plus special items multiplied by $(1-t)$, where t is the top statutory tax rate (35%). To make the financial measure comparable between the missing months and adjacent quarters, we transform one-time items in the missing months into quarterly numbers by multiplying $3/NMONTH$, where *NMONTH* is the number of months in the missing-month period. The sample consists of 224 companies that changed their fiscal year ends and had one or more missing months not covered by regular quarterly filings between 1993 and 2008. All variables are winsorized at 2% and 98%.

Table 5 Executive compensation and firm performance

Panel A: CEO compensation

Dep. Var.	BONUS			ANN_PAY			LT_PAY			TOT_PAY		
	(-1, 1)	(-1, T, 1)	T	(-1, 1)	(-1, T, 1)	T	(-1, 1)	(-1, T, 1)	T	(-1, 1)	(-1, T, 1)	T
Fiscal years in the sample												
Intercept	0.223 (5.18)	0.345 (6.79)	0.622 (4.32)	0.474 (16.87)	0.637 (10.78)	0.974 (5.20)	2.579 (4.03)	3.264 (5.25)	5.059 (3.22)	1.329 (7.32)	1.784 (7.87)	2.689 (4.18)
<i>NI</i>	0.0043 (11.45)	0.0037 (7.65)	0.0016 (0.80)	0.0020 (8.33)	0.0014 (2.55)	0.0007 (0.29)	0.0101 (2.38)	0.0091 (2.05)	0.0133 (0.94)	0.0094 (6.08)	0.0074 (3.52)	0.0035 (0.44)
Adj. R ²	0.429	0.197	-0.006	0.185	0.013	-0.007	0.037	0.042	-0.003	0.105	0.025	-0.006
# Obs.	174	236	62	303	433	130	124	172	48	308	438	130

Panel B: CFO compensation

Dep. Var.	BONUS			ANN_PAY			LT_PAY			TOT_PAY		
	(-1, 1)	(-1, T, 1)	T	(-1, 1)	(-1, T, 1)	T	(-1, 1)	(-1, T, 1)	T	(-1, 1)	(-1, T, 1)	T
Fiscal years in the sample												
Intercept	0.084 (6.21)	0.105 (8.08)	0.129 (4.34)	0.257 (15.82)	0.297 (16.60)	0.313 (7.47)	0.574 (2.78)	0.725 (4.21)	0.626 (2.34)	0.523 (6.03)	0.618 (9.02)	0.618 (6.28)
<i>NI</i>	0.0012 (10.33)	0.0010 (7.98)	-0.0002 (-0.49)	0.0011 (7.75)	0.0005 (3.18)	-0.0016 (-3.21)	0.0038 (2.59)	0.0012 (0.92)	-0.0111 (-4.03)	0.0046 (6.19)	0.0030 (4.74)	-0.0035 (-2.89)
Adj. R ²	0.420	0.241	-0.015	0.215	0.029	0.089	0.052	-0.001	0.271	0.147	0.065	0.072
# Obs.	147	199	52	217	313	96	105	147	42	217	313	96

This table reports the association between CEO/CFO compensation and firm performance. Sample (-1, 1) includes the fiscal year before and the fiscal year after the transition period. Sample (-1, T, 1) includes Sample (-1, 1) and the transition period. Sample T includes the transition period only. Firm performance is measured by net income (*NI*). Compensation variables are collected from the proxy statements. *BONUS* is the bonus or non-equity incentive compensation. Annual compensation (*ANN_PAY*) is the sum of salary, bonus, and other annual compensation (*OTHANN*), $ANN_PAY = SALARY + BONUS + OTHANN$. Long-term compensation (*LT_PAY*) is the sum of the dollar value of restricted stock granted (*RSTKGRNT*), value of options (*OPT_VAL*), and other long-term compensation (*OTHLT*), $LT_PAY = RSTKGRNT + OPT_VAL + OTHLT$. If only the dollar value of option grants is disclosed in the proxy statement, *OPT_VAL* equals this value. If only the number of shares is disclosed, *OPT_VAL* is calculated using the Black-Scholes methodology following the practice of Execucomp (http://umi.compustat.com/docs-mi/help/blk_schol.htm). Total compensation (*TOT_PAY*) is the sum of *ANN_PAY*, *LT_PAY*, and all other compensation (*OTH_PAY*), $TOT_PAY = ANN_PAY + LT_PAY + OTH_PAY$. Compensation and performance variables for the transition period are annualized. All variables are winsorized at 2% and 98%.

Table 6 Incentives to manage earnings

	1	2	3	4	5	6	7	8	9
Intercept	0.515 (4.19)	0.313 (3.95)	0.517 (5.04)	0.355 (2.38)	0.110 (0.57)	0.576 (4.73)	0.524 (3.76)	0.409 (1.28)	0.413 (1.00)
<i>BM</i>	-0.319 (-1.96)								-0.398 (-2.30)
<i>RET5Y</i>		-0.167 (-2.15)							-0.186 (-2.24)
<i>ANALYST</i>			-0.241 (-2.72)						-0.225 (-2.13)
<i>CEO_CHAIR</i>				-0.014 (-0.08)					0.004 (0.02)
<i>AFFDIRECTORS</i>					0.642 (1.28)				0.334 (0.66)
<i>BLOCK</i>						-0.363 (-2.57)			-0.417 (-2.02)
<i>INST</i>							-0.544 (-1.65)		0.677 (1.29)
<i>CFO_ONEPCT</i>								-0.009 (-0.24)	0.028 (0.72)
Adj. R2	0.016	0.022	0.038	-0.006	0.004	0.033	0.010	-0.006	0.081

The dependent variable is *IncomeShift*, the difference in $\Delta NI/BV$ between the missing months and surrounding quarters, where $\Delta NI/BV$ is seasonally differenced net income scaled by the beginning book value of equity,

$$IncomeShift = \frac{1}{2} \left[\left(\frac{\Delta NI}{BV} \right)_{before} + \left(\frac{\Delta NI}{BV} \right)_{after} \right] - \left(\frac{\Delta NI}{BV} \right)_{miss}$$

A positive *IncomeShift* means downward earnings management during the missing months. *BM* is the book-to-market ratio at the prior year end. *RET5Y* is the past five-year stock returns up to three months before the missing-month period. *ANALYST* is the logarithm of one plus the number of analysts that issue quarterly forecasts for the firm in the quarter before the transition period. If no analyst coverage exists, we set the value of *ANALYST* to 0. *CEO_CHAIR* is an indicator variable that takes the value 1 if CEO and Chairperson are the same person and 0 otherwise. *AFFDIRECTORS* is the percentage of board members who are affiliated directors (directors who are not executives, employees, or previous employees of the company). *BLOCK* is the logarithm of 1 plus the number of outside blockholders (5% ownership or more). *INST* is institutional holdings as a percentage of outstanding shares. *CFO_ONEPCT* is CFO's monetary incentives measured as monetary gain from a 1% change of stock price. The regressions are OLS, with t-statistics in parenthesis. The sample consists of 224 companies that changed their fiscal year ends and had one or more missing months not covered by regular quarterly filings between 1993 and 2008. *IncomeShift* and *BM* are winsorized at 2% and 98%.

Table 7 The consequences of earnings management

Panel A: Meet/beat earnings target

	FE/P	JustMBAF	JustMBZ
The quarter before	-0.99%	15.38%	7.69%
The quarter after	-0.30%	14.10%	14.10%
Difference (t-stat)	0.69%* (1.68)	-1.28% (-0.22)	6.41%* (1.65)

*, ** and *** indicate significant difference at the 10%, 5%, and 1% level, respectively.

Panel B: Regressions of market reaction to earnings news

Model	1	2
Intercept	-0.044 (-1.08)	-0.071 (-1.55)
D_{miss}	0.009 (0.17)	0.039 (0.61)
D_{after}	0.060 (1.06)	0.056 (0.87)
ΔNI	0.138** (1.98)	
$\Delta NI \times D_{miss}$	-0.092 (-0.96)	
$\Delta NI \times D_{after}$	-0.147 (-1.50)	
$\Delta Opinc$		0.211*** (2.64)
$\Delta Opinc \times D_{miss}$		-0.182 (-1.68)
$\Delta Opinc \times D_{after}$		-0.148 (-1.32)
Adj. R ²	0.005	0.020
Overall ERC for the missing months	0.047 (0.72)	0.029 (0.40)
Overall ERC for the quarter after	-0.009 (-0.13)	0.063 (0.81)

*, ** and *** indicate significant difference at the 10%, 5%, and 1% level, respectively.

Panel C: Regressions of analysts' forecast revision (REV) around earnings announcements

	The quarter before	The quarter after
Intercept	0.005 (0.96)	0.004 (1.68)
FE/P	0.627*** (2.51)	0.003 (0.01)
Adj. R^2	0.080	-0.022

*, ** and *** indicate significant difference at the 10%, 5%, and 1% level, respectively.

Panel A reports average forecasts and the percentage of just meeting/beating earnings target for the quarter before and the quarter after the missing months. FE/P is forecast error, defined as I/B/E/S actual earnings minus the most recent consensus forecast scaled by stock price on the forecast date. $JustMBAF$ is an indicator variable measuring just-meet/beat-analyst-forecast, which equals 1 if a firm-quarter observation has an analyst forecast error of \$0.00 or \$0.01, and 0 otherwise. $JustMBZ$ is an indicator variable measuring just-meet/beat-zero, which equals 1 if a firm-quarter observation has actual I/B/E/S earnings between \$0.00 and \$0.04, and 0 otherwise. Panel B reports the regression results of the market reaction to earnings news. The dependent variable is earnings announcement returns ($ARET$), measured as raw returns minus market value-weighted returns over the five-day $[-2, 2]$ period, where date 0 is the earnings announcement date or the SEC filing date, whichever is earlier. D_{miss} is an indicator variable with the value of 1 for the missing months and 0 otherwise. D_{after} is an indicator variable with the value of 1 for the quarter after and 0 otherwise. ΔNI is the change in net income relative to one year ago scaled by the market value of equity a year ago. $\Delta Opinc$ is the change in operating income relative to one year ago scaled by the market value of equity a year ago. For the missing months, both returns and earnings surprises are multiplied by $3/NMONTH$ to make comparable with adjacent quarters, where $NMONTH$ is the number of months in the stub period. For the missing months and the quarter after, we calculate both ΔNI and $\Delta Opinc$ by seasonal comparisons, as discussed in details in Section 4.1 Actual values of ΔNI and $\Delta Opinc$ are substituted by percentile rankings and converted to a $[0, 1]$ scale, where rankings are obtained by ranking observations and assigning them to 100 portfolios. Panel C reports the results of regressing analysts' forecast revisions on next quarter's earnings (REV) on current quarter's earnings surprises. REV is defined as the change in consensus forecast around earnings announcements scaled by stock price on the forecast date prior to earnings announcement. The regressions are OLS, with t-statistics in parenthesis. The sample consists of 224 companies that changed their fiscal year ends and had one or more missing months not covered by regular quarterly filings between 1993 and 2008. Panels A, B, and C contain 80, 224, and 75 observations, respectively. FE/P , ΔNI , $\Delta Opinc$, and REV are winsorized at 2% and 98%.

Table 8 Operating performance around the transition period for 3-, 6-, 9-month shifts

Panel A: Firm characteristics for the 3-/6-/9-month sample and the main sample

	ROE	MV	BM	RET1y	RET5y
The 3-/6-/9-month sample	-0.289	358.60	0.338	0.191	0.407
The main sample	-0.233	367.36	0.417	0.061	0.323
Difference (t-stat)	-0.056 (-0.67)	-8.76 (-0.07)	-0.079 (-0.96)	0.130 (1.31)	0.084 (0.47)

Panel B: Operating performance around the transition period for the 3-/6-/9-month sample

	NI/BV	Opinc/BV	S/BV	Δ NI/BV	Δ Opinc/BV	Δ S/BV
Mean						
The quarter before	-0.094	-0.062	0.488	0.001	0.004	0.108
The transition period (t-stat)	-0.105 (-0.24)	-0.082 (-0.47)	0.468 (-0.39)	-0.078 (-1.82)	-0.039 (-1.06)	0.055 (-0.98)
The quarter after (t-stat)	-0.052 (0.81)	0.0001 (1.24)	0.493 (0.10)	-0.003 (-0.10)	-0.001 (-0.10)	0.110 (0.03)
Median						
The quarter before	-0.001	0.020	0.384	0.002	0.004	0.014
The transition period (z-stat)	-0.016 (-0.94)	-0.007 (-0.97)	0.348 (-0.07)	-0.011 (-1.88)	-0.006 (-0.93)	0.004 (-0.68)
The quarter after (z-stat)	0.004 (0.54)	0.007 (-0.32)	0.334 (-0.41)	0.001 (-0.07)	0.002 (-0.38)	0.015 (0.00)

** Significantly different from the corresponding number in the quarter before at the 0.05 level.

*** Significantly different from the corresponding number in the quarter before at the 0.01 level.

Among 976 firms with fiscal year end shifted by 3, 6, or 9 months between 1993 and 2008 (Table 1), we randomly select 250 firms. After excluding firms with missing data and firms experiencing M&A and bankruptcy, we have 114 companies in our sample. Panel A compares firm characteristics between the 3-/6-/9-month sample and the main sample. *ROE* is return on equity at the prior year end, defined as earnings before extraordinary items scaled by beginning book value of equity. *MV* is the market value of equity at the prior year end. *BM* is the book-to-market ratio at the prior year end. *RET1Y* and *RET5Y* is the past one- and five-year stock returns up to three months before the missing-month or transition period. Panel B reports the level and change of operating performance for the transition period and two surrounding quarters (the quarter before and the quarter after). Operating performance in the transition period and the quarter after is compared with that in the quarter before, with t- or z-statistics of the difference reported in parenthesis. *NI/BV* is the company's net income scaled by beginning book value of equity. *Opinc/BV* is the company's operating income scaled by beginning book value of equity. *S/BV* is the company's net sales scaled by beginning book value of equity. Changes are based on seasonal comparison on a calendar basis and scaled by the book value of equity at the beginning of the same period one year ago. All variables are winsorized at 2% and 98%.

Table 9 Subsample analysis on industry norms

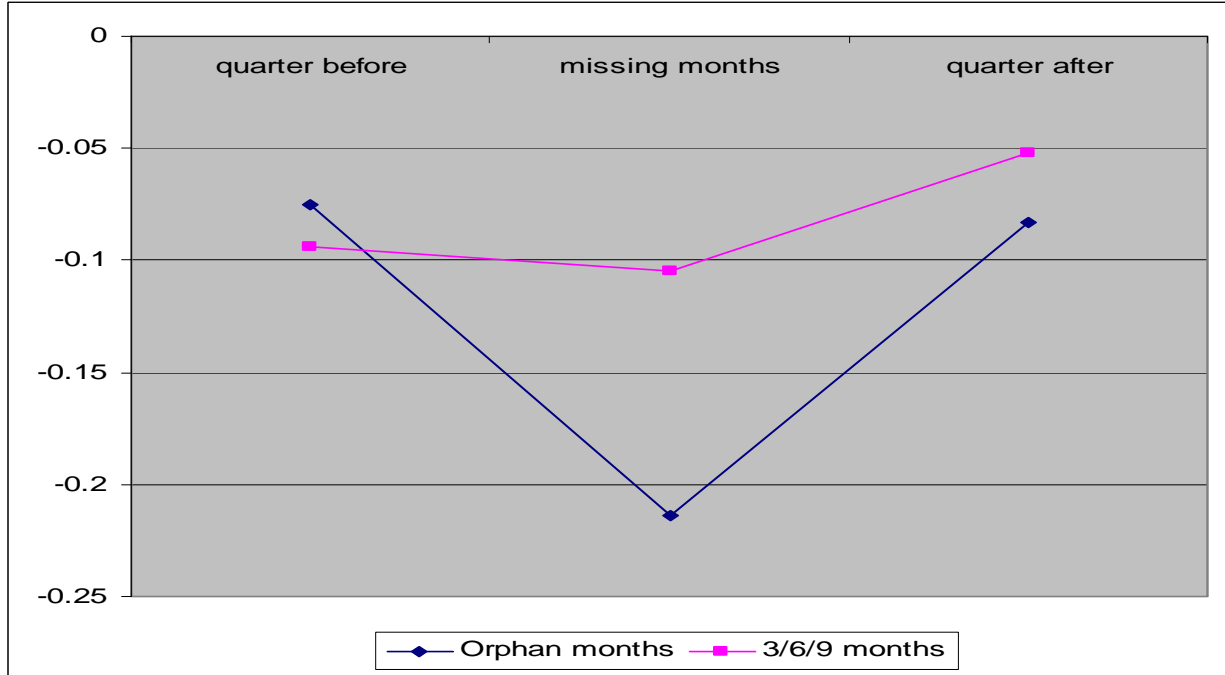
	NI/BV	Opinc/BV	S/BV	Δ NI/BV	Δ Opinc/BV	Δ S/BV
New FYE conforms to industry norm (conforming sample)						
The quarter before	-0.077	-0.042	0.715	-0.015	-0.013	0.151
The missing months	-0.181** (-1.96)	-0.212* (-1.68)	0.690 (-0.13)	-0.215** (-2.18)	-0.200*** (-2.26)	0.075 (-0.93)
The quarter after	-0.067 (0.26)	-0.027 (0.32)	0.887 (0.73)	0.018 (0.81)	0.014 (0.70)	0.210 (0.74)
DIFF(conforming)	-0.108	-0.176	-0.090	-0.217	-0.200	-0.107
New FYE does not conform to industry norm (non-conforming sample)						
The quarter before	-0.058	-0.013	0.996	-0.016	-0.001	0.158
The missing months	-0.229*** (-2.44)	-0.317*** (-2.48)	1.067 (0.24)	-0.395*** (-2.57)	-0.209*** (-3.04)	-0.047** (-1.99)
The quarter after	-0.076 (-0.35)	-0.061 (-0.67)	1.289 (0.85)	0.025 (0.92)	0.016 (0.53)	0.025 (-0.57)
DIFF(non-conforming)	-0.163	-0.281	-0.089	-0.399	-0.217	-0.232
DIFF(conforming) – DIFF(non-conforming)	0.055 (0.35)	0.115 (0.67)	-0.001 (-0.05)	0.182 (0.92)	0.017 (0.53)	0.125 (0.57)

*, ** and *** indicate significant difference compared with the corresponding number in the quarter before at the 0.10, 0.05, and 0.01 level, respectively.

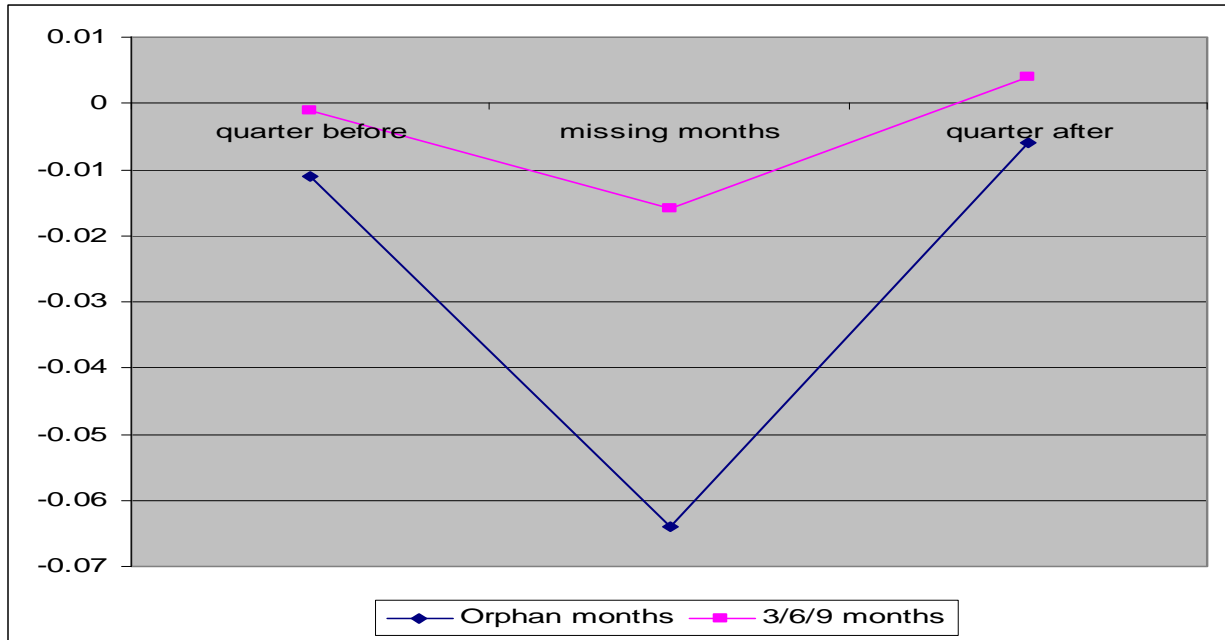
This table reports six measures of operating performance around the missing months for our main sample. We partition the sample into two subsamples based on whether the new fiscal year end conforms to the industry norm. The industry norm is defined as the fiscal year end adopted by the largest number of firms within the two-digit SIC industry in the year after the fiscal year change. Operating performance in the missing months and the quarter after is compared with that in the quarter before, with t-statistics of the difference reported in parenthesis. *NI/BV* is the company's net income scaled by beginning book value of equity. *Opinc/BV* is the company's operating income scaled by beginning book value of equity. *S/BV* is the company's net sales scaled by beginning book value of equity. To make financial measures comparable between the missing months and adjacent quarters, we transform all financial measures in the missing months into quarterly numbers by multiplying $3/NMONTH$, where *NMONTH* is the number of months in the missing-month period. Changes are based on seasonal comparison on a calendar basis and scaled by the book value of equity at the beginning of the same period one year ago. *DIFF* equals the performance in the missing months minus the average performance in the quarter before and the quarter after. The sample consists of 224 companies that changed their fiscal year ends and had one or more missing months not covered by regular quarterly filings between 1993 and 2008. Observations total 130 and 94 for the conforming and non-conforming samples, respectively. All variables are winsorized at 2% and 98%.

Figure 1 The mean and median earnings around the transition period

Panel A: The mean NI/BV around the transition period



Pane B: The median NI/BV around the transition period



This figure plots the mean and median net income scaled by book value of equity (NI/BV) around the orphan months in Table 3 and around the transition period for 3-, 6-, 9-month shifts in Table 7. As hypothesized in the paper, firms have strong incentives to manage earnings downward for the orphan months but do not have incentives to manage earnings when shifting the fiscal year end by 3, 6, or 9 months.