Empirical Evidence on Recent Trends in Pro Forma Reporting

Nilabhra Bhattacharya, Ervin L. Black, Theodore E. Christensen, and Richard D. Mergenthaler

SYNOPSIS: This study provides descriptive evidence on the controversial trend adopted by many firms in recent years of reporting earnings figures on a pro forma basis. Pro forma earnings exclude normal income statement items that managers deem to be nonrecurring or nonrepresentative of ongoing operations. We examine a large sample of actual pro forma press releases issued between January 1998 and December 2000. We find that pro forma announcers tend to be relatively “young” firms that are concentrated primarily in the tech sector and business services industries, and that they are significantly less profitable, more liquid, and have higher debt levels, P-E ratios, and book-to-market ratios than other firms in their own industries. Our results indicate that while firms commonly exclude multiple expenses in arriving at their pro forma earnings figure, they usually do not exclude the same items in subsequent pro forma announcements. These results support the criticism that pro forma announcements are often motivated by managers’ desires to meet or beat analysts’ expectations or to avoid earnings decreases.

Keywords: Pro forma earnings; street earnings; corporate disclosure; analysts’ expectations.

INTRODUCTION AND BACKGROUND

In recent years, many companies have begun reporting a nonstandard profitability measure commonly known as “pro forma” or “street” earnings along with their audited earnings number, based on generally accepted accounting principles (GAAP). This practice fuels an intense debate.

Nilabhra Bhattacharya is an Assistant Professor at the University of Utah, Ervin L. Black and Theodore E. Christensen are Assistant Professors, both at Brigham Young University, and Richard D. Mergenthaler is an experienced associate with PricewaterhouseCoopers LLP.

We appreciate the valuable research assistance of Chad Larson, Kris Allee, Dirk Black, Bryant Blanchard, Brandon Buhler, Josh Gagnon, Jon Liljegren, Heidi Prescott, John Prete, and Patrick Walsh. We express thanks to Kay Stice, Carol Marquardt, two anonymous reviewers, workshop participants at Brigham Young University, and Thompson Financial for providing earnings forecast data through the Institutional Brokers Estimate System. These data were provided as part of their academic program to encourage earnings expectation research. Professors Christensen and Black express appreciation for a student mentoring grant from Brigham Young University and Professor Bhattacharya acknowledges support from the David Eccles School of Business, University of Utah.

Editor’s Note: Jim Largay served as the editor of this manuscript.

1 The practice of reporting nonstandard earnings metrics is not new, as the SEC issued guidance on non-GAAP reporting decades ago; for example, accounting Series Release No. 142, 1973 and Staff Accounting Bulletin No. 45, 1982.

Submitted: November 2002
Accepted: October 2003
Corresponding author: Theodore E. Christensen
Email: tcd.christensen@byu.edu
debate between supporters and critics of pro forma disclosure. Both camps generally use anecdotal evidence and rhetoric to support their respective views, and prior research only documents limited empirical evidence on pro forma reporting practices (Wallace 2002). This study provides descriptive empirical evidence regarding recent trends in pro forma disclosure practices from 1998 through 2000 by analyzing a large hand-collected sample of actual pro forma press releases.

The Pro Forma Debate

Managers often assert that they arrive at pro forma earnings by excluding one-time or unusual items from GAAP earnings (Halsey and Soybel 2002). They contend that pro forma earnings demystify complex accounting disclosures and provide a clearer picture of the “core earnings” that they expect to persist in future periods (Pitt 2001; Phillips et al. 2002). Some proponents of pro forma reporting argue that because GAAP earnings include nonrecurring items, such as restructuring charges and gains and losses on asset sales, alternative earnings metrics that exclude such items are more comparable (Bray 2001; Halsey and Soybel 2002). The former chairman of the Securities and Exchange Commission (SEC), Harvey Pitt, stated that “investors anxious for current, simplified and comprehensible financial reporting are today more likely to rely on a company’s ‘pro forma’ disclosures than the same company’s meticulously prepared, mandated GAAP financial disclosures” (Pitt 2001).

Regulators and other critics of pro forma reporting, however, are skeptical about managers’ claims (Liesman and Weil 2001a, 2001b). The ad hoc and nonstandard nature of pro forma reporting brought it under the scrutiny of lawmakers and regulators. Moreover, several highly publicized accounting scandals added to critics’ skepticism about unaudited, nonstandard corporate disclosures (Dreman 2001; D’Avolio et al. 2001). The Financial Accounting Standards Board (FASB) expressed concern that the proliferation of earnings reports undermines the quality of financial reporting (FASB 2002). The SEC also warned that firms could face civil fraud lawsuits for reporting potentially misleading pro forma numbers in their earnings press releases if they do not also provide a “clear and comprehensible” reconciliation between the pro forma and GAAP numbers (Weil 2001b).

The financial press also raised many questions, including whether managers opportunistically exclude normal recurring expenses that should be included in GAAP operating income rather than “one time” or “unusual” items (Cowan and Munk 2002; Sidel 2002). Sender (2002) notes that, just six weeks before it sought bankruptcy protection, Enron’s pro forma earnings figure excluded $1.01 billion of investment and asset write-downs, which converted a $618 million GAAP net loss into $393 million of pro forma “recurring net income.” Another example focuses on LSI Logic Corp.’s exclusion of a portion of factory depreciation, from its pro forma number, arguing that the factory was “underutilized.” Sender (2002) compares this argument to renters asking their landlord for a discount because they “only spend a few hours a day in the apartment.” Some argue that the ad hoc nature of pro forma reporting makes comparability across firms virtually impossible (Talley 2002; Levinsohn 2002). An even more serious criticism is that firms’ current period pro forma numbers may not even be comparable to their own prior-year pro forma figures (Grant and Parker 2001; Jaffe 2002).

Recent Developments Related to Pro Forma Earnings

In the wake of prominent accounting scandals involving well-known firms such as Enron and WorldCom, and widespread allegations that firms opportunistically use pro forma numbers to mislead investors, legislators responded with tougher disclosure laws that build on the antifraud provisions of prior legislation, such as the Securities and Exchange Act of 1934. Section 401(b) of the Sarbanes-Oxley Act of 2002 requires that: (1) a pro forma report cannot omit any information that

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2 Managers can have other incentives for reporting on a pro forma basis. For example, real estate investment companies use FFO (funds from operations) to indicate cash available for reinvestment and distribution to shareholders (Bagnoli et al. 2001).

Accounting Horizons, March 2004

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would make the report in any way misleading to investors, and (2) a pro forma announcement must provide a complete reconciliation between the pro forma figure and the GAAP number.

Researchers only recently began exploring market perceptions of pro forma numbers compared with GAAP earnings figures. However, results from prior studies are mixed. Bhattacharya et al. (2003) provide evidence that investors and financial analysts find pro forma earnings more informative and more persistent than GAAP operating earnings. Lougee and Marquardt (2003) report some evidence that investors find pro forma earnings to be more informative, while Johnson and Schwartz (2001) do not find evidence that investors attach more weight to pro forma earnings numbers. Brown and Sivakumar (2003) and Bradshaw and Sloan (2002) find evidence of differential investor perceptions of GAAP earnings numbers and non-GAAP earnings figures reported by analyst forecast tracking services such as I/B/E/S, First Call, and Zacks.

Given the shortage of empirical evidence on the nature of pro forma reporting, we examine a sample of 1,149 quarterly pro forma press releases issued in 1998–2000 to gather descriptive evidence on recent trends in pro forma reporting. Specifically, we address reporting trends related to the following research questions.

- Who reports pro forma earnings figures? We document numerous characteristics of companies that frequently report pro forma earnings and the industries where these companies are concentrated.
- How do firms arrive at pro forma earnings figures? We investigate the types of exclusions and adjustments that firms frequently apply to arrive at pro forma numbers. We also examine whether certain adjustments become less or more common over time.
- How comparable and consistent are pro forma numbers? Here we investigate whether pro forma numbers are comparable across firms and how consistently firms apply definitions of pro forma earnings over time.
- What are some of the possible motivations behind pro forma reporting? We compare pro forma earnings and GAAP operating earnings and evaluate the extent to which pro forma numbers meet different earnings targets or benchmarks while GAAP numbers fall short.

**SAMPLE SELECTION**

To obtain a comprehensive sample of pro forma press releases, we searched the PR Newswire and Business Wire on Lexis-Nexis for the years 1998, 1999, and 2000 and identified all pro forma announcements in which pro forma diluted earnings per share (EPS) differs from GAAP EPS. Throughout the paper we refer to “earnings” metrics. However, in all cases, our analysis focuses on earnings scaled by the number of shares outstanding (EPS). Although, our initial search included the keywords “pro forma,” “pro-forma,” and “proforma” and retrieved 6,471 press releases, we suspect our search string likely captures only a subset of all non-GAAP earnings releases.

After analyzing each press release, we found that only 1,808 announcements contain actual quarterly pro forma earnings announcements for companies listed on major U.S. stock exchanges. The other 4,663 press releases refer to such things as current period pro forma revenues, forward-looking pro forma forecasts, earnings that include results from firms acquired or merged in the current period, or statements referring to prior period pro forma earnings. Finally, requiring firm-quarter observations to have data available in Compustat, CRSP, and I/B/E/S for our empirical analyses caused a further loss of 659 out of 1,808 announcements. Our final sample consists of 1,149 quarterly pro forma press releases issued between January 1998 and December 2000.

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3 Because the Securities and Exchange Act of 1934 made it illegal to use any misleading information or device, the new Sarbanes-Oxley Act provisions reemphasize and build upon the long-standing anti-fraud provisions of the earlier law.

4 Some firms use other nomenclatures to describe non-GAAP earnings metrics reported in their press releases. We use the same sample of pro forma press releases employed by Bhattacharya et al. (2003). They report that this search string captures about half of all non-GAAP earnings metrics, consistent with Johnson and Schwartz (2001) who find that 46 percent of their press releases use the pro forma nomenclature.
EMPIRICAL EVIDENCE

Who Reports Pro Forma Earnings?

We first investigate the industries where pro forma announcers are primarily concentrated. Panel A of Figure 1 classifies our sample of pro forma press releases by one-digit standard industry classification (SIC) codes of the announcing firms. Panel A reports a high concentration, 49.9 percent, in the service industries—both "personal and business services" and "professional services." The next highest concentration of 30.7 percent occurs in the manufacturing industries—"food, paper, and chemicals" and "machinery, electronics, and transportation." Panel A also compares the distribution of our sample firms with the distribution of firms in general as represented by the active firms in the Compustat database. A major difference in the proportion of firms included in our sample relative to the overall market percentage occurs in the personal and business services industry. Although this industry classification includes 15.4 percent of all firms in Compustat, it contains 44.2 percent of our pro forma announcers. Thus, we further investigate observations from this industry—508 of the 1,149 announcements—in more detail.

When we break the personal and business service industry into two-digit SIC code subcategories, we find that 494 of the 508 announcements, or 97 percent, from the professional and business services industry were released by business services firms. The fact that the business services sector represents 43 percent of our entire sample and only 12.8 percent of the Compustat population suggests that pro forma announcements are primarily concentrated in the business services industry. The business services industry sector ranges from advertising to equipment rental businesses and includes important technology-related industries, such as computer programming services, computer systems integrators, online information services, and other computer-related services.

Panels B and C of Figure 1 plot temporal trends in pro forma reporting by industry and focus on the two most common industry classifications (SIC 3 and SIC 7). Panel B reports that the frequency of pro forma reporting increased significantly across all industries during this period. The 47 pro forma reports in the first quarter of 1998 grew to 243 pro forma reports in the fourth quarter of 2000, a 417 percent increase. Panel C plots the relative frequency of pro forma reporting among the industry groupings for each quarter and indicates that the most dramatic growth occurred in the personal and business services industry (SIC 7). Although this industry accounted for 28 percent of all pro forma reports in the second quarter of 1998, its firms released 52 percent of all pro forma earnings figures in the fourth quarter of 2000. The increase in pro forma reporting in the manufacturing and machinery industry (SIC 3) was less dramatic; Panel C indicates an increase from 13 percent in the third quarter of 1998 to 29 percent in the third quarter of 2000.

Because many articles in the financial press discuss pro forma announcements of high-tech firms, we use the definition of high-tech firms employed by the I/B/E/S earnings forecast database and find that high-tech firms make up about 49 percent of our pro forma announcements. Moreover, we find that the tech sector includes about 67 percent of the personal and business services industry announcements. Similarly, Lougee and Marquardt (2004) report that high-tech firms made approximately 40 percent of the pro forma announcements they studied. Overall, these results provide compelling evidence that firms in the business services industry, especially firms engaged in technology-related services, made a large proportion of pro forma announcements.

5 Lougee and Marquardt (2004) report a similar concentration of announcements in the business services industry, 46.1 percent, during the 1997–1999 period. Johnson and Schwartz (2001) report that only 5.3 percent of their sample is classified in the business services sector during their June–August 2000 sample period. However, since they report that 70.8 percent of their sample is classified in the computer and technology sector, many of these firms may be classified in the business services industry (SIC code 7) under our classification scheme.

6 Contrary to the popular belief that most pro forma announcers are "dot-com" companies, we find that only 5 percent of firms in the business services industry that report pro forma earnings are dot-com firms.

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FIGURE 1
Classification of and Trend in Pro Forma Announcement by Industry


Panel B: Trends in the Frequency of Pro Forma Reporting by Industry

Panel C: Trends in the Relative Frequency of Pro Forma Reporting by Industry

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Given the evidence regarding the industries where pro forma reporting is most common, we next contrast the age of our sample firms with the age distribution of all firms covered by the Compustat database. Figure 2 classifies our sample pro forma firms and the population of Compustat firms according to the number of years the firm appeared in the Compustat database. The Compustat database covers more than 85 percent of our pro forma sample firms for 10 years or less, but covers only 12 percent of the overall Compustat population for 10 years or less. This evidence indicates that pro forma firms are relatively young compared to other active firms covered by Compustat.

Panel A of Table 1 provides important descriptive statistics. The mean market capitalization of our sample firms ($6,246 million) is much higher than even the 75th percentile ($2,589 million), suggesting the size distribution of our sample is positively skewed and includes some very large firms. Because the mean (median) market value of common equity of all active Compustat firms during our sample period is $2,258 million ($103 million), our relatively young firms are larger, on average, than most Compustat firms.

How Do Firms Arrive at Pro Forma Earnings Figures?

Panel A of Table 1 provides descriptive evidence of sample firms’ GAAP and pro forma earnings per share (EPS); the mean GAAP earnings is a net loss of 14.7 cents per share, while the mean pro forma earnings is a net income of 8.5 cents per share. This result is consistent with the notion expressed in the popular press that most items excluded from GAAP income to arrive at the pro forma number are expenses that decrease income. Moreover, it is consistent with results of prior academic research examining actual pro forma press releases (Johnson and Schwartz 2001; Lougee and Marquardt 2004; Bhattacharya et al. 2003).

The Magnitude of Pro Forma Adjustments

To examine how firms arrive at their pro forma earnings figures, we classify various pro forma adjustments mentioned in the press releases into 12 separate categories:

FIGURE 2
Evidence on the Age of Pro Forma Firms Relative to the Compustat Population

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### TABLE 1
Descriptive Statistics of Key Variables and the Magnitudes of Pro Forma Adjustments

#### Panel A: Descriptive Statistics of Key Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>25th Percentile</th>
<th>Mean</th>
<th>Median</th>
<th>75th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTVALUE</td>
<td>1,149</td>
<td>277.834</td>
<td>6,246.384</td>
<td>752.374</td>
<td>2,588.578</td>
</tr>
<tr>
<td>EPGAP</td>
<td>1,149</td>
<td>-0.350</td>
<td>-0.147</td>
<td>0.010</td>
<td>0.200</td>
</tr>
<tr>
<td>EPS PROFORMA</td>
<td>1,149</td>
<td>-0.120</td>
<td>0.085</td>
<td>0.080</td>
<td>0.220</td>
</tr>
</tbody>
</table>

#### Panel B: Magnitude of Pro Forma Adjustments as a Percentage of Sales

<table>
<thead>
<tr>
<th>Adjustment Category</th>
<th>n</th>
<th>25th Percentile</th>
<th>Mean</th>
<th>Median</th>
<th>75th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPRAMORT</td>
<td>345</td>
<td>3.3%</td>
<td>177.0%</td>
<td>11.1%</td>
<td>36.6%</td>
</tr>
<tr>
<td>STOCKCOMP</td>
<td>291</td>
<td>2.0</td>
<td>33.4</td>
<td>7.8</td>
<td>27.2</td>
</tr>
<tr>
<td>MERGE</td>
<td>142</td>
<td>1.0</td>
<td>16.1</td>
<td>4.1</td>
<td>14.2</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>133</td>
<td>4.0</td>
<td>51.4</td>
<td>11.5</td>
<td>34.1</td>
</tr>
<tr>
<td>GAINLOSS</td>
<td>61</td>
<td>-17.1</td>
<td>-13.0</td>
<td>-2.9</td>
<td>1.5</td>
</tr>
<tr>
<td>EXTRADISC</td>
<td>44</td>
<td>0.1</td>
<td>7.9</td>
<td>1.6</td>
<td>7.3</td>
</tr>
<tr>
<td>INTEREST</td>
<td>20</td>
<td>0.4</td>
<td>208.0</td>
<td>1.9</td>
<td>19.6</td>
</tr>
<tr>
<td>TAX</td>
<td>53</td>
<td>-2.5</td>
<td>8.2</td>
<td>0.5</td>
<td>5.4</td>
</tr>
<tr>
<td>STOCKCHRG</td>
<td>17</td>
<td>7.8</td>
<td>205.4</td>
<td>44.7</td>
<td>148.8</td>
</tr>
<tr>
<td>RESTRUCT</td>
<td>64</td>
<td>1.4</td>
<td>21.7</td>
<td>5.4</td>
<td>15.8</td>
</tr>
<tr>
<td>OTHER</td>
<td>173</td>
<td>1.1</td>
<td>39.5</td>
<td>5.9</td>
<td>19.4</td>
</tr>
</tbody>
</table>

*This panel only includes adjustments for which the firm disclosed the magnitude of the adjustment.

- **MKTVALUE** = market value of common equity in $millions five days prior to the pro forma announcement date;
- **EPGAP** = Compustat diluted operating earnings per share;
- **EPS PROFORMA** = Pro forma earnings per share;
- **DEPRAMORT** = depreciation and amortization costs (excluding amortization of stock-based compensation);
- **STOCKCOMP** = stock-based compensation costs;
- **MERGE** = merger and acquisition costs;
- **R&D** = research and development (R&D) costs and write-offs of purchased in-process R&D;
- **GAINLOSS** = gains and losses on sales of various assets;
- **EXTRADISC** = discontinued operations, extraordinary items, and changes in accounting principles;
- **INTEREST** = interest-related adjustments;
- **TAX** = tax-related adjustments;
- **STOCKCHRG** = stock-related charges such as preferred stock conversion charges and IPO expenses;
- **RESTRUCT** = restructuring charges; and
- **OTHER** = all other adjustments.

- depreciation and amortization costs (**DEPRAMORT**),
- stock-based compensation costs (**STOCKCOMP**),
- merger and acquisition costs (**MERGE**),
- acquired in-process research and development costs written-off (**R&D**),
- gains or losses on asset dispositions (**GAINLOSS**),
- “below the line” items (**EXTRADISC**),7
- interest-related charges (**INTEREST**),

7 “Below the line” items include extraordinary items, discontinued operations, and the cumulative effect of changes in accounting principles.

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• tax-related costs (TAX),
• stock-related charges such as preferred stock conversion charges and IPO expenses (STOCKCHRG),
• restructuring charges (RESTRUCT),
• adjustments to the number of shares outstanding used in the denominator of the EPS calculation (SHARES), and
• other specific adjustments (OTHER). We also find that in approximately 10 percent of pro forma press releases, companies do not disclose the adjustments reflected in their pro forma figures. The Sarbanes-Oxley Act of 2002 and SEC Regulation G prohibit earnings press releases that do not provide information to reconcile the pro forma figure to the GAAP number.

Panel B of Table 1 reports descriptive statistics regarding the relative size of these adjustments as a percentage of total revenues for all announcements that disclose the size of the adjustment in the press release. The mean of each adjustment category is much larger than its 75th percentile. Also, note that the mean values of some adjustment categories exceed 100 percent of total revenue, while the median values are always significantly lower. Thus, the adjustment categories are skewed by extreme observations. An examination of the medians of each category reveals that the largest adjustments, relative to revenues, occur in the following categories: (1) stock-related charges, STOCKCHRG, 44.7 percent, (2) in-process research and development costs, R&D, 11.5 percent, and (3) depreciation and amortization expenses, DEPRAMORT, 11.1 percent. Finally, all the pro forma adjustments, except for the GAINLOSS category, have an income-increasing effect, on average.

**Trends in the Use of Pro Forma Adjustments**

Figure 3 displays the frequency that our sample firms used each type of adjustment in the 12 quarters during 1998–2000. The first chart indicates that the most commonly excluded expense item over the three-year period is depreciation or amortization expense (DEPRAMORT), accounting for about 21 percent of all adjustments (410 out of 1,984). Figure 3 also reveals significant changes over time. For example, there were only 11 depreciation or amortization adjustments in 1998, 4 percent of all 260 pro forma adjustments made in 1998, but we note 360 such adjustments in 2000, approximately 26 percent of the 1,402 adjustments that year. Similarly, stock-based compensation costs (STOCKCOMP) comprised about 3 percent of 1998 adjustments, but increased to about 22 percent of 2000 adjustments. The in-process research and development expense (R&D) and merger and acquisition costs (MERGE) categories also grew over our sample period. All other categories (GAINLOSS, EXTRADISC, INTEREST, TAX, STOCKCHRG, and RESTRUCT) remained relatively constant throughout our 12-quarter sample period.

Note that adjustments altering the number of shares used in the denominator of the EPS calculation (SHARES) decreased from 28 percent of total adjustments in 1998 to 11 percent in 2000, even though Figure 3 reports a slight increase in the number of SHARES adjustments over time. Since the

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8 These adjustments categories are similar to those used in Bhattacharya et al. (2003) except that we classify adjustments into more unique categories. Johnson and Schwartz (2001) also provide details on the adjustments made by their sample of firms. However, because they report the percentage of their sample firms that include each type of adjustment, their descriptive statistics are not directly comparable to ours.

9 A positive value in this panel indicates that the adjustment is an expense or loss item—ignoring or excluding the adjustment increases income—while a negative value indicates that the adjustment is an income or gain item.

10 Some of these categories are greater than 100 percent because many of these companies report losses. Therefore, revenues for these firms are often much lower than expenses.

11 The STOCKCHRG category contains relatively large adjustments, including preferred stock conversion charges, IPO expenses, and other equity-related charges.

12 Because firms usually make more than one pro forma adjustment, our sample of 1,149 press releases contains 1,984 adjustments or exclusions, an average of 1.7 adjustments per press release.
FIGURE 3
Classification of Pro Forma Announcements by Adjustment Category and Quarter

Pro Forma Adjustment Categories

- DEPRAMORT, 20.7%
- OTHER, 12.6%
- SHARES, 14.3%
- RESTRICT, 3.8%
- STOCKCHRG, 1.4%
- TAX, 3.9%
- INTEREST, 1.5%
- EXTRADISC, 3.0%
- GAINLOSS, 3.6%
- R&D, 7.9%
- MERGE, 10.2%

DEPRAMORT

STOCKCOMP

MERGE

R&D

GAINLOSS

EXTRADISC

INTEREST

TAX

STOCKCHRG

RESTRICT

SHARES

OTHER

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SHARES category appears to be misleading and potentially manipulative, this is an encouraging trend. Finally, the OTHER category increased over time, suggesting that companies continued to exclude new types of income statement items over our sample period.

How Comparable and Consistent Are Pro Forma Numbers?

Critics of pro forma disclosure allege that (1) pro forma earnings figures are not comparable across firms because no standard, agreed-upon definition of pro forma earnings exists (Levinsohn 2002; Weil 2001a), and (2) individual firms do not use a consistent definition of pro forma earnings from one period to the next (Jaffe 2002). If this allegation is true, then one cannot compare a firm’s current and prior-period pro forma numbers. Because comparability and consistency are fundamental qualities of financial information, we investigate these qualities in our 1998–2000 pro forma earnings announcements.

Our sample includes 1,989 adjustments reported in 1,149 pro forma press releases by 596 firms. Even after classifying our sample pro forma adjustments into 11 different categories, 249 adjustments (13 percent) remain that we classify as OTHER. This suggests that comparability of pro forma figures across firms is problematic. Moreover, pro forma reporting is sporadic—most of our sample firms reported on a pro forma basis only once or twice in 1998–2000. Our analysis indicates that 314 companies (53 percent) reported pro forma quarterly earnings once during 1998–2000 and 143 firms, less than 25 percent of our sample, reported pro forma earnings more than twice during this period.

We also examine how consistently companies define pro forma earnings over time. These analyses are based on the 282 firms that report pro forma earnings more than once during our sample period—our “repeat announcers.” Only 10 percent of the repeat announcers made identical adjustments every time. However, since pro forma announcers generally exclude expenses they deem to be unusual or nonrecurring at the time, one should not expect the same costs to be excluded every time. We find that 22 percent of repeat announcers use the same definition as some previous pro forma report. Finally, the results indicate that 68 percent of our sample firms issuing pro forma reports more than once during 1998–2000 define pro forma earnings differently by using different adjustments every time. This evidence is consistent with the criticism that “pro forma firms” do not define pro forma earnings consistently from one period to the next.

Why Do Firms Report on a Pro Forma Basis?

Comparison of Pro Forma Firms to Their Own Industries Based on Financial Ratios

Table 2 displays descriptive statistics on firm characteristics of our pro forma reporters captured by key financial ratios. Table 2 also compares each sample firm to the median of its own two-digit SIC code industry for each of the financial ratios, and tests whether the difference between sample firms and their respective industry medians is significantly different from zero across the entire sample using a standard paired t-test. The first two rows indicate that many of our pro forma reporters are not profitable given that both the mean return on sales (ROS) and the mean return on assets (ROA)

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13 Managers with negative GAAP EPS numbers can manipulate the number of shares outstanding in the denominator of their pro forma EPS calculation to decrease a GAAP loss per share in two ways: (1) including antiluditive convertible securities and (2) including convertible securities issued during the year in the weighted number of shares outstanding as if they had been converted at the beginning of the year.

14 In Johnson and Schwartz's (2001) sample only 27 percent of their firms reported on a pro forma basis one quarter earlier while only 12 percent reported on a pro forma basis for more than four quarters prior to their sample period.

15 These analyses have two limitations: (1) some of the sample firms that report pro forma earnings only once during this three-year period may have reported on a pro forma basis prior to 1998 or after 2000, and (2) our sample is limited to firms that have complete data on the Compustat, CRSP, and I/B/E/S databases.

16 We subtract each firm's own industry median value for each ratio from the firm's individual ratio, and perform a t-test to determine whether the mean of the resulting series is significantly different from zero. A significantly positive number indicates that the particular ratio for our sample firms is greater, on average, than their respective industry medians.

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TABLE 2
Descriptive Statistics and Differences between Sample Firms and Their Industry Median Values for Key Financial Ratios

<table>
<thead>
<tr>
<th>Ratio</th>
<th>25th Percentile</th>
<th>Mean</th>
<th>Median</th>
<th>75th Percentile</th>
<th>Industry Difference*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROS</td>
<td>-0.486</td>
<td>-3.292</td>
<td>0.007</td>
<td>0.066</td>
<td>-3.247***</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.232</td>
<td>-0.239</td>
<td>0.006</td>
<td>0.061</td>
<td>-0.199***</td>
</tr>
<tr>
<td>CURRENT</td>
<td>1.388</td>
<td>3.448</td>
<td>2.170</td>
<td>3.718</td>
<td>1.532***</td>
</tr>
<tr>
<td>DEBT/ROA</td>
<td>0.240</td>
<td>0.550</td>
<td>0.445</td>
<td>0.688</td>
<td>0.062**</td>
</tr>
<tr>
<td>CF/NETINC</td>
<td>0.204</td>
<td>0.790</td>
<td>0.798</td>
<td>1.575</td>
<td>-0.025</td>
</tr>
<tr>
<td>R&amp;D/EXP</td>
<td>0.061</td>
<td>1.467</td>
<td>0.185</td>
<td>0.390</td>
<td>-1.334***</td>
</tr>
<tr>
<td>PERATIO</td>
<td>0.176</td>
<td>34.699</td>
<td>12.471</td>
<td>33.116</td>
<td>0.678***</td>
</tr>
<tr>
<td>BOOKMKT</td>
<td>0.128</td>
<td>0.571</td>
<td>0.311</td>
<td>0.638</td>
<td>0.131***</td>
</tr>
</tbody>
</table>

***, **** Difference is statistically significant at the 0.05 and 0.01 levels, respectively (two-tailed t-test).

* This column contains the mean difference between firms and their own industry medians for each ratio.

ROS = return on sales (Compustat data item 172/data item 12);
ROA = return on assets (Compustat data item 172/data item 6);
CURRENT = current ratio (Compustat data item 4/data item 5);
DEBT/ROA = debt ratio (Compustat data item 181/data item 6);
CF/NETINC = cash flow to net income ratio (Compustat data item 308/data item 172);
R&D/EXP = research and development expense as a percentage of sales (Compustat data item 46/data item 12);
PERATIO = price-earnings ratio (Compustat data item 199/data item 58); and
BOOKMKT = book-to-market ratio of common equity (Compustat data item 60/(data item 25 × data item 199)).

are negative. While both medians are positive, the means are extremely negative. Moreover, the paired t-tests in the far right column indicate that pro forma reporters are significantly less profitable than the median firm in their own industry for both profitability measures. The t-statistics for the next two rows indicate that pro forma firms are more liquid and more highly leveraged than the median firms in their own industries.

The cash flow to net income ratio (CF/NETINC) provides evidence regarding the magnitude of accruals since it measures level of operating cash flows relative to net income. The insignificant t-statistic for this variable suggests that sample pro forma firms’ accruals are not significantly different from median accruals in their own industries. The research and development expense as a percentage of sales (R&D/EXP) is about 147 percent of sales, on average. The significantly positive t-statistic suggests that pro forma firms have higher R&D expenditures, on average, than their respective industries. This evidence is not surprising given the fact that pro forma announcers are highly concentrated in the high-tech sector. Finally, the evidence is mixed about the valuation of Pro forma firms. The mean P-E ratio (PERATIO) of pro forma sample firms is about 35, and is significantly higher than industry medians suggesting pro forma firms are generally overpriced. However, the book-to-market ratio (BOOKMKT) of our sample firms is significantly higher than the median book-to-market ratio of the industry suggesting pro forma firms are relatively undervalued.

Trends in Key Financial Ratios of Pro Forma Firms versus Other Publicly Traded Firms

Figure 4 plots trends in several of the key ratios presented in Table 2 to illustrate how sample firms differ from the Compustat population over time. While Table 2 suggests that pro forma announcers, on average, are less profitable than other firms in their own industries, Panel A of Figure 4 reveals that pro forma firms started out nearly as profitable as their industry counterparts in 1997, but became increasingly less profitable over time. The return on assets (ROA) plot (not shown) reflects a similar trend. Table 2 indicates that, on average, cash flow to net income ratios of pro forma sample firms are similar to industry medians. Panel B of Figure 4, however, reveals a decreasing
trend in the median cash flow to net income ratio, suggesting higher levels of absolute accruals over time. Finally, Panels C and D show that the divergence between pro forma sample firms and Compustat firms in terms of the P-E ratio and the book-to-market ratio rapidly decreased over time. By mid-2000, these two ratios for pro forma firms closely approximate the Compustat averages. This suggests that a form of market correction occurred by the middle of 2000 to make our sample pro forma firms neither substantially overvalued nor substantially undervalued compared to active Compustat firms.\footnote{\textsuperscript{17}}

To further explore comparative profitability and price trends of pro forma firms, Figure 5 reports trends in sales, earnings, and stock prices of sample firms relative to market-wide trends as captured by active Compustat firms. Sales trends reported in Panel A indicate that the average revenue of pro forma firms was consistently below the average revenue of the Compustat population. Panel B also shows that while the average EPS of pro forma firms was very close to the Compustat average in 1997, the earnings of pro forma firms started to decline, and dropped dramatically in the fourth quarter of 1999. Although sample firms’ earnings recovered somewhat after this catastrophic plunge, pro forma reporters performed considerably below the Compustat average through 2000 and 2001.

Curiously, despite consistently posting lower than average sales and earnings, Panel C indicates that pro forma firms’ stock prices exceeded the market average during almost our entire observation period. However, a steep decline in stock prices began in the fourth quarter of 1999, continuing through the year to bring average prices of pro forma announcers back to the Compustat average by the beginning of 2001. This result is not surprising, since these firms suffered a sudden and drastic drop in earnings in the fourth quarter of 1999. Panel D reports perhaps the most intriguing observation—the number of pro forma announcements began to skyrocket in the first quarter of 2000, precisely when earnings and prices started to decline.

\textsuperscript{17}Trends for the current ratio, debt ratio, and R&D to sales ratio are similar in all years to the figures reported in Table 2. Thus, we do not include these plots.

\textit{Accounting Horizons, March 2004}
The Use of Pro Forma Reporting to Achieve Strategic Earnings Benchmarks

Given that the descriptive evidence in Figure 5 suggests that managers use pro forma reports in an attempt to counter the bad news seen in falling earnings and prices, we investigate three earnings-related targets identified by prior research as plausible settings for observing strategic behaviors (Burgstahler and Dichev 1997; Skinner and Sloan 2002). These three targets are: (1) reporting a profit, (2) meeting or beating analysts’ expectations, and (3) avoiding an earnings decrease.

Panel A of Figure 6 indicates that 48 percent of our firm-quarter observations report a GAAP loss, while only 35 percent of firm-quarter observations report a loss on a pro forma basis. This suggests that 13 percent of our pro forma announcements turned a GAAP loss into a pro forma profit. Panel B reveals that a striking 80 percent of pro forma announcements meet or beat analysts’ mean forecasts, while only 39 percent of GAAP operating earnings meet or exceed analysts’ mean forecasts. This indicates that over 41 percent (80 – 39) of all pro forma announcements converted a GAAP EPS below analysts’ expectations to a pro forma number meeting or beating analysts’ expectations. Although Doyle and Soliman (2002) also conclude that managers’ pro forma announcements are motivated by pressure to meet analysts’ expectations, they use actual income figures published by I/B/E/S (instead of press releases issued by managers) as proxies for pro forma earnings.

In order to investigate managers’ motivations to report on a pro forma basis to counter earnings decreases, Panel C of Figure 6 reports observations in which current quarter GAAP EPS is less than GAAP EPS four quarters earlier. In these situations, managers are faced with the prospects of reporting an earnings decrease. We examine how frequently firms facing a GAAP earnings decrease decide to report pro forma numbers that are greater than or equal to GAAP earnings four quarters earlier. These are situations in which managers can use pro forma reporting to avoid reporting a GAAP earnings decrease. We find that of the 460 firm-quarter observations experiencing GAAP
FIGURE 6
Comparisons of Earnings Metrics in Meeting Specific Targets

Panel A: Profit versus Loss

<table>
<thead>
<tr>
<th></th>
<th>GAAP</th>
<th>Pro Forma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit</td>
<td>52%</td>
<td>66%</td>
</tr>
<tr>
<td>Loss</td>
<td>48%</td>
<td>34%</td>
</tr>
</tbody>
</table>

Panel B: EPS Above versus Below Mean Analyst Forecast

<table>
<thead>
<tr>
<th></th>
<th>GAAP</th>
<th>Pro Forma</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPS below Mean Forecast</td>
<td>61%</td>
<td>20%</td>
</tr>
<tr>
<td>EPS at or above Mean Forecast</td>
<td>39%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Panel C: 460 Observations in which $\text{GAAP}_q < \text{GAAP}_{q-4}$

<table>
<thead>
<tr>
<th>Pro Forma &lt; GAAPq-4</th>
<th>Pro Forma $\geq$ GAAPq-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>65%</td>
<td>35%</td>
</tr>
</tbody>
</table>
earnings decreases, 35 percent report pro forma at least as great as GAAP earnings four quarters earlier. That is, more than a third of the GAAP earnings decreases are downplayed on a pro forma basis. This is consistent with Lougee and Marquardt’s (2004) evidence that firms faced with the prospects of negative GAAP earnings surprises are more likely to report earnings on a pro forma basis.

**Trends in Managers’ Use of Pro Forma Reporting to Achieve Strategic Earnings Benchmarks**

Figure 7 investigates trends in these potential incentives for pro forma reporting. It portrays the proportion of press releases that convert a GAAP loss into a pro forma profit (denoted with a diamond) increasing from a low of 5 percent in the third quarter of 1998 to 21 percent in the third quarter of 2000. Figure 7 also indicates that the proportion of press releases reporting pro forma earnings that meet or beat analysts’ expectations while GAAP earnings fall short of expectations (denoted with a square) shows a striking increase from 18 percent in the third quarter of 1998 to 63 percent in the fourth quarter of 2000. Finally, Figure 7 reports trends related to the potential incentive to beat reported results from the same quarter of the previous year, situations where current GAAP EPS is less than GAAP EPS in the same quarter of the previous year (denoted with a triangle). We find that managers reporting a GAAP earnings decrease frequently report a pro forma earnings increase. The proportion of announcements with a GAAP decrease and a pro forma increase rose from a low of 12 percent in the fourth quarter of 1998 to 44 percent in the third quarter of 2000. Thus, Figure 7 suggests that managers have increasingly used pro forma reporting to meet or exceed these three earnings benchmarks.

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**FIGURE 7**

**Trends in Firms’ Propensity to Meet Earnings Targets over Time**

The Proportion of Observations in which the Pro Forma Earnings Number Meets Strategic Earnings Benchmarks while the GAAP Number Falls Short

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*Accounting Horizons, March 2004*
CONCLUSION

This study provides empirical evidence on several issues in the debate about pro forma reporting. Pro forma announcers tend to be relatively new firms in the tech sector and business services industries. We note the following key findings:

- The composition of firms’ pro forma earnings has changed over time.
- Pro forma firms are less profitable, more liquid, and have higher debt levels, higher P-E ratios, and higher book-to-market ratios than other firms in their industries.
- Pro forma reporting increased significantly around the same time that pro forma firms experienced share price and earnings declines.
- Companies tend to use pro forma earnings reports to meet analysts’ expectations and downplay negative earnings news, a phenomenon that has increased over time.

The Sarbanes-Oxley Act of 2002 and related SEC regulations made sweeping changes to the financial reporting landscape. Specifically, Section 401(b) of the Act directs the SEC to issue regulations to ensure that pro forma financials are not inaccurate and misleading to investors. The SEC recently issued Regulation G to implement the provisions of the Act requiring, among other things, that pro forma press releases present a clear reconciliation of the pro forma number to the GAAP earnings figure. Future research could investigate whether the trends documented in this study are affected by the Sarbanes-Oxley Act and related regulations, such as (1) whether the frequency of pro forma reporting decreased since passage of this Act, (2) whether the type of firms announcing pro forma earnings changed more recently, and (3) whether the nature of adjustments changed since this law was implemented.

REFERENCES


Accounting Horizons, March 2004

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Sender, H. 2002. Some reports on earnings are murky—“Pro forma” results persist despite Enron collapse. The Asian Wall Street Journal (June 11).