

## **The Effect of SFAS 144 on Managers' Income Smoothing Behavior**

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### Abstract:

This paper assesses the unintended effects of recent accounting regulation (SFAS 144) on managers' income smoothing behavior. This paper finds that SFAS 144 has mitigated income smoothing through the timing of asset sales documented by the prior real activities earnings management literature. In addition, this study finds that the timing of asset sales to smooth earnings is driven not as much by fluctuations in recurring earnings, as it is by fluctuations caused by nonrecurring items. The evidence is consistent with managers concurrently timing asset sales with other nonrecurring items (of opposite signs) to smooth earnings. Because the timing of asset sales is part of a broader smoothing strategy of timing nonrecurring items in general, SFAS 144 appears to have a spillover effect on the timing of other nonrecurring items reported concurrently with asset sales.

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## 1. Introduction

Prior research (Bartov 1993, Black et al. 1998, Dietrich et al. 2000, Herrmann et al. 2003) investigates the use of gains and losses from asset sales to manage earnings. These studies hypothesize and find results consistent with firms timing asset sales in such a way that the recognized gains and losses from asset sales smooth fluctuations in earnings from continuing operations.

The objective of this study is to investigate the impact of recent accounting regulation (SFAS 144 “Accounting for the Impairment or Disposal of Long-Lived Assets”, FASB 2001) on income smoothing through the timing of asset sales. SFAS 144 provides a setting to examine the unintended consequences of accounting regulation on real activities taken by firms to manage earnings.<sup>1</sup> Real activities earnings management has become more prevalent in recent years according to survey evidence by Graham et al. (2005). The overwhelming majority of the over four-hundred financial executives surveyed express a strong preference for smooth earnings paths, and more than three-fourths of the managers are willing to sacrifice at least some economic value to achieve smoother earnings streams. The timing of asset sales to smooth income fits the notion of giving up some economic value to achieve a financial reporting objective. In the context of increased prevalence of real activities earnings management, this study examines the effect of a new accounting standard that has the potential to increase (or mitigate) at least one form of real activities earnings management, the timing of asset sales to smooth earnings.

It is an open question if, and how, SFAS 144 affects real activities earnings management through the timing of asset sales<sup>2</sup>. The standard introduces new qualifying criteria for discontinued operations reporting, and thus has the potential to change the magnitude and frequency of gains and

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<sup>1</sup> The timing of asset sales to smooth fluctuations in earnings from continuing operations is one of the few examples of real activities earnings management documented empirically in the accounting literature. The business press includes numerous examples of real actions taken to manage earnings. However, archival studies (Bushee 1998, Roychowdhury 2004, Hribar et al. 2004) have been able to isolate only a few settings where large sample evidence of real activities earnings management has been documented, probably because of the difficulty in differentiating between real economic actions taken as part of the normal operations of a business and actions taken with the purpose of managing earnings.

<sup>2</sup> Note that the objective of this study is not to investigate whether SFAS 144 works as intended by regulators. Rather, the objective of this study is to assess the potential implications of SFAS 144 for real activities earnings management, specifically the timing of asset sales.

losses from asset sales that are reported as an “above the line” item, as opposed to being reported “below the line” as discontinued operations.<sup>3</sup> Under APB Opinion No. 30, a company had to dispose of an **entire segment** to report an asset sale as discontinued operations in the income statement. SFAS 144, the new asset disposal reporting standard, shifts the focus in the criteria for discontinued operations from a business segment to the new concept of a **component of an entity**. A component of an entity is defined as an asset (or group of assets) that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of an entity. On the one hand, SFAS 144 relaxes the requirement that a whole business segment must be sold for the asset sale to qualify for discontinued operations reporting. On the other hand, SFAS 144 introduces an additional condition (that was not present under APB Opinion No. 30) for such qualification, namely that the seller has **no significant continuing involvement** with the assets sold. Since some form of continuing involvement is customary in many transactions, it is not clear how the new qualification criteria for discontinued operations have affected the magnitude and frequency of gains and losses from asset sales reported above the line. This study attempts to shed light on the effect of these new qualification criteria on above the line income smoothing through the timing of asset sales.

This study also investigates whether the impact of SFAS 144 extends beyond the timing of asset sales to the timing of other nonrecurring items.<sup>4</sup> This investigation is motivated by the notion (supported by anecdotal evidence) that firms synchronize the timing of asset sales with other nonrecurring items (of opposite signs) in the same reporting period to offset their effect and thus smooth earnings. Prior academic literature on income smoothing documents a systematic offsetting (i.e., a negative association) of gains and losses from asset sales against fluctuations in **aggregate** earnings from continuing operations, measured before gains and losses from asset sales. However, prior studies do not investigate which component of aggregate earnings from continuing operations

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<sup>3</sup> Throughout this study, I use the terms “above the line” earnings and earnings from continuing operations interchangeably.

<sup>4</sup> In this study, I use the term nonrecurring items to refer only to those nonrecurring earnings components reported above the continuing operations line. This term excludes extraordinary items, discontinued operations, and the effect of changes in accounting principles.

(i.e., recurring earnings and/or nonrecurring items) is offset against gains and losses from asset sales. The business press offers examples of **nonrecurring items** offset against gain and losses from asset sales. Several financial press articles raise questions about the practice of (partially) offsetting one-time asset disposal gains with other nonrecurring losses, such as asset write-downs or restructuring charges.<sup>5</sup> The anecdotal evidence suggests that firms smooth the effect of nonrecurring items by timing both asset sales and other nonrecurring items (of opposite signs) in the same accounting period. That is, firms do not choose the timing of asset sales in isolation, but rather as part of a broader smoothing strategy that involves timing nonrecurring items in general. In this study, I attempt to provide systematic evidence on the concurrent timing behavior described by the financial press.

If a systematic concurrent timing behavior exists, there is reason to believe that SFAS 144 may have spillover effects on the timing of other nonrecurring items reported concurrently with asset sales. The concurrent timing behavior suggests that firms pair up asset sales and other nonrecurring items (of opposite signs) in the same accounting period to smooth earnings from continuing operations. SFAS 144 introduces a mandatory change in one side of this pair of earnings components (i.e., asset sale gains and losses). It is an open question how the other side of the pair (i.e., other nonrecurring items reported concurrently with asset sales) changes, if at all, under the new standard. If firms consider the concurrent timing of nonrecurring items a valuable smoothing instrument, SFAS 144 may also affect the occurrence and magnitude of other nonrecurring items reported concurrently with asset sales.

The empirical tests provide evidence of firms reporting significantly smaller gains and losses from asset sales (as a component of earnings from continuing operations) under SFAS 144. This evidence suggests that some of the asset sales that would have been included in earnings from continuing operations, under APB Opinion No. 30, are reported as discontinued operations under SFAS 144. Consistent with the lower magnitude gains and losses from asset sales available for

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<sup>5</sup> GE (Smith et al. 1994), IBM (Auerbach 1999), Bristol-Myers (Harris 2002), and Alcatel (MacDonald 2001) are among the companies that faced scrutiny in the business press for their practice of dampening fluctuations in annual earnings by offsetting one-time gains from asset sales against write-downs or other nonrecurring items.

smoothing as a result of SFAS 144, I find evidence that the income smoothing behavior through the timing of asset sales is mitigated in the post-SFAS 144 reporting regime.

When I decompose the aggregate earnings from continuing operations in recurring and nonrecurring components, I find that the timing of asset sales to smooth earnings is driven mainly by attempts to smooth earnings fluctuations caused by nonrecurring items; fluctuations in recurring earnings play a much smaller role. This evidence provides an answer to the question of what component of aggregate earnings primarily drives the smoothing through the timing of asset sales behavior. My findings suggest that the timing of asset sales is part of managers' attempts to synchronize and offset asset sales and other nonrecurring items to smooth their effect, and thus smooth earnings from continuing operations. A comparison of the pre- and post-SFAS 144 reporting regimes indicates that this offsetting behavior is mitigated under SFAS 144.

This study also finds evidence consistent with SFAS 144 having spillover effects on the timing of other nonrecurring items reported concurrently with asset sales. In the post-SFAS 144 regime, the decrease in the magnitude of gains and losses from asset sales is accompanied by a similar decrease in the magnitude of other nonrecurring items reported in the same accounting period. A group of control firms (i.e., firms that do not report gains and losses from asset sales) matched on performance, industry and year with the sample firms do not exhibit a similar decrease in the magnitude of nonrecurring items.

This study contributes to the literature in two ways. First, it assesses the unintended effect of new accounting regulation on real activities earnings management. There is recent interest both in the analytical and empirical accounting research (Ewert and Wagenhofer 2005, Oswald and Zarowin 2005) in the effect of accounting regulation on real activities earnings management. These recent studies find that tighter accounting standards (i.e., those that allow fewer accounting choices) reduce accrual earnings management at the cost of increasing real earnings management. My study differs from prior work in that the regulatory setting investigated has a direct impact on real activities earnings management. In contrast, prior studies look at the indirect effect of accounting regulation on

real activities through the substitution between accrual and real economic actions. Second, this study adds to the literature on earnings management through nonrecurring items, by placing the smoothing through the timing of asset sales in the larger context of smoothing through nonrecurring items in general. Prior studies assume that gains and losses from asset sales are a tool for smoothing earnings from continuing operations and the fluctuations in aggregate earnings before the effect of asset sales are predetermined (i.e., exogenous). I decompose aggregate earnings into recurring and nonrecurring components, and I document that firms simultaneously time asset sales and other nonrecurring earnings components to offset their effect, and thus achieve a smoother stream of earnings from continuing operations. In addition, this study documents that managers' motivation for the timing of asset sales appears driven not as much by fluctuations in recurring earnings, but rather by attempts to smooth the effect of nonrecurring items. While the business press has alluded to this behavior, this study is the first to provide systematic empirical evidence of smoothing fluctuations in nonrecurring versus recurring earnings components.

The remainder of this paper is organized as follows. The next section provides background information on SFAS 144. Section 3 discusses the sample and presents descriptive statistics. Section 4 covers the empirical analysis, and section 5 concludes the paper.

## **2. Background on SFAS 144**

Before 2001, the authoritative pronouncement covering the reporting of discontinued operations was APB Opinion No. 30. According to APB Opinion No. 30, to qualify for discontinued operations reporting, an asset sale had to represent **an entire segment**, where a segment was defined as “a separate major line of business or class of customers” (APB Opinion No. 30, paragraph 13). Gains and losses from the sale of other assets that did not meet the definition of a segment under APB Opinion No. 30 were grouped together with firms' ongoing businesses and reported as part of earnings from continuing operations.

Under APB Opinion No. 30, some of the asset sale transactions that were reported in earnings from continuing operations because they did not meet the definition of a segment were similar (in their effect on firms' ongoing operations) to transactions reported as discontinued operations. The FASB decided to change the reporting of discontinued operations to group together similar asset sale transactions. In 2001, the Board issued SFAS 144 with the intention of improving homogeneity in the classification of income statement components and thus improving the predictive ability of these components (SFAS 144, paragraphs B101 and B102).

SFAS 144 changes the criteria for discontinued operations reporting by introducing a new concept, **component of an entity**. A component of an entity comprises "operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the rest of an entity" (SFAS 144, paragraph 41). Under SFAS 144 the disposal of any component of an entity, regardless of its size, qualifies for discontinued operation reporting as long as its cash flows are independent of those of other assets, and two criteria are met. If the **cash flows** of the sold item will be **eliminated from the rest of the entity** after the sale (criterion 1) and the company will have **no significant continuing involvement** with the item after the sale (criterion 2), then discontinued operation treatment is required.<sup>6</sup> Gains and losses from asset sales that do not meet the new discontinued operation reporting criteria are included in earnings from continuing operations.

Note that, unlike APB Opinion No. 30, where discontinued operations are likely to involve large assets (resulting from the sale of entire segments), SFAS 144 may lead to discontinued operations involving smaller assets since a component of an entity does not have to be a segment. It can also be a reporting group (as defined by SFAS 142), a subsidiary or just a group of assets (e.g., a plant, a retail store, a division, a product line), for which cash flows are independent of those of other assets and there is no continuing involvement.

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<sup>6</sup> The provisions of this accounting standard are effective for financial statements issued for fiscal years beginning after December 15, 2001. SFAS 144 does not include a transition period and requires its provisions be applied only prospectively (i.e., the reclassification of past asset sale transactions is not permitted).

### 3. Sample selection and descriptive statistics

I collect my sample by identifying firms on Compustat that report gains and losses from asset sales as part of earnings from continuing operations. Firms in the financial industry (SIC 6000-6500) are excluded because their type of assets and accounting rules differ considerably from those in other industries. I also eliminate bankrupt firms and firms with negative values of stockholders' equity to avoid including in my sample financially distressed firms that may engage in fire asset sales, as income smoothing considerations are likely to play a minor (if any) role in this type of asset sales. The annual financial information for the sample firms (earnings from continuing operations, nonrecurring items, total assets, gains and losses from asset sales, etc.) is obtained from Compustat industrial, full-coverage and research database.<sup>7</sup> Stock prices and shares outstanding are obtained from CRSP monthly return files. The sample includes annual data over the period 1998 to 2004. I restrict the sample period to years after 1997 because 1998 is the first year when the current segment reporting standard (SFAS 131 “Disclosures about Segments of an Enterprise and Related Information”) went into effect. SFAS 131 has changed the definition of a segment, and consequently it may have changed the above versus below the line classification for some segment sales.

The primary sample consists of 9,690 firm-year observations. However, some tests impose additional data requirements that further reduce the number of available observations. For example, the disaggregate earnings analysis requires information about the determinants of gains and losses from asset sales and other nonrecurring items. For this analysis, my sample consists of 3,940 and 5,892 firm-year observations, depending on whether the dependent variable is gains and losses from

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<sup>7</sup> This study focuses exclusively on income from the sale of long-lived assets (while ignoring income from the sale of investments) because SFAS 144 affects long-lived assets exclusively. Compustat does not offer a clean measure of gains (losses) from long-lived assets, as gains and losses from long-lived assets are combined with gains and losses from investments in a common data field. To overcome this problem, when I identify the firms with gains and losses from asset sales, I also impose the additional condition that proceeds from long-lived assets are different from zero. This way I make sure that each firm-year observation sells long-lived assets in the year when it is included in my sample. As a sensitivity check, I also repeat the tests using a sample of asset sellers identified as having proceeds from the sale of long-lived assets, but no proceeds from the sale of investments. The sample size is reduced by about 30% when this alternative way of identifying firms selling long-lived assets is used. The results of this sensitivity analysis are qualitatively the same as the results of the primary analysis.

asset sales or other nonrecurring items, respectively.<sup>8,9</sup> The variable that leads to the largest loss in the number of observations is the cash proceeds from fixed asset sales. For some firms, the specific amount of cash received from asset sales is not available since it is reported together with other cash flow information. A broad cross-section of industries is represented in my sample which includes observations spread over 64 different two-digit industry SIC codes. There is no evidence of clustering by industry. The two-digit industry SIC code with the highest representation in the sample includes about 9.6% of all observations, with the second highest consisting of 8% of the sample.

Table 1 includes a comparison of the sample firms with all the other Compustat firms that do not report gains and losses from asset sales as part of earnings from continuing operations over the sample time period. The comparison includes two firm-size measures (Market Value and Total Assets), a measure of growth (Growth) defined as percentage change in sales relative to last year's sales, a measure of short-term liquidity (Current Ratio) and two measures of profitability (ROA and the incidence of firms reporting losses). As the descriptive statistics indicate, the sample firms are financially healthy, larger (judging by the value of total assets) and more profitable than other Compustat firms not reporting gains and losses from asset sales over the sample period. The market value of the sample firms is comparable to that of other Compustat firms that do not report gains and losses from asset sales.

## **4. Empirical analysis**

### **4.1 Descriptive evidence on the impact of SFAS 144 on gains and losses from asset sales**

A first step in understanding the effect of the new regulation on income smoothing is to understand how SFAS 144 affects the impact of gains and losses from asset sales on earnings from

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<sup>8</sup> Compustat reports a data field for nonrecurring items that consists of the aggregate amount of items identified as nonrecurring by Compustat from the income statement and the accompanying notes to the financial statements. The composition of the Compustat data field nonrecurring items is determined not by a formal definition specified in GAAP, but rather by Compustat's own definition. Breakout amounts for separate categories of nonrecurring items are available on Compustat only from 2001. As the sample period analyzed in this study is 1998 to 2004, it is not feasible to use information about separate categories of nonrecurring items. Thus, to obtain other nonrecurring items, I subtract from the aggregate amount of nonrecurring items provided by Compustat the gains and losses from asset sale.

<sup>9</sup> In order to reduce the influence of outliers, I trim the independent variables at the 1<sup>st</sup> and 99<sup>th</sup> percentile.

continuing operations. Because SFAS 144 modifies the discontinued operations criteria, the proportion of asset sale transactions reported in earnings from continuing operations (relative to the total number of asset sales reported in both continuing and discontinued operations) may have changed. That is, relatively less (or more) asset sales may be included above the line under SFAS 144.

Ideally, in assessing the effect of SFAS 144 on gains and losses from asset sales reported above the line, I would use information about each asset sale transaction. However, firms are not required to disclose transaction level details, and thus gains and losses from asset sales are only available as an amount aggregated across all asset sales undertaken during a reporting period. As a consequence of this data limitation, it is not feasible to test any direct predictions about changes in the frequency of gains and losses from asset sales included in earnings from continuing operations between the pre- and post-SFAS 144 reporting regimes. Therefore, I limit my analysis to investigating changes in the magnitude of aggregate gains and losses included in earnings from continuing operations.<sup>10</sup> Note that this data limitation does not pose a problem for the income smoothing analysis, because for income smoothing purposes, it is the aggregate amount of gains and losses that matters.

It is not clear whether, under SFAS 144, the gains and losses from asset sales (reported above the line) are smaller or larger compared to the magnitude of such items under the old reporting regime. The FASB explicitly indicates that the qualification criteria for discontinued operations are expected to broaden the discontinued operations category to include more asset disposal transactions (SFAS 144, paragraph B102). If more transactions are included in discontinued operations, I expect the magnitude of the gains and losses from asset sales reported in earnings from continuing operations to decrease. This is because the gains and losses from asset sales that move below the line (as a result of SFAS 144) are more likely to be large relative to those that remain in continuing operations. Under SFAS 144, only assets that can be “distinguished, operationally and for financial reporting purposes from the rest of an entity” qualify for discontinued operation reporting (SFAS 144, paragraph 41). Separate records of revenues and expenses associated with the assets would be necessary to

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<sup>10</sup> From this point on, for ease of exposition, I use the words gains and losses from asset sales to refer to gains and losses aggregated at the reporting period level.

distinguish for financial reporting purposes the items being sold. It is more likely that firms keep separate records for larger assets (e.g., subsidiary, plant, division, line of product) than for smaller ones.

In contrast with the FASB's opinion, some merger and acquisition consultants (e.g., Kotowitz et al. 2005) express concern that this regulation could actually result in more sales being reported as part of earnings from continuing operations. In many transactions, it is customary for the sellers to retain involvement in the business being sold, be it simple administrative functions during the post-sale transition period or more complex connections, such as sublease arrangements, retained equity stakes, seller financing, royalties from licensed intellectual propriety, service agreements, etc. Under the new asset disposal standard, such arrangements can potentially disqualify a transaction from discontinued operation reporting because they call for the seller to receive cash flows or retain continuing involvement in the operations being sold. Thus, more relatively large transactions may end up above the line as a result of the continuing involvement condition. Given that the effect of SFAS 144 on gains and losses from asset sales reported above the line is not clear ex-ante, I expect a change in the magnitude of gains and losses from assets sales included in earnings from continuing operations (under SFAS 144), but I do not have a prediction about the direction of the change.

Table 2 includes univariate tests of means, medians and variances to determine whether the gains and losses from asset sales included in earnings from continuing operations in the pre-SFAS 144 reporting regime are significantly different from those in the post-SFAS 144 regime. Table 2 presents summary statistics on the entire sample of gains and losses from asset sales as well as on the two separate subsamples: (1) firms with gains and (2) firms with losses from asset sales.

Consistent with expectations, the magnitude of gains and losses from asset sales included in earnings from continuing operations is significantly different in the post-SFAS 144 reporting regime. Both parametric and nonparametric tests indicate that the magnitudes of gains and losses from asset sales is significantly lower ( $p\text{-value} < 0.01$ ) in the post-SFAS 144 period. The volatility of these gains and losses is significantly lower as well. An examination of the two subsamples of firms reporting

gains or losses from asset sales indicates that, in the post-SFAS 144 regime, both the gains and the losses from asset sales get closer to zero in magnitude. On average, the gains from asset sales decrease in magnitude from 3.4% to 2.0% of market value of equity and the losses from -1.5 % to -0.7% of market value (Table 2, panel A). When computed as a percentage of absolute value of earnings from continuing operations, the gains and losses from asset sales exhibit a similar decrease in magnitude. Panel B of Table 2 shows a decrease from an average of 80% to 46.9% of income from continuing operations for gains from asset sales, and from -27.2% to -13.2% of income from continuing operations for losses.

Although the frequency of gains and losses reported above versus below the line is not available at transaction level, this information is available at firm level. Figure 1 shows that the number of firms reporting discontinued operations relative to the number of firms reporting above the line gains and losses from asset sales has increased considerably in the post-SFAS 144 period. Taken together, the findings in Table 2 and Figure 1 suggest that, as a result of SFAS 144, some gains and losses from asset sales have been removed from earnings from continuing operations and reported below the line in discontinued operations. This may have implications for income smoothing through the timing of asset sales in the post-SFAS 144 period.

#### **4.2 The effect of SFAS 144 on income smoothing through the timing of asset sales**

Prior studies on earnings management through the timing of asset sales (Bartov 1993, Dietrich et al. 2000, Herrmann et al. 2003) define income smoothing as attempts to mitigate deviations in earnings from some level considered normal or desirable for the firm. Smoothing takes the form of timing the sale of assets with unrealized losses (gains) in reporting periods when earnings are above (below) a certain desired level.<sup>11</sup>

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<sup>11</sup> It is possible that firms have other earnings management objectives besides income smoothing. For example, when firms experience one-time corporate events, such as equity offerings or mergers, they may attempt to maximize income to present as favorable an image as possible. In this study, I focus on income smoothing for two reasons. First, equity offerings or mergers are likely to be isolated events in the life of a firm. In the normal operation of the firm, capital market and compensation considerations may make income maximization less

The analysis in section 4.1 indicates that, under SFAS 144, smaller gains and losses from asset sales are reported as part of earnings from continuing operations. This could mitigate income smoothing through gains and losses from asset sales. For example, a firm experiencing a decrease in earnings from continuing operations (before gains and losses from asset sales) may want to use some gains on disposal of long-lived assets to partially offset the decrease. If under the new reporting requirements some asset sale transactions meet the discontinued operation criteria, they would be reported separately as income from discontinued operations and consequently not be available to compensate for a decrease in above the line earnings.

Smaller gains and losses from asset sales (included in earnings from continuing operations), under SFAS 144, do not necessarily lead to less income smoothing through the timing of asset sales. Keeping only relatively smaller gains and losses from asset sales in earnings from continuing operations may in fact lead to more income smoothing, as smaller magnitude gains and losses may be more useful in providing the desired amount of offsetting for fluctuations in earnings from continuing operations. That is, the relatively large gains and losses may not be as effective in smoothing earnings to a refined amount. In fact, such gains and losses could themselves cause earnings to deviate from a desired trend. In addition, SFAS 144 may have affected (increased or decreased) managers' flexibility in obtaining above versus below the line accounting treatment for some asset sales, and consequently affected the availability of gains and losses from asset sales for above the line earnings smoothing. Thus, under SFAS 144, I expect a change in the effectiveness of using gains and losses from asset sales to smooth earnings from continuing operations (Hypothesis 1), however, I do not have a prediction for the direction of this change.

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desirable, since an extremely high earnings number in the current period may generate an excessive benchmark for the next year. Therefore, once they are above a certain benchmark, firms may have incentives to smooth income to avoid expectation ratcheting and create reserves for the future. Second, prior studies on earnings management through the timing of asset sales find evidence consistent with income smoothing (and not income maximization).

#### **4.2.1 Primary analysis**

The income smoothing hypothesis tested by prior asset sales studies predicts a negative correlation between income from asset sales and fluctuations in earnings from continuing operations. The higher (lower) the earnings from continuing operations (before gains and losses from asset sales) relative to an earnings level considered desirable, the lower (higher) the amount of asset sale income that a firm reports as part of earnings from continuing operations.

In testing income smoothing, an important research design choice is specifying the level around which firms want to smooth income. Prior literature does not offer an unambiguous answer to the question of what earnings target the managers have in mind when taking income smoothing actions. In this study, I use prior year's earnings as the target. Several reasons motivate this choice. First, recent survey evidence by Graham et al. (2005) indicates that the last year's earnings number is the most important benchmark for companies to achieve.<sup>12, 13</sup> Second, the lead paragraph in most earnings announcement press releases states the earnings for the current period compared to earnings for the same quarter last year, thus further confirming the importance managers attach to last year's results as a reporting target. Finally, prior research on earnings smoothing through asset sales (e.g., Bartov, 1993) also employs the last year's earnings benchmark and finds evidence consistent with smoothing around this benchmark.

To provide evidence on the impact of SFAS 144 on income smoothing through the timing of asset sales (Hypothesis 1), the following regression is used.

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<sup>12</sup> Another earnings benchmark that the financial executives consider important (according to Graham et al. 2005) is analysts' earnings forecasts. I do not include this benchmark in my analysis for two reasons. First, it is unlikely that firms are able to time asset sale transactions in the three-week period between the last consensus forecast and the earnings announcement release. Finding a buyer for assets such as a subsidiary, a plant, a division, a line of product or a brand may be a lengthy process, especially if the market for such assets is not active. Second, analysts' forecasts sometimes include, and other times exclude, gains and losses from asset sales. Thus, analysts' forecast errors cannot be computed using a consistent treatment of gains and losses from asset sales.

<sup>13</sup> Using a sample of Japanese firms, Herrmann et al. (2003) find that in Japan, where the managers of all publicly traded firms are required to issue forecasts, the timing of asset sales is directed at smoothing earnings around management forecasts. While some US firms issue management forecasts, the phenomenon is by far less widely spread than in Japan. Therefore, for the purpose of this study, I choose to investigate a more commonly used benchmark.

$$\begin{aligned}
AS\_Income_{t,i} = & a_0 + a_1\Delta EPS_{t,i} + a_2DETA_{t,i} + a_3POST + a_4POST * \Delta EPS_{t,i} + \\
& + a_5POST * DETA_{t,i} + e_{t,i}
\end{aligned}
\tag{1}$$

Where:

$AS\_Income_{t,i}$  = income per share (gain or loss) from the sale of fixed assets divided by stock price at the beginning of period  $t$  for firm  $i$ ;

$\Delta EPS_{t,i}$  = change in earnings from continuing operations per share (excluding gains and losses from asset sales) divided by stock price at the beginning of period  $t$  for firm  $i$ ;

$DETA_{t,i}$  = long-term debt-to-total assets ratio at the beginning of period  $t$  for firm  $i$ ; and

$POST$  = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented), and zero otherwise.

Equation (1) is estimated using a sample of firms that report nonzero gains and losses from asset sales as a component of earnings from continuing operations. This sample excludes some firms that may have been affected by SFAS 144, but do not report gains and losses from asset sales as a component of earnings from continuing operations. Arguably, absent SFAS 144, some firms might have sold assets to obtain a desired earnings smoothing effect but decided against the selling (in that particular reporting period) because SFAS 144 eliminated their ability to smooth earnings from continuing operations. Ideally, I would include these firms in my sample as well. However, since the selling decisions absent SFAS 144 are not observable, I cannot separate the zero gains and losses from asset sales that are true values of zero from the ones that would have been nonzero, had the new standard not been implemented. Therefore, I limit my analysis to firms with nonzero gains and losses from asset sales included in earnings from continuing operations.

The income smoothing behavior documented by prior studies on earnings management through asset sales predicts a negative coefficient on the change in earnings from continuing operations (i.e.,  $a_1 < 0$ ).<sup>14</sup> To determine whether Hypothesis 1 holds, I include in equation (1) a binary

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<sup>14</sup> For consistency with prior literature on asset sale timing (Bartov 1993; Black et al. 1998), I use the ratio of debt-to-total assets at the beginning of the year as a control variable. However, unlike prior studies, I do not interpret this ratio as a measure of covenant tightness. Prior research (Duke and Hunt 1990, Press and Weintrop

variable, POST that takes a value of one for years after 2001, when the new reporting requirements for asset sales was introduced. A coefficient significantly different from zero for the main variable of interest,  $POST * \Delta EPS$ , would represent evidence consistent with the hypothesis that the changes in the financial reporting requirements for asset disposal transactions have changed the effectiveness of income smoothing through gains and losses from asset sales.

Panel A of Table 3 (column 1) presents the results for equation (1). Consistent with the findings in prior literature, the estimate for the coefficient on the change in earnings from continuing operations before gains and losses from asset sales is negative and significant (p-value < 0.01). The magnitude of this negative association is similar to that reported by prior studies on earnings management through the timing of asset sales (e.g., Bartov 1993 and Herrmann et al. 2003).

The coefficient on the main variable of interest,  $POST * \Delta EPS$ , is positive and significant (p-value < 0.01). Thus, smoothing through the timing of asset sales appears to be mitigated in the reporting period covered by SFAS 144. Even though the incremental effect of the post-SFAS 144 regime is significantly positive (i.e.,  $a_4 > 0$ ), an untabulated F-test rejects the null hypothesis that the total effect of changes in earnings from continuing operations in the post-SFAS 144 regime (i.e.,  $a_1 + a_4$ ) is zero. This finding indicates that although mitigated in the POST period, the smoothing behavior is not completely eliminated.

#### ***4.2.2 Smoothing of positive vs. negative changes in earnings from continuing operations***

Equation (1) does not take into account the possibility that the firms with increasing earnings trends (i.e., positive changes in earnings) may face fundamentally different motivations to manage earnings than the firms experiencing a decline in performance. Both the academic literature (e.g., Abarbanell and Lehavy 2003) and the business press make the claim that managers sometimes under-report earnings by a large amount for sufficiently bad underlying earnings news, a behavior known as “taking a big bath”. I test for the possibility that firms with increasing performance face different

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1990) indicates that there are problems with interpreting the leverage as a proxy for the existence and closeness of accounting-based debt covenants. These studies document that leverage can proxy for other firm characteristics in addition to the existence and closeness of accounting-based constraints.

earnings management objectives than those with decreasing performance by separating the full sample into two subsamples based on the sign of the change in earnings from continuing operations ( $\Delta\text{EPS}$ ).

Panel A of Table 3 (columns 2 and 3) includes the results of estimating equation (1) for the two separate subsamples containing firms with positive and negative changes in earnings from continuing operations. The income smoothing effect documented by prior literature is present in both subsamples, suggesting that both positive and negative earnings changes may be subject to smoothing attempts. The interaction term between changes in earnings from continuing operations and the dummy variable for the post-SFAS 144 regime is also significant in both subsamples. Thus, Hypothesis 1 is supported not only at the entire-sample level but also separately for the two subsamples of firms with positive and negative changes in earnings from continuing operations.

#### ***4.2.3 Alternative smoothing target***

The caveat of using last year's earnings as a smoothing target is that this assumed smoothing target does not allow for earnings growth. It is not difficult to imagine that firms would want to report (to the extent possible) an increasing earnings trend. Therefore, to test the robustness of my findings to the assumption that the target of earnings smoothing is prior year's earnings, I repeat the analysis using last year's earnings plus a growth percentage. Panel B of Table 3 presents the results of a model where the assumed objective of smoothing is last year's earnings from continuing operations plus a growth percentage defined as the average earnings change over the prior three years.<sup>15</sup> The results of this analysis indicate that the findings are insensitive to relaxing the assumption of zero growth in earnings. The negative association between gains and losses from asset sales and changes in earnings from continuing operations is significantly weaker ( $p\text{-value} < 0.01$ ) in the post-SFAS 144 regime. This conclusion is also supported separately for positive and negative changes in earnings from continuing operations. A comparison of panels A and B of Table 3 indicates that when fluctuations in earnings from continuing operations are defined as deviations from past year's earnings plus a growth

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<sup>15</sup> When the growth percentage is defined as the average earnings change over the prior five years, the results are qualitatively the same.

trend (as in panel B of Table 3), the explanatory power and the magnitude of the coefficients are higher compared to those calculated using the zero growth earnings target (as in panel A of Table 3).

#### **4.3 The association between gains and losses from asset sales and other nonrecurring items**

While prior earnings management literature investigates the timing of asset sales in isolation, the business press provides examples of a broader smoothing strategy that involves timing nonrecurring items in general. The financial press articles point to cases when firms (partially) offset one-time asset disposal gains against other nonrecurring items such as write-downs of other assets or restructuring charges:

- “To smooth out fluctuations, GE frequently offsets one-time gains from big asset sales with restructuring charges; that keeps earnings from rising so high that they can't be topped the following year.” (Smith et al. 1994)
- “The company [Bristol-Myers] repeatedly booked restructuring-reserve charges in the same dollar amounts as gains on asset sales. In 1997, for instance, Bristol-Myers sold a unit called Linvatec Corp. for a \$225 million gain and booked a \$225 million restructuring charge. The next year, it sold Ban antiperspirants and two foreign subsidiaries for a \$201 million gain and booked a \$201 million restructuring charge.” (Harris 2002)
- “So what does [Alcatel] do to make its results look better? Take lots of one-time restructuring charges and create a piggy bank of reserves to bolster earnings. The one-time charges, meanwhile, are offset by one-time gains [...]. Specifically, Alcatel reported \$715 million in gains in the first quarter from selling off its stakes in various companies.” (MacDonald 2001)

The anecdotal evidence suggests two points. First, shifting the timing of some nonrecurring items for smoothing purposes may not be limited to asset sale transactions, but it may extend to other nonrecurring items as well. Second, this concurrent timing behavior may have as an objective the (partial) offsetting of the asset sale effect with other nonrecurring earnings components. Note that the smoothing behavior documented in the academic literature and the smoothing described by the financial press are not mutually exclusive. The concurrent timing story does not invalidate the idea that firms time asset sales to smooth earnings from continuing operations. It just provides a more complete picture of smoothing through the timing of nonrecurring items in general, not just asset sales in particular.

If a systematic concurrent timing behavior exists, it provides a reason to believe that SFAS 144 may have spillover effects on the timing of other nonrecurring items reported concurrently with asset sales. Therefore, before investigating potential spillover effects of SFAS 144, I attempt to provide large sample evidence of the concurrent timing behavior described by the financial press. Even if the press mentions offsetting as the objective of concurrent timing, alternative objectives may exist. For example, firms may want to time asset sales and other nonrecurring items in the same reporting period to enhance their effects. That is, a firm could compensate for a decrease in earnings before nonrecurring items by using both gains from asset sales and other positive nonrecurring items. I expect a negative (positive) correlation between gains and losses from asset sales and other nonrecurring items if the offsetting (enhancing) objective holds (Hypothesis 2).

Table 4 (panel A) presents the Pearson and Spearman correlations between asset sales gains and losses and other nonrecurring items. The significantly negative correlations (p-values <0.01) support the offsetting story depicted by the business press.<sup>16</sup> While the possibility that some firms time asset sales with other nonrecurring items in the same reporting period to enhance their effects is not eliminated, the offsetting behavior seems to dominate on average. The systematic negative association, though present in both reporting regimes, is weaker under SFAS 144 reporting rules for asset disposals. The Pearson correlation between gains and losses from asset sales and other nonrecurring items reported in the same accounting period decreases from -0.42 to -0.22 in the post-SFAS 144 regime. The Spearman correlation decreases as well, though less substantially (from -0.18 to -0.15).

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<sup>16</sup> In addition to being consistent with the business press anecdotes, the evidence in this study is consistent with the findings of recent research on nonrecurring items by Riedl and Srinivasan (2005). In a study focused on patterns in nonrecurring items reporting over the past decade, Riedl and Srinivasan (2005) find a negative association between positive and negative nonrecurring items reported in the same period. This study differs from theirs in several ways. First, the focus of this study is on income smoothing through the timing of asset sales and indirectly through the timing of other nonrecurring items. Riedl and Srinivasan (2005) do not test for income smoothing. Second, this study investigates both the relation of asset sales with other nonrecurring items and with recurring earnings components, while their study is focused exclusively on nonrecurring items. Third, the objective of my study is to compare two reporting regimes, pre- and post- SFAS 144. Riedl and Srinivasan (2005) examine trends in nonrecurring items over a ten-year period, but they do not take into account the effect of any specific accounting regulation.

Untabulated analysis indicates that out of the total number of firm-year observations that have asset sales and other nonrecurring items in the same reporting period, 67.2% of observations have opposite signs for asset sales and other nonrecurring items. That is, in 67.2% of the cases gains (losses) from asset sales are paired up with losses (gains) from other nonrecurring items. A one-sample binomial test indicates that the proportion of cases when asset sales and other nonrecurring items have opposite signs is significantly greater than the 50% that may be expected by chance ( $p$ -value  $< 0.01$ ). In addition, panel B of Table 4 shows a high positive correlation (i.e., a 0.59 Pearson correlation and a 0.37 Spearman correlation) between the absolute value of gains and losses from asset sales and other nonrecurring items. Taken together, these findings suggest that in many cases firms synchronize gains and losses from asset sales and other nonrecurring items with similar magnitudes, but opposite signs, consistent with attempts to offset the effect of asset sales and other nonrecurring items. This evidence suggests that nonrecurring items may be a cause of deviation from a desirable earnings trend, and consequently result in attempts to smooth such deviations by synchronizing and offsetting gains and losses from asset sales against other nonrecurring items.

Note that there may be economic reasons why asset sales are undertaken at the same time as other nonrecurring items, such as restructurings or asset write-downs. For example, firms may be engaged in a broader restructuring process, part of which consists of selling some assets. However, the economic reasons do not predict a systematic association between the sign of the asset sale and the sign of other nonrecurring items. In other words, the economic reasons do not explain why firms with other negative (positive) nonrecurring items are more likely to sell assets at a gain (loss). Thus, the possibility that an omitted factor (unrelated with intentional concurrent timing) drives the systematic negative association seems remote. However, with univariate tests, omitted correlated variables are always a concern.

Regression analysis can mitigate this concern, but it has the disadvantage of assuming that one of the two elements of the concurrent timing pair, either the gains and losses from asset sales or other nonrecurring items, is exogenous for estimation purposes. The concurrent timing story, however,

suggests a simultaneous relation between asset sales and other nonrecurring items. Accordingly, I use the following simultaneous equations system to determine whether firms synchronize the timing of asset sales and other nonrecurring items.<sup>17</sup>

$$\begin{aligned} AS\_Income_{t,i} = & a_0 + a_1\Delta EPS\_Rec_{t,i} + a_2Other\_NRec_{t,i} + \\ & + \sum_j a_j Other\_gains\_losses\_determinants_{t,i} + \\ & + a_4POST + a_5POST * \Delta EPS\_Rec_{t,i} + a_6POST * Other\_NRec_{t,i} + e_{t,i} \end{aligned} \quad (2a)$$

$$\begin{aligned} Other\_NRec_{t,i} = & a_0 + a_1\Delta EPS\_Rec_{t,i} + a_2AS\_Income_{t,i} + \\ & + \sum_j a_j Other\_nonrecurring\_items\_determinants_{t,i} \\ & + a_3POST + a_4POST * \Delta EPS\_Rec_{t,i} + a_5POST * AS\_Income_{t,i} + e_{t,i} \end{aligned} \quad (2b)$$

Where:

$AS\_Income_{t,i}$  = income per share (gain or loss) from the sale of fixed assets divided by stock price at the beginning of period  $t$  for firm  $i$ ;

$Other\_NRec_{t,i}$  = nonrecurring items (other than gains and losses from asset sales) per share divided by stock price at the beginning of period  $t$  for firm  $i$ ;

$\Delta EPS\_Rec_{t,i}$  = change in earnings from continuing operations per share excluding gains and losses from asset sales and other nonrecurring items divided by stock price at the beginning of period  $t$  for firm  $i$ ; and

$POST$  = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented) and zero otherwise.

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<sup>17</sup> The system is estimated using only firm-year observations with both gains and losses from asset sales and other nonrecurring items reported in the same accounting period. That is, for the purpose of estimating equations (2a) and (2b), I eliminate from my sample firms that report gains and losses from asset sales, but no other nonrecurring items in a certain reporting period. As a result of this elimination the sample size is reduced by about 20%. This approach is taken for the purpose of maintaining a consistent treatment between asset sales and other nonrecurring items, because my initial sample does not include firm-years with zero gains and losses from asset sales. However, when I estimate the system using all firm-years with gains and losses from asset sales (included in earnings from continuing operations), I obtain results similar to those reported in Table 4.

**Instrumental variables for gains and losses from asset sales:**

$AS\_Cash_{t,i}$  = proceeds from asset sales per share divided by stock price at the beginning of period  $t$  for firm  $i$ ;

$Free\_CF_{t,i}$  = binary variable that takes a value of one when the firm's free cash flow is below the 3-digit industry median (where free CF = net cash flow from operating activities minus capital expenditures and dividends divided by total asset at the beginning of period  $t$ ), and zero otherwise;

$DETA_{t,i}$  = long-term debt-to-total assets ratio at the beginning of period  $t$  for firm  $i$ ;

$Ind\_Cond_{t,i}$  = percentage change (over the last three years) in aggregate market value of all the firms operating in the same 3-digit SIC industry; and

$Str\_Line_{t,i}$  = binary variable that takes a value of one when the firm uses the straight-line depreciation method for its assets.

**Instrumental variables for other nonrecurring items:**

$Inventory\_TO_{t,i}$  = ratio of cost of goods sold to total inventory;

$Sale\_Emp_{t,i}$  = ratio of sales to number of employees minus the 3-digit SIC industry mean; and

$Stk\_Ret_{t,i}$  = firm's stock return for the prior year minus the 3-digit SIC industry mean.

The magnitude of the sold asset is likely to be correlated with the magnitude of the gain or loss from the sale (i.e., the larger the sold asset, the larger the gain or loss from sale). Following prior literature (Bartov 1993, Black et al. 2003), I use the cash proceeds from asset sales ( $AS\_Cash$ ) as a measure of the magnitude of the sold asset.

When firms sell assets because of liquidity needs, they are probably not in a favorable position to negotiate the best price for the sold assets. Thus, I expect larger losses (smaller gains) for asset sales driven by liquidity considerations. To capture asset sales motivated by liquidity needs, I interact the level of proceeds from asset sales with a dummy variable equal to one when a firm generates free cash flows below the industry mean ( $AS\_Cash*Free\_CF$ ). I also interact the level of proceeds from asset sales with the ratio of debt-to-total assets ( $AS\_Cash*DETA$ ), where debt-to-total assets is used

as a proxy for potential external financing constraints faced by the firm. The higher the debt-to-total assets ratio, the more expensive it may be for a firm to borrow money and thus more likely for the firm to sell assets for liquidity needs.

Shleifer and Vishny 1992 show that the price firms receive for their assets is based on industry conditions. If a firm operates in an industry that experiences financial difficulties, other companies in the same industry may be unable to raise the funds to purchase a firm's assets. As a result, the firm is forced to sell to industry outsiders who may not be willing to pay the full best-use value of the assets. Even if acquired by industry insiders, the potential value of the asset may be lower in an industry where future cash flow expectations are lower. As a measure of industry conditions, I use industry shrinkage (Ind\_Cond) defined as a percentage decrease in aggregate market value of all the firms operating in an industry over the last three years.

The gains and losses from asset sales are affected not only by the selling price but also by the book value of the assets put up for sale. Keeping everything else equal, the lower the book value of the assets, the more likely it is that the asset sale would generate a larger gain (smaller loss). Thus, firms using accelerated depreciation methods may be more likely to generate gains from asset sales. I include a dummy variable (Str\_Line) that takes a value of one when a firm uses the straight line depreciation method for its assets and zero otherwise.<sup>18</sup>

The explanatory variables used to predict nonrecurring items have been employed in previous research as determinants of the occurrence of restructuring and other nonrecurring charges (Bens and Johnston 2005; Francis et al. 1996). The explanatory variables reflect basic fundamentals that are designed to capture firm performance. When the fundamentals suggest poor firm performance, I expect firms to be more likely to record nonrecurring charges either to address their problems (i.e.,

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<sup>18</sup> Firms may time asset sales to save taxes. However, measuring tax incentives behind asset sales is difficult, because firms do not disclose information about the tax basis of the sold assets. In addition, book-tax differences relating specifically to asset sales are seldom disclosed in the tax notes to the financial statements. For a sample of large asset sales, Klassen (1997) examines available financial statement disclosures to determine the degree of book-tax conformity, and finds that 75% of the asset sales have insufficient sale-specific information to determine whether temporary book-tax differences exist.

restructuring) or to reflect the effect of poor performance (i.e., write-offs). Further, the worse the performance per the fundamentals, the larger the expected charge.

Table 4 (panel C) includes the results of estimating equations (2a) and (2b) using both OLS and 2-SLS. I present results using both OLS and 2-SLS estimation methods for completeness. However, the 2-SLS estimation should be interpreted with caution. Given the limited amount of information firms are required to disclose about the sold assets, there is a limited choice of determinants of gains and losses from asset sales that can be computed and used as instrumental variables in my system of equations. This also holds for the determinants of other nonrecurring items. Therefore, the selected instrumental variables may be “weak” instruments (i.e., they explain a small proportion of the variation in endogenous variables), or they may not be completely exogenous (i.e., the instruments exhibit at least some correlation with the error term in the structural model).<sup>19</sup> Following Larker and Rusticus (2005), I use a diagnostic test to examine the sensitivity of second stage estimates to the use of different (sets of) instruments. The intuition of this test is that if the instruments are valid, each instrument should provide similar estimates for the true coefficient. Untabulated analysis indicates that the second stage estimates are sensitive to the use of different sets of instruments, and consequently in the interpretation of 2-SLS results caution is warranted.

Panel C of Table 4 includes the results of estimating equation (2a). Consistent with the results of the univariate tests, the negative correlation between gains and losses from asset sales and other nonrecurring items reported concurrently continues to be statistically significant (p-values < 0.01) after controlling for other determinants of gains and losses from asset sales. For completeness, panel D of Table 4 presents the results of estimating equation (2b) that includes other nonrecurring items as a dependent variable. However, in my empirical analysis, I discuss equation (2a) as the focus of this

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<sup>19</sup> In a paper focused on the instrumental variable methods in accounting research, Larker and Rusticus (2005) discuss conditions under which OLS estimation is preferable to instrumental variable methods, such as 2-SLS, (despite a potential endogeneity problem present in OLS regressions). Larker and Rusticus (2005) conclude that when instruments are weak or not completely exogenous, instrumental variable methods may generate estimates that are more biased and more likely to provide the wrong statistical inference than simple OLS estimates that make no correction for endogeneity.

paper is gains and losses from asset sales. That is, the other nonrecurring items are of interest only indirectly to the extent their timing is synchronized with the timing of gains and losses from asset sales.

The results in Table 4 also indicate that the negative association between gains and losses from asset sales and aggregate earnings changes (documented in Table 3, panels A and B) is mainly driven by the negative association between asset sales and other nonrecurring items. The coefficient of  $\Delta\text{EPS\_Rec}$  (-0.013 using OLS or -0.027 using 2-SLS), is considerably smaller than the coefficient of  $\text{Other\_NRec}$  (-0.245 using OLS or -0.359 using 2-SLS). An untabulated F-test indicates that the difference between the  $\Delta\text{EPS\_Rec}$  and  $\text{Other\_NRec}$  coefficients is statistically significant (p-values < 0.01). Although smaller, the coefficient of  $\Delta\text{EPS\_Rec}$  is significantly different from zero (p-value < 0.05 for the OLS estimation and p-value < 0.10 for the 2-SLS estimation), suggesting that the changes in recurring earnings components have some effect on gains and losses from asset sales in addition to the effect of other nonrecurring items.

Under SFAS 144, the negative association between gains and losses from asset sales and other nonrecurring items is considerably mitigated. However, the negative association between gains and losses from asset sales and fluctuations in recurring earnings does not seem affected. That is, the coefficients on  $\text{POST} * \text{Other\_NRec}$  are significantly positive (p-values < 0.01), while the coefficients on  $\text{POST} * \Delta\text{EPS\_Rec}$  are not statistically different from zero at any conventional significance level. These findings suggest that SFAS 144 has mitigated the offsetting of asset sales against other nonrecurring items behavior.

#### **4.4 The effect of SFAS 144 on other nonrecurring items**

Because of this concurrent timing behavior, SFAS 144 may have consequences that extend beyond asset sales to the timing of other nonrecurring items. Judging by the lower magnitude of gains and losses from asset sales included above the line and the higher frequency of firms reporting discontinued operations (Fig. 1), one effect of SFAS 144 is to shift some gains and losses from asset

sales to discontinued operations. To the extent the timing of these gains and losses is part of a broader smoothing strategy that involves timing nonrecurring items in general, removing some asset sales from above the line may affect the timing of other nonrecurring items reported above the line. Thus, I investigate whether the decrease in the magnitude of income from asset sales (imposed by SFAS 144) is accompanied by a change in the magnitude of other nonrecurring items reported concurrently. Under SFAS 144, I expect managers to respond to the change in the magnitude of gains and losses from asset sales (included in earnings from continuing operations) by changing the magnitude of other nonrecurring items reported in the same accounting period (Hypothesis 3).

Note that SFAS 144 offers a natural experiment for studying the simultaneous timing of asset sales and other nonrecurring. The standard introduces an exogenous change in gains and losses from asset sale (reported above the line). If managers respond to this exogenous change in asset sales with a similar change in other nonrecurring items, this evidence would invalidate the assumption that asset sales are the instrument of smoothing and all the other earnings components are exogenous. This evidence would be consistent with the idea that managers simultaneously time asset sales and other nonrecurring items.

To test Hypothesis 3, I use univariate tests of means and medians to determine whether the magnitude of nonrecurring items reported concurrently with gains and losses from asset sales changes in the post-SFAS 144 reporting regime. Panel A of Table 5 provides information about the magnitude of other nonrecurring items reported in the same year with gains and losses from asset sales. The mean, median and variance of other nonrecurring items are presented, partitioned on whether the firms report gains or losses from asset sales. For firms reporting losses from asset sales, the mean (median) of other nonrecurring items drops from 0.0229 (0.0002) to -0.0019 (0.000) in the post-SFAS 144 regime. Firms reporting gains from asset sales experience a similar drop in the magnitude of other nonrecurring items, with the mean (median) of other nonrecurring items changing from -0.0478 (-0.0032) to -0.0350 (-0.0030). All these differences between the pre- and post-SFAS 144 reporting regimes are statistically significant at 5% or better, except for the median of other nonrecurring items

reported by firms with gains from asset sales. While the median of other nonrecurring items gets closer to zero in the post-SFAS 144 period, the difference is not statistically significant at a conventional significance level.

The evidence in Table 5 (panel A) indicates that the decrease in the magnitude of gains and losses from asset sales under SFAS 144 is accompanied by a decrease in the magnitude of other nonrecurring items reported in the same accounting period. This evidence supplements the univariate correlations and the multivariate (system of equations) analysis included in section 4.3 and adds credibility to the idea that the gains and losses from asset sales are simultaneously timed. It also provides a more complete picture of the timing of the asset sales behavior documented by prior literature. Prior studies assume that gains and losses from asset sales are used as a tool for income smoothing and the fluctuations in above the line earnings before the effect of asset sales are predetermined (i.e., exogenous). Had this assumption been valid, a mandatory change in gains and losses from asset sales (imposed by SFAS 144) would not have been accompanied by changes in some components of earnings from continuing operations assumed exogenous by the prior literature.

The decrease in the magnitude of other nonrecurring items reported in the same accounting period with gains and losses from asset sales may have two potential interpretations. First, it may be interpreted as firms' attempt to compensate for the decrease in the magnitude of gains and losses from asset sales imposed by SFAS 144. If gains and losses from asset sales were timed to offset other nonrecurring items, and if some of these gains and losses are not available for offsetting anymore (i.e., are removed from above the line earnings) as a result of SFAS 144, then managers may try to smooth the effect of other nonrecurring items by spreading them over several reporting periods. Second, the gains and losses from asset sales may have been a source of deviation from desirable earnings trends due to their nonrecurring nature. Thus, by removing some asset sale gains and losses from above the line earnings, SFAS 144 may have taken away the necessity to smooth the effect of such gains and losses by bundling other nonrecurring items in the same reporting period to offset asset sales. Attempting to differentiate between the two interpretations is beyond the scope of this study.

A caveat of the analysis described above is that it does not control for the possibility that the magnitude of other nonrecurring items goes down (in the years covered by the new asset sale reporting rules) for reasons that are unrelated to intentional concurrent timing. To mitigate this concern, I match the firms in my sample on performance, industry and year with control firms (i.e., firms that do not report gains and losses from asset sales during the sample period). I examine whether the control sample exhibits a similar decrease in the magnitude of other nonrecurring items.

Panel B of Table 5 includes descriptive evidence about the difference in the magnitude of nonrecurring items for the control sample in the pre- and post-SFAS 144 periods. T-tests for differences of means and Wilcoxon tests for differences of medians fail to detect a significant change in the magnitude of nonrecurring items for the control sample. This failure to detect a change in the magnitude of other nonrecurring items for the control firms provides evidence consistent with the notion that the changes experienced by the sample of interest are more likely to be driven by smoothing incentives than by other determinants.

#### **4.5 The effect of SFAS 144 on income smoothing through the timing of asset sales and other nonrecurring items**

The concurrent timing and offsetting behavior suggests that nonrecurring items are a source of deviation from a desired earnings trend and managers attempt to smooth such deviations by offsetting gains and losses from asset sales against other nonrecurring items reported concurrently. However, another potential source of deviation consists of fluctuations in recurring earnings components. Thus, it is possible that managers use the net amount left after the offsetting of gains and losses from asset sales against other nonrecurring items (hereafter the net offset) to smooth fluctuations in recurring earnings components. In other words, managers may choose how much of the gains and losses from asset sales to offset against other nonrecurring items, in such a way that the net amount left after offsetting is useful in smoothing recurring earnings. Therefore, I explore whether the net offset of asset sales against other nonrecurring items is systematically associated with fluctuations in recurring

earnings. I also investigate whether, under SFAS 144, the net offset is more or less effective in smoothing fluctuations in recurring earnings. Given the change in the magnitude of gains and losses from asset sales reported in earnings from continuing operations, I expect that SFAS 144 has changed the effectiveness of the net offset of asset sales against other nonrecurring items to smooth fluctuations in recurring earnings (Hypothesis 4). More specifically, I expect a decrease (increase) in the offsetting effectiveness if firms find it more (less) difficult to match the lower magnitude gains and losses from asset sale against other nonrecurring items reported concurrently.

The following model is used to examine whether the net amount left after offsetting the gains and losses from asset sales against other nonrecurring items is systematically associated with changes in above the line recurring earnings.

$$\text{Net\_AS\_SI}_{t,i} = a_0 + a_1\Delta\text{EPS\_Rec}_{t,i} + a_2\text{DETA}_{t,i} + a_3\text{POST} + a_4\text{POST} * \Delta\text{EPS\_Rec}_{t,i} + a_5\text{POST} * \text{DETA}_{t,i} + e_{t,i} \quad (3)$$

Where:

$\text{Net\_AS\_SI}_{t,i}$  = the **net** amount of income from asset sales and other nonrecurring items per share divided by stock price at the beginning of the period

$\Delta\text{EPS\_Rec}_{t,i}$  = the change in earnings from continuing operations per share excluding gains and losses from asset sales and other nonrecurring items divided by stock price at the beginning of the period

All other variables are defined the same as before. The first column of Table 6 presents the results of estimating equation (3) using the whole sample of firms reporting gains and losses from asset sales as part of earnings from continuing operations. The next two columns present the results of separately estimating equation (3) for the subsample of firms reporting positive and negative changes in recurring earnings. The evidence in Table 6 indicate that there is a systematic negative association between the net amount left after offsetting asset sales against other nonrecurring items and fluctuations in recurring earnings. Specifically, the coefficient on  $\Delta\text{EPS\_Rec}$  is significantly negative (p-values < 0.01) both for the whole sample and for each of the two subsamples defined based on the

sign of the recurring earnings change. This evidence is consistent with managers smoothing fluctuations in recurring earnings using the net offset of asset sales and other nonrecurring items. I also find that the negative association between  $\Delta\text{EPS\_Rec}$  and  $\text{Net\_AS\_SI}$  is significantly weaker in the post-SFAS 144 period, consistent with Hypothesis 4 that predicts a change, under SFAS 144, in the effectiveness of the net offset to smooth recurring earnings. Less offsetting of gains and losses from asset sales against other nonrecurring items may be the result of firms not having perfect control over the timing and/or magnitude of other nonrecurring items. That is, when the new reporting requirements affect the magnitude of gains and losses from asset sales (included above the line), firms may not have the ability to perfectly offset the impact of SFAS 144 on the concurrent timing of nonrecurring items.

The magnitude of coefficients on the interaction term  $\text{POST} * \Delta\text{EPS\_Rec}$  (0.0398, 0.0319 and 0.0786 for the full sample, the positive and the negative change in earnings subsamples, respectively) is small relative to the baseline coefficients on  $\Delta\text{EPS\_Rec}$  (-0.1543, -0.1402 and -0.2596 respectively). An untabulated F-test checking the restriction  $a_1 + a_3 = 0$  rejects the null hypothesis at significance levels lower than 1%. Thus, my findings indicate that SFAS 144 decreased (but did not eliminate) the effectiveness of using the net amount left after offsetting gains and losses from asset sales and other nonrecurring items to smooth fluctuations in recurring earnings.

## **5. Summary and conclusions**

Recent accounting research investigates the indirect effect of accounting regulation on real activities earnings management. This research shows both analytically and empirically that tighter accounting standards may reduce accrual earnings management at the expense of increasing real earnings management. Unlike these prior studies that look at indirect consequences of accounting regulation on real activities through the substitution effect between accrual and real activities actions, my study investigates the direct implications of accounting regulation for a specific form of real activities earnings. Specifically, I examine whether the recent changes in the reporting requirements

for asset disposals (introduced SFAS 144) have unintended consequences for income smoothing through the timing of asset sales.

My empirical tests indicate that, by introducing new qualification criteria for discontinued operations, SFAS 144 has reduced the effect of gains and losses from asset sales on earnings from continuing operations. I find that the gains and losses from asset sales included in earnings from continuing operations are significantly smaller in the post-SFAS 144 reporting regime. The findings suggest that SFAS 144 removes some gains and losses from asset sales from earnings from continuing operations and places them below the line in discontinued operations. Consistent with lower magnitude gains and losses being available for timely recognition and offsetting against fluctuations in earnings from continuing operations, I find income smoothing through the timing of asset sales is mitigated in the post-SFAS 144 reporting regime.

In the second part of this study, I disaggregate earnings from continuing operations (excluding gains and losses from asset sales) into recurring and nonrecurring components. Consistent with the anecdotes in the business press, I find a systematic negative association between gains and losses from asset sales and other nonrecurring items reported in the same accounting period. This finding offers support for the idea that firms smooth the effect of nonrecurring items by concurrently timing and offsetting asset sales and other nonrecurring items (of opposite signs). Further, the results indicate that the smoothing through the timing of asset sales documented by prior studies and the mitigation of the smoothing behavior under SFAS 144 are primarily the result of offsetting gains and losses from asset sales against other nonrecurring items. The dampening of fluctuations in recurring earnings components seems to play a much less important role in the timing of the asset sales.

This systematic concurrent timing suggests that firms do not choose the timing of asset sales in isolation, but rather as part of a broader smoothing strategy that involves timing other nonrecurring items as well. Because of the concurrent timing behavior, the effects of SFAS 144 appear to extend beyond asset sales to affect the timing of other nonrecurring items as well. My findings indicate that the decrease in the magnitude of gains and losses from asset sales under SFAS 144 is accompanied by

a decrease in the magnitude of other nonrecurring items reported in the same accounting period. A group of control firms matched on performance, industry and year do not exhibit a similar down trend in nonrecurring items.

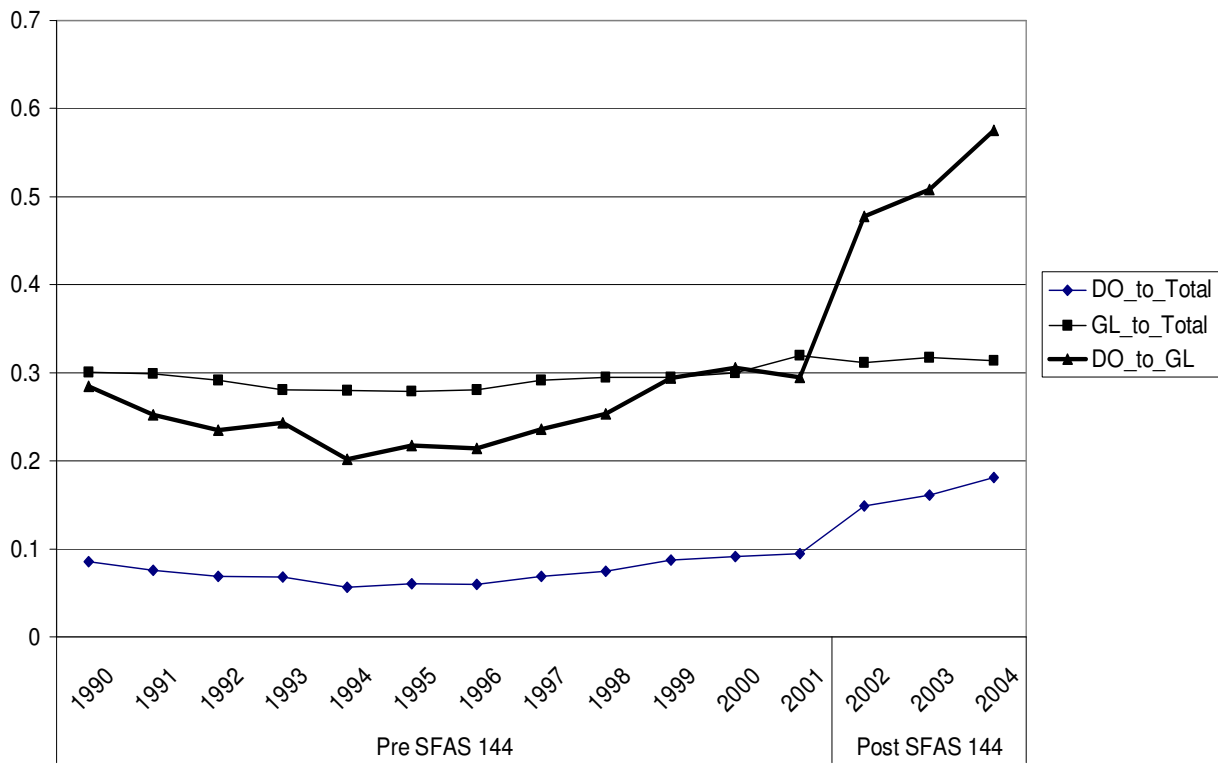
Whether mitigated income smoothing through gains and losses of asset sales is a positive or negative consequence of accounting regulation depends on the reader's priors about the desirability of income smoothing. Although, in many studies income smoothing is associated with opportunistic behavior by management, and thus has a negative connotation, some researchers (Ronen and Sadan 1981, Subramanyam 1996, Tucker and Zarowin 2005) argue that income smoothing is a mechanism used by management to communicate expectations about future performance, and consequently mitigating income smoothing is not necessarily a desirable outcome.

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**Fig. 1 Proportion of firms reporting discontinued operations (DO) relative to firms reporting above the line asset sales (GL)**



DO\_to\_Total = the number of firms reporting income from discontinued operations in any given year relative to total number of firms on Compustat for the same year.

GL\_to\_Total = the number of firms reporting income from asset sales (as a part of earnings from continuing operations) in any given year relative to total number of firms on Compustat for the same year.

DO\_to\_GL = the number of firms reporting income from discontinued operations in any given year relative to number of firms reporting income from asset sales (as part of earnings from continuing operations) for the same year.

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**TABLE 1**  
**Descriptive statistics for firms reporting gains and losses from asset sales (as part of earnings from continuing operations) and all the other Compustat firms without any gains or losses from asset sales**

*Panel A: Firms reporting gains and losses from asset sales (as part of earnings from continuing operations)*

<u>Variable</u>	<u>Mean</u>	<u>Lower Quartile</u>	<u>Median</u>	<u>Upper Quartile</u>
Market Value	2347.0	44.0	213.1	900.0
Total Assets	2336.7	78.6	282.3	1105.7
Earnings Growth	2.7%	-3.2%	0.5%	4.0%
Current Ratio	2.6	1.2	1.9	2.8
ROA	-0.03	-0.02	0.03	0.06
% of Losses	32.7%			

*Panel B: All other Compustat firms without any gains or losses from asset sales*

<u>Variable</u>	<u>Mean</u>	<u>Lower Quartile</u>	<u>Median</u>	<u>Upper Quartile</u>
Market Value	2418.3	36.8	154.5	696.0
Total Assets	1884.9	36.1	147.5	714.5
Earnings Growth	5.7%	-3.2%	0.4%	3.9%
Current Ratio	3.4	1.3	2.1	3.7
ROA	-0.15	-0.14	0.01	0.06
% of Losses	43%			

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Variable definition:

Market value = market value of equity (in millions);

Earnings growth = the difference between current and last year's earnings from continuing operations scaled by last year's earnings from continuing operations (expressed as a percentage);

Current ratio = the ratio of current assets to current liabilities;

ROA = the ratio of earnings from continuing operations to total assets.

**TABLE 2**  
**Comparison of gains and losses from asset sales in the pre and post SFAS 144 reporting regimes**

*Panel A: Gains and losses from asset sales scaled by the market value of equity*

<u>Variable</u>	<u>Pre SFAS 144 regime <sup>(a)</sup></u>	<u>Post SFAS 144 regime</u>	<u>Test statistic <sup>(b)</sup></u>
<u>All firms</u>			
Mean GL	0.0145	0.0083	-3.30***
Median GL	0.0005	0.0002	-5.05***
Variance GL	0.0160	0.0032	5.07***
% of gains	60.49%	56.50%	
<u>Firms with gains from asset sales</u>			
Mean gains	0.0342	0.0201	-6.01***
Median gains	0.0043	0.0033	-5.19***
Variance gains	0.0125	0.0042	2.94***
<u>Firms with losses from asset sales</u>			
Mean losses	-0.0155	-0.0069	2.80***
Median losses	-0.0011	-0.0010	2.13**
Variance losses	0.0198	0.0013	15.00***

(a) Pre-SFAS 144 regime is fiscal years 1998 to 2001, Post-SFAS 144 regime is fiscal years 2002 to 2004.

(b) The test statistics test the null hypotheses that the mean, median and variance of gains and losses from asset sales for the pre-SFAS 144 regime equal those for the post-SFAS 144 regime. The test statistics are a two-tail t-test for differences of means, a Wilcoxon rank-sum test for differences of medians, and a two-sample F test for equality of variances.

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively.

**TABLE 2 (continued)**  
**Comparison of gains and losses from asset sales in the pre and post SFAS 144 reporting regimes**

*Panel B: Gains and losses from asset sales scaled by the absolute value of last year's earnings from continuing operations*

<u>Variable</u>	<u>Pre SFAS 144 regime <sup>(a)</sup></u>	<u>Post SFAS 144 regime</u>	<u>Test statistic <sup>(b)</sup></u>
<u>All firms</u>			
Mean GL	0.3796	0.2080	-3.05***
Median GL	0.0087	0.0032	-5.01***
Variance GL	12.4801	3.9489	3.16***
% of gains	60.49%	56.50%	
<u>Firms with gains from asset sales</u>			
Mean gains	0.8053	0.4695	-3.68***
Median gains	0.0707	0.0541	-5.35***
Variance gains	18.8527	6.4831	2.91***
<u>Firms with losses from asset sales</u>			
Mean losses	-0.2724	-0.1325	4.15***
Median losses	-0.0183	-0.0170	2.50**
Variance losses	2.0180	0.4428	4.55***

(a) Pre-SFAS 144 regime is fiscal years 1998 to 2001, Post-SFAS 144 regime is fiscal years 2002 to 2004.

(b) The test statistics test the null hypotheses that the mean, median and variance of gains and losses from asset sales for the pre-SFAS 144 regime equal those for the post-SFAS 144 regime. The test statistics are a two-tail t-test for differences of means, a Wilcoxon rank-sum test for differences of medians, and a two-sample F test for equality of variances.

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively.

**TABLE 3**  
**Tests of smoothing through the timing of asset sales**

*Panel A: The assumed target around which firms smooth earnings is the prior year's earnings from continuing operations*

<i>Independent Variables</i>	<i>Expected Sign</i>	<i>All firms</i> <i>Coefficient</i> <i>(t-statistic)</i>	<i><math>\Delta EPS \geq 0</math></i> <i>Coefficient</i> <i>(t-statistic)</i>	<i><math>\Delta EPS &lt; 0</math></i> <i>Coefficient</i> <i>(t-statistic)</i>
<i>All firms</i>				
Intercept	(?)	0.010 (6.67) ***	0.020 (8.82) ***	0.002 (0.99)
$\Delta EPS$	(+/-)	-0.139 (-29.78) ***	-0.156 (-25.77) ***	-0.142 (-14.20) ***
DETA	(?)	0.004 (4.14) ***	0.004 (2.67) ***	0.005 (3.64) ***
POST	(?)	-0.004 (-1.85)	-0.018 (-5.35) ***	-0.001 (-0.30)
POST * $\Delta EPS$	(+/-)	0.118 (16.36) ***	0.157 (17.52) ***	0.051 (2.76) ***
POST*DETA	(?)	-0.000 (-0.07)	-0.003 (-1.23)	0.002 (0.67)
Number of obs.		9,690	4,998	4,692
Adj. R <sup>2</sup>		7.83%	11.64%	5.56%

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively for two-tail tests.

Dependent variable:

$AS\_Income_{t,i}$  = income per share (gain or loss) from the sale of fixed assets divided by stock price at the beginning of the period;

Independent variables:

$\Delta EPS_{t,i}$  = change in earnings from continuing operations per share (excluding gains and losses from asset sales) divided by stock price at the beginning of the period;

DETA<sub>t,i</sub> = long-term debt-to-total assets ratio at the beginning of the period; and

POST = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented), and zero otherwise.

**TABLE 3 (continued)**  
**Tests of smoothing through the timing of asset sales**

*Panel B: The assumed target around which firms smooth earnings is the prior year's earnings from continuing operations plus a growth percentage (defined as the average earnings change over the last three years)*

<u>Independent Variables</u>	<u>Expected Sign</u>	<u>All firms</u> Coefficient (t-statistic)	<u><math>\Delta EPS \geq 0</math></u> Coefficient (t-statistic)	<u><math>\Delta EPS &lt; 0</math></u> Coefficient (t-statistic)
<u>All firms</u>				
Intercept	(?)	0.009 (4.65) ***	0.020 (7.37) ***	0.002 (0.58)
$\Delta EPS$	(+/-)	-0.176 (-29.82) ***	-0.203 (-26.78) ***	-0.156 (-12.13) ***
DETA	(?)	0.006 (3.89) ***	0.005 (2.27) **	0.009 (4.04) ***
POST	(?)	-0.003 (-1.17)	-0.017 (-4.38) ***	-0.003 (-0.57)
POST * $\Delta EPS$	(+/-)	0.152 (17.86) ***	0.200 (19.38) ***	0.051 (2.40) **
POST*DETA	(?)	0.000 (0.11)	-0.003 (-0.98)	0.001 (0.30)
Number of obs.		7,307	3,900	3,407
Adj. R <sup>2</sup>		11.24%	15.53%	6.48%

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively for two-tail tests.

Dependent variable:

$AS\_Income_{t,i}$  = income per share (gain or loss) from the sale of fixed assets, divided by stock price at the beginning of the period;

Independent variables:

$\Delta EPS_{t,i}$  = change in earnings from continuing operations per share (excluding gains and losses from asset sales) divided by stock price at the beginning of the period; the change in earnings from continuing operations is computed by subtracting from current year's earnings from continuing operations last year's earnings plus a growth trend (computed as average change in earnings over the last three years);

$DETA_{t,i}$  = long-term debt-to-total assets ratio at the beginning of the period; and

POST = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented), and zero otherwise.

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**TABLE 4**  
**Tests of concurrent timing of gains and losses from asset sales and other nonrecurring items**

*Panel A: Pearson and Spearman correlations between gains and losses from asset sales and other nonrecurring items-using **actual values***<sup>(a)</sup>

<u>Correlation between AS_Income and Other NRec</u>	<u>Pearson</u>	<u>Spearman</u>
Pre SFAS 144 reporting regime	-0.4293 (<.0001)	-0.1838 (<.0001)
Post SFAS 144 reporting regime	-0.2259 (<.0001)	-0.1537 (<.0001)

*Panel B: Pearson and Spearman correlations between gains and losses from asset sales and other nonrecurring items-using **absolute values***<sup>(a)</sup>

<u>Correlation between AS_Income and Other NRec</u>	<u>Pearson</u>	<u>Spearman</u>
Pre SFAS 144 reporting regime	0.5941 (<.0001)	0.3752 (<.0001)
Post SFAS 144 reporting regime	0.2889 (<.0001)	0.3401 (<.0001)

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(a) p-values are in parentheses.

**TABLE 4 (continued)**

*Panel C: OLS and 2SLS estimates of the association between gains and losses from asset sales and other nonrecurring items*

<u>Asset sales equation</u>		<u>OLS estimation</u>	<u>2 SLS estimation</u>
<u>Independent Variables</u>	<u>Expected Sign</u>	<u>Coefficient (t-statistic)</u>	<u>Coefficient (t-statistic)</u>
Intercept	(?)	0.002 (0.55)	-0.002 (-0.63)
$\Delta$ EPS_Rec	(?)	-0.013 (-2.20) **	-0.027 (-1.81) *
Other_NRec	(+/-)	-0.245 (-22.45) ***	-0.359 (-3.36) ***
POST	(?)	0.002 (0.91)	0.005 (1.21)
POST * $\Delta$ EPS_Rec	(+/-)	0.003 (0.32)	0.016 (1.01)
POST*Other_NRec	(+/-)	0.230 (11.18) ***	0.333 (3.08) ***
AS_Cash	(+)	0.129 (9.31) ^^	0.105 (4.17) ^^
AS_Cash*Free_CF	(-)	0.013 (0.65)	-0.021 (-0.95)
AS_Cash*DETA	(-)	0.002 (0.98)	0.003 (2.13) ^^
Ind_Cond	(+)	0.004 (2.07) ^^	0.004 (2.34) ^^
Str_Line	(-)	-0.002 (-0.66)	-0.001 (-0.18)
Number of obs.		3,940	3,898
Adj. R <sup>2</sup>		18.65%	8.23%

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels, respectively for two-tail tests.

^^, ^^ and ^ represent 1%, 5% and 10% significance levels, respectively for one-tail tests.

AS\_Income<sub>t,i</sub> = income per share (gain or loss) from the sale of fixed assets, divided by stock price at the beginning of the period;

Other\_NRec<sub>t,i</sub> = nonrecurring items (other than gains and losses from asset sales) per share divided by stock price at the beginning of the period;

$\Delta$ EPS\_Rec<sub>t,i</sub> = change in the earnings from continuing operations per share, excluding gains and losses from asset sales and other nonrecurring items, divided by stock price at the beginning of the period;

POST = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented) and zero otherwise;

AS\_Cash<sub>t,i</sub> = proceeds from asset sales per share, divided by stock price at the beginning of the period;

Free\_CF<sub>t,i</sub> = binary variable that takes a value of one when the firm's free cash flow is below the 3-digit industry median, and zero otherwise;

DETA<sub>t,i</sub> = long-term debt-to-total assets ratio at the beginning of the period;

Ind\_Cond<sub>t,i</sub> = the percentage change (over the last three years) in aggregate market value of all the operating firms in an industry;

Str\_Line<sub>t,i</sub> = binary variable equal to one when the firm uses the straight-line depreciation method for its assets, and zero otherwise.

**TABLE 4 (continued)**

*Panel D: OLS and 2SLS estimates of the association between gains and losses from asset sales and other nonrecurring items*

<u>Other nonrecurring items equation</u>		<u>OLS estimation</u>	<u>2 SLS estimation</u>
<u>Independent Variables</u>	<u>Expected Sign</u>	<u>Coefficient (t-statistic)</u>	<u>Coefficient (t-statistic)</u>
Intercept	(?)	-0.027 (-12.17) ***	-0.025 (-8.25) ***
ΔEPS_Rec	(?)	-0.144 (-16.96) ***	-0.114 (-11.66) ***
AS_Income	(+/-)	-0.365 (-18.58) ***	-0.662 (-5.96) ***
POST	(?)	0.004 (1.20)	0.004 (1.00)
POST * ΔEPS_Rec	(+/-)	0.031 (2.55) **	0.082 (5.42) ***
POST*AS_Income	(+/-)	0.147 (2.87) ***	0.249 (1.01)
Inventory_TO	(-)	-0.001 (-0.03)	-0.001 (-0.76)
Sale_Emp	(-)	0.003 (0.71)	0.003 (0.56)
Stk_Ret	(+)	0.011 (4.99) ^^^	0.011 (4.52) ^^^
Number of obs.		5,892	3,898
Adj. R <sup>2</sup>		12.23%	6.73%

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively for two-tail tests.

^^^, ^^ and ^ represent 1%, 5% and 10% significance levels respectively for one-tail tests.

AS\_Income<sub>t,i</sub> = income per share (gain or loss) from the sale of fixed assets divided by stock price at the beginning of the period;

Other\_NRec<sub>t,i</sub> = nonrecurring items (other than gains and losses from asset sales) per share divided by stock price at the beginning of the period;

ΔEPS\_Rec<sub>t,i</sub> = change in the earnings from continuing operations per share, excluding gains and losses from asset sales and other nonrecurring items divided by stock price at the beginning of the period;

POST = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented), and zero otherwise;

Inventory\_TO<sub>t,i</sub> = ratio of cost of goods sold to total inventory;

Sale\_Emp<sub>t,i</sub> = ratio of sales to number of employees minus the industry mean; and

Stk\_Ret<sub>t,i</sub> = firm's stock return for the prior minus the industry mean.

**TABLE 5**  
**Comparison of other nonrecurring items in the pre and post SFAS 144 reporting regimes**

*Panel A: Firms that report gains and losses from asset sales included in earnings from continuing operations*

<u>Variable</u>	<u>Pre SFAS 144 regime <sup>(a)</sup></u>	<u>Post SFAS 144 regime</u>	<u>Test statistic <sup>(b)</sup></u>
<i><u>Firms with gains from asset sales</u></i>			
Mean Other_NRec	-0.0478	-0.0350	2.40**
Median Other_NRec	-0.0032	-0.0030	0.69
Variance Other_NRec	0.0298	0.0144	2.07***
<i><u>Firms with losses from asset sales</u></i>			
Mean Other_NRec	0.0229	-0.0019	-4.56***
Median Other_NRec	0.0002	0.0000	-5.10***
Variance Other_NRec	0.0424	0.0240	1.77***

*Panel B: Control firms matched on performance, industry and year*

<u>Variable</u>	<u>Pre SFAS 144 regime <sup>(a)</sup></u>	<u>Post SFAS 144 regime</u>	<u>Test statistic <sup>(b)</sup></u>
Mean Other_NRec	-0.0280	-0.0276	0.10
Median Other_NRec	0.0000	-0.0001	-0.93
Variance Other_NRec	0.0144	0.0139	1.03

(a) Pre-SFAS 144 regime is fiscal years 1998 to 2001, Post-SFAS 144 regime is fiscal years 2002 to 2004.

(b) The test statistics are a two-tail t-test for differences of means, a Wilcoxon rank-sum test for differences of medians, and a two-sample F test for equality of variances.

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively for two-tail tests.

**TABLE 6**  
**Tests of smoothing through the timing of asset sales and other nonrecurring items**

*The assumed objective of smoothing is changes in earnings from continuing operations, before the effect of asset sales and other nonrecurring items ( $\Delta EPS\_Rec$ )*

<u>Independent Variables</u>	<u>Expected Sign</u>	<u>All firms</u> Coefficient (t-statistic)	<u><math>\Delta EPS \geq 0</math></u> Coefficient (t-statistic)	<u><math>\Delta EPS &lt; 0</math></u> Coefficient (t-statistic)
<i>All firms</i>				
Intercept	(?)	-0.012 (-5.72) ***	-0.008 (-2.67) **	-0.030 (-8.12) ***
$\Delta EPS\_Rec$	(+/-)	-0.154 (-22.15) ***	-0.140 (-16.36) ***	-0.259 (-15.23) ***
DETA	(?)	-0.154 (-0.15)	-0.002 (-0.85)	0.001 (0.25)
POST	(?)	-0.001 (-0.13)	-0.004 (-0.90)	0.009 (1.40)
POST * $\Delta EPS\_Rec$	(+/-)	0.039 (3.77) ***	0.032 (2.60) **	0.078 (2.39) **
POST*DETA	(?)	0.002 (0.82)	0.002 (0.69)	0.003 (0.72)
Number of obs.		9,706	5,948	3,758
Adj. R <sup>2</sup>		6.71%	6.60%	6.81%

\*\*\*, \*\* and \* represent 1%, 5% and 10% significance levels respectively for two-tail tests.

Dependent variable:

Net\_AS\_SI<sub>t,i</sub> = the **net** amount of income from asset sales and other nonrecurring items per share divided by stock price at the beginning of the period;

Independent variables:

$\Delta EPS\_Rec_{t,i}$  = change in the earnings from continuing operations per share excluding gains and losses from asset sales and other nonrecurring items divided by stock price at the beginning of the period;

DETA<sub>t,i</sub> = long-term debt-to-total assets ratio at the beginning of the period; and

POST = binary variable that takes a value of one for years after 2001 (when SFAS 144 has been implemented), and zero otherwise.