

The Effects of Pro Forma Earnings Disclosures on Analysts' and Nonprofessional Investors' Equity Valuation Judgments

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ABSTRACT: This paper presents an experiment that examines the effect of pro forma earnings disclosures on the judgments of analysts (i.e., more sophisticated investors) and nonprofessional (i.e., less sophisticated) investors. In the experiment, participants developed stock price assessments after reviewing background financial information and a current earnings announcement for a company. The earnings announcement was manipulated to report only GAAP earnings in one condition and both pro forma and GAAP earnings in the other condition. Consistent with empirical evidence, the pro forma earnings in our experiment exceeded GAAP earnings. The results indicate that nonprofessional investors who received an earnings announcement that contained both pro forma and GAAP disclosures assessed a higher stock price than did nonprofessionals who received an announcement containing only GAAP disclosures. Financial analysts' stock price judgments were not affected by the pro forma disclosures. Follow-up analyses suggest that analysts and nonprofessional investors used different valuation models and information processing. Analysts used well-defined valuation models, based on either earnings-multiples or cash flows, while the nonprofessional investors were more likely to use simpler, heuristic-based valuation models. The pro forma disclosure did not cause nonprofessional investors to assess a higher earnings number for determining a stock price, but rather caused nonprofessionals to perceive the earnings announcement as more favorable, which in turn caused them to convert earnings or some other performance metric into a higher stock price. This effect appears to be

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due to unintentional cognitive effects, rather than nonprofessionals relying on pro forma earnings information because they perceived it to be informative.

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I. INTRODUCTION

Since 1987 there has been a dramatic increase in the number of companies disclosing pro forma earnings (Alpert 2001) in addition to earnings calculated using generally accepted accounting principles (GAAP). Pro forma earnings deviate from GAAP earnings by excluding items, typically expenses, required under GAAP (Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003). Companies currently have considerable latitude in calculating pro forma earnings because there is no authoritative guidance on the items that companies can reasonably exclude. The result is a large variation in the way companies calculate pro forma earnings (Alpert 2000; Robison 2001; Weil 2001b), even across companies in the same industry.

The increase and variation in pro forma earnings disclosures has generated considerable debate about the effects of such disclosures. Critics of pro forma reporting argue that companies use pro forma earnings primarily to focus investor attention on earnings numbers that exclude relevant expenses (Burns 2001a; Henry 2001). Further, regulators, Congress, and the financial press have expressed concerns that pro forma earnings disclosures confuse or mislead investors (see, e.g., MacDonald 1999; Alpert 2000; Burns 2001b; Dreman 2001; Henry 2001; Weil 2001d, 2001b; SEC 2001), particularly less sophisticated, nonprofessional investors (Burns 2001b; Robison 2001; Weil 2001b). Some are even concerned that pro forma disclosures could mislead sophisticated professional investors (MacDonald 1999; Weil 2001b). In contrast, proponents of pro forma earnings argue that most companies that disclose pro forma earnings exclude only items that have no (or low) value relevance (Alpert 2001) and that companies disclose pro forma earnings because Wall Street demands earnings information about core operations (Alpert 2001; Weil 2001a). Proponents also argue that investors are free to ignore pro forma disclosures (Weil 2001b). Similarly, analysts claim that they are sophisticated enough to rationally use both pro forma and GAAP earnings (Alpert 2000).

A central question in the debate about pro forma disclosures is whether such disclosures influence investors, particularly less sophisticated investors. Although several studies have examined pro forma earnings (e.g., Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003), these studies provide little, if any, evidence about this question. This paper presents the results of an experiment that provides evidence on two issues related to this fundamental question. First, we examine the effect of pro forma earnings disclosures on financial analysts' (i.e., more sophisticated investors) and nonprofessional (i.e., less sophisticated) investors' stock price judgments. We examine how analysts and nonprofessional investors react when a company discloses both pro forma earnings and GAAP earnings versus that same company disclosing only GAAP earnings. Second, we provide evidence about *why* pro forma disclosures do or do not influence investor judgments. Specifically, we provide evidence about how investors cognitively process pro forma earnings information. This is an important step toward understanding how pro forma disclosures, as well as other types of disclosures, affect investors' judgments.

In our experiment, the earnings announcement contained only GAAP disclosures for some participants (GAAP condition) and both pro forma and GAAP disclosures for the

remaining participants (pro forma condition). Consistent with empirical evidence (Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003), the pro forma earnings in our experiment exceeded GAAP earnings due to the exclusion of multiple expense items. Importantly, the earnings announcement in the GAAP condition was sufficiently detailed to allow participants to calculate the pro forma earnings number used in the pro forma condition. This feature ensured that information availability was constant across conditions, implying that any difference in judgments across conditions is due solely to the pro forma disclosure itself. Consistent with prior research, we used M.B.A. students as proxies for nonprofessional investors (Hirst et al. 1995; Hirst et al. 1999; Maines and McDaniel 2000).

Our results indicate that M.B.A.s who received income-increasing pro forma disclosures assessed stock prices that were 12 percent higher than those receiving only GAAP earnings disclosures, while analysts' assessed stock prices that were less than 1 percent higher. Thus, the pro forma earnings disclosures affected M.B.A.s' stock price judgments, but not analysts' judgments. Responses to our debriefing questions provide insight into these effects. Analysts assessed stock prices using well-defined valuation models, based on either cash flows or earnings multiples. Analysts who used cash-flow valuation models focused on cash flows, which are independent of how earnings are defined. Analysts who used earnings-multiple valuation models calculated both the same valuation-relevant earnings and the same earnings multiple, regardless of whether they were in the GAAP or pro forma condition. Thus, the analysts' use of well-defined valuation models enabled them to see through the pro forma disclosure and focus only on the information relevant to their valuation models.

In contrast to analysts, half the M.B.A.s used a heuristic-based valuation model based on adjusting prior stock prices to arrive at a current stock price judgment, with most of the remaining M.B.A.s using earnings-multiple valuation models. Additional analysis indicates that the pro forma disclosure affected M.B.A.s' stock price judgments through the disclosure's effect on their perceptions of the favorableness of the earnings announcement. Specifically, the pro forma disclosure caused M.B.A.s to perceive the earnings announcement as more favorable, which in turn caused them to assess a higher stock price. Additional analysis reveals two interesting aspects of this effect. First, the results are consistent with pro forma disclosures (via favorability assessments) increasing the factor M.B.A.s used to convert their chosen performance metric into a stock price, but not affecting their perception of the level of the performance metric. For example, the pro forma disclosure caused M.B.A.s who used an earnings-multiple valuation model to use a higher multiple, but did not cause them to use a higher earnings number in their valuation model. Second, the pro forma disclosure appears to have affected M.B.A.s' stock price judgments through an unintentional cognitive process, rather than M.B.A.s consciously perceiving the pro forma information to be informative.

This study contributes to both research and practice. We extend research by examining the effects of presentation format (i.e., GAAP versus pro forma disclosures) on equity valuation judgments. Although prior studies have examined the effect of presentation format on valuation judgments (e.g., Hopkins 1996; Hirst and Hopkins 1998; Maines and McDaniel 2000), these studies focused only on presentation format within financial statements. We examine presentation format in the context of earnings announcements. Further, we consider the effect of presentation format on different classes of investors who differ in their level of task-specific knowledge. Further, the role of favorableness assessments on M.B.A.s' stock price judgments in our experiment provides additional evidence that individuals translate

quantitative information, such as earnings information, into qualitative or evaluative assessments (Bouwman 1983; Kida and Smith 1995; Kida et al. 1998) and that those assessments are then a significant explanatory factor for the individuals' judgments and/or decisions (Kida and Smith 1995; Kida et al. 1998). Given the quantitative nature of most accounting information, future accounting research should consider the implications of qualitative transformations of quantitative information.

With respect to practice, our results provide evidence consistent with concerns that pro forma earnings disclosures influence the investment-related judgments of less sophisticated investors. Additionally, the results for analysts (particularly those who use earnings-multiple valuation models) are consistent with their claims that they are savvy enough not to be misled by pro forma disclosures (Alpert 2000). Finally, our evidence on the types of valuation models used by M.B.A.s and analysts extends our understanding of the different approaches used by less and more sophisticated investors to evaluate financial information.

The remainder of the paper is structured as follows. Section II reviews relevant research. We develop our hypotheses in Section III and describe the experiment in Section IV. Results are presented in Section V, followed by a discussion of the results in Section VI.

II. BACKGROUND

Research on Pro Forma Earnings

Several recent archival studies provide mixed evidence on the association between pro forma earnings and stock prices. Using only firms that disclosed pro forma earnings, Bhattacharya et al. (2003) conclude that pro forma earnings are both more informative and more permanent than GAAP earnings, while Lougee and Marquardt (2003) find that pro forma earnings are not incrementally informative for their overall sample.¹ Johnson and Schwartz (2003) compare firms that disclose pro forma earnings to firms that do not and find that the former trade at higher multiples. However, Johnson and Schwartz (2003) conclude that the market premium for pro forma disclosers is not due to these firms disclosing pro forma earnings, but rather is due to underlying firm characteristics that are fundamentally different from firms that do not disclose pro forma earnings. Bhattacharya et al. (2003) also observe differences in the associations of (1) analyst earnings forecasts revisions with pro forma earnings and (2) stock price changes with pro forma earnings, concluding that analysts and average investors may interpret pro forma information differently.

These studies provide useful insights into pro forma earnings but their research designs limit their usefulness for addressing the fundamental issue raised by regulators, Congress, and the financial press of whether pro forma earnings disclosures influence investors, particularly less sophisticated investors. Examining only firms that disclose pro forma earnings does not provide evidence on whether pro forma disclosures actually influence investors and/or analysts. For example, Bhattacharya et al.'s (2003) and Lougee and Marquardt's (2003) results provide evidence only about whether investors use an earnings number closer to pro forma earnings or GAAP earnings. Their results do not indicate whether the pro forma disclosure caused investors to use that particular earnings number or whether investors would have arrived at a similar earnings number, absent a pro forma disclosure, by adjusting GAAP earnings. Similarly, Bhattacharya et al.'s (2003) inference about the effect of pro forma earnings on analysts and average investors is problematic because similar

¹ Lougee and Marquardt (2003) find, however, that pro forma earnings are incrementally informative for two types of firms: those with positive pro forma earnings but negative GAAP earnings, and those that explicitly reconcile pro forma earnings to GAAP earnings.

differences could exist between analysts and average investors reacting to earnings announcements that contain only GAAP earnings.² Addressing whether pro forma disclosures influence investors and analysts requires comparing firms that disclose pro forma earnings to firms that do not. Johnson and Schwartz (2003) compare these two types of firms, but Bhattacharya et al. (2003) raise issues about the reliability of their results. Further, Johnson and Schwartz (2003) focus on the market as a whole, rather than on different investor classes. Thus, evidence still is needed about the effects of pro forma earnings on more and less sophisticated investors.

III. THEORY AND HYPOTHESIS DEVELOPMENT

Research in accounting and psychology posits that judgments and decisions occur through multistage information processing (Simon 1977; Hogarth 1987; Hunton and McEwen 1997; Maines and McDaniel 2000; Jacoby et al. 2001). The first stage is information acquisition, which refers to individuals being exposed to a particular piece of information and that information then being included in their long-term memory. The second stage is information evaluation and weighting, which encompasses the evaluation, weighting, and combining of information that ultimately results in a judgment. Thus, an accounting disclosure, such as a pro forma earnings disclosure, potentially can influence investors' judgments by affecting (1) the information that investors acquire from the disclosure and/or (2) how they evaluate and weight the acquired information. Nonprofessional (i.e., less sophisticated) investors and analysts (i.e., more sophisticated investors) approach investment judgments and decisions differently (Maines and McDaniel 2000). Accordingly, we discuss these two investor groups separately.

Nonprofessional Investors

Pro Forma Earnings Disclosures and Information Acquisition

Research suggests that nonprofessional investors "have few preconceived ideas of the importance of and relations among various financial statement items" (Maines and McDaniel 2000, 185), implying that nonprofessional investors generally lack investment expertise. This lack of expertise means that nonprofessional investors have ill-defined valuation models (SRI International 1987; Maines and McDaniel 2000), causing them to use sequential information search strategies when reading accounting disclosures (Bouwman 1982; Hunton and McEwen 1997; Maines and McDaniel 2000). A sequential information search involves attending to information in the order it is presented. We, therefore, expect that when given an earnings announcement, nonprofessionals will read through the announcement starting at the beginning. Companies that disclose pro forma earnings typically do so in both the headline and the first few paragraphs of the announcement (Alpert 2000; Dignan 2001; Weil 2001a; Johnson and Schwartz 2003). The prominence typically given to pro forma earnings in earnings announcements increases the likelihood that nonprofessional investors will read the pro forma information. Thus, we expect nonprofessional investors to acquire pro forma earnings information contained in earnings announcements.

Pro Forma Disclosures and Information Evaluation and Weighting

Research in judgment and decision making has documented that stimuli can affect judgments through intentional cognitive effects or unintentional cognitive effects (Libby

² Interpreting Bhattacharya et al.'s (2003) results for analysts and investors as evidence that pro forma earnings affect these investor classes differently is problematic because the different tasks upon which the analyst regressions (earnings forecasts) and investor regressions (investment decisions) are based confound any comparison.

and Tan 1999; Tan et al. 2002). Individuals may consciously use a particular stimulus when forming a judgment (intentional) or the stimulus may unconsciously affect their judgment (unintentional). We consider both possibilities in assessing the potential effects of pro forma earnings.

With respect to intentional cognitive effects, nonprofessional investors may rely on pro forma information because they perceive, whether correctly or incorrectly, the information to be informative. Due to their lack of investment expertise, nonprofessionals look for cues to help them determine the relative importance of information (Maines and McDaniel 2000). With respect to pro forma disclosures, one possible cue is the mere presence of the disclosure. That is, nonprofessional investors may perceive that management would not have provided the supplemental pro forma information unless it was meaningful. A second cue is the prominence typically given pro forma earnings in earnings announcements (MacDonald 1999; Weil 2001a; Bhattacharya et al 2003; Plitch 2002). Nonprofessional investors infer the importance of financial information based on the way the information is presented (Maines and McDaniel 2000); one aspect of presentation is the prominence of particular information. Nonprofessional investors are likely to perceive prominent information as being more important than less prominent information.

With respect to unintentional cognitive effects, research on judgment and decision making shows that the mere presence of information, regardless of its relevance to the judgment or decision at hand, can have unintentional effects on human information processing (e.g., Tversky and Kahneman 1974; Nisbett et al. 1981). For example, numerous studies in a variety of settings have demonstrated that individuals make different judgments when their information set includes both diagnostic and nondiagnostic information from when it includes just the diagnostic information (e.g., Nisbett et al. 1981; Hackenbrack 1992; Glover 1997; Hoffman and Patton 1997). Other studies have demonstrated that individuals' judgments often reflect an anchoring effect (e.g., Tversky and Kahneman 1974), even when they know the anchor was determined randomly and have been told that the anchor has nothing to do with the requested judgment (Taffler 2002). Further, research suggests that unintentional cognitive effects are more likely when individuals lack task-specific knowledge (Smith and Kida 1991). Thus, even if nonprofessionals do not perceive pro forma information to be informative, the information still could have unintentional cognitive effects on their judgments.

Summarizing our discussion of information acquisition and evaluation, nonprofessional investors' lack of expertise, and thus their use of ill-defined valuation models, increases the likelihood that they will (1) intentionally rely on the pro forma information and/or (2) be susceptible to unintentional cognitive effects from pro forma disclosures. Thus, we expect that pro forma disclosures will influence nonprofessional investors' stock price judgments.³ This expectation is stated in the following hypothesis:

H1: When pro forma earnings exclude expense items, nonprofessional investors' stock price judgments will be higher for earnings announcements that disclose both pro forma and GAAP earnings than for those that disclose only GAAP earnings.

³ We focus on investors' stock price judgments because these judgments determine whether investors perceive a stock to be overvalued or undervalued, which likely is an important factor in decisions to buy, sell, or hold the stock. Further, stock prices are normally the dependent variables used in archival studies on pro forma earnings (e.g., Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003).

Analysts

Pro Forma Earnings Disclosures and Information Acquisition

Analysts generally are quite knowledgeable about the importance of and relations among financial statement items (Schipper 1991; Lev and Thiagarajan 1993). They have well-defined valuation models, which, in turn, allow them to use directed information search strategies to acquire the inputs needed for their valuation models (Bouwman et al. 1987; Hunton and McEwen 1997; Maines and McDaniel 2000; Jacoby et al. 2001). With a directed information search, analysts are likely to read only the information that they perceive *ex ante* to be relevant for their valuation models (Maines and McDaniel 2000). Research demonstrates that earnings information is important to analysts (Bouwman et al. 1987; SRI International 1987; McEwen and Hunton 1999). Further, corporate managers claim that one reason they provide pro forma earnings is because analysts want the information (Alpert 2001; Weil 2001a). We, therefore, expect that when given an earnings announcement, analysts will devote at least a portion of their search to finding earnings information, causing them to acquire pro forma information. Further, because companies use a variety of terms for pro forma earnings (MacDonald 1999; Robison 2001; Weil 2001b) and because some companies make it difficult to distinguish pro forma earnings from GAAP earnings (Weil 2001b, 2001c), it generally is necessary to read the entire earnings narrative, which typically includes both pro forma earnings and GAAP earnings. Thus, we expect analysts will acquire pro forma earnings information contained in earnings announcements.

Pro Forma Disclosures and Information Evaluation and Weighting

As discussed above, pro forma disclosures may influence nonprofessionals' judgments because they perceive the presence or prominence of pro forma information to be a cue about its importance or because the pro forma disclosure causes an unintentional cognitive effect. Due to their knowledge about the persistence and cash flow implications of various earnings components, analysts are less likely to perceive that pro forma disclosures contain incremental information about the nature of specific earnings components. Further, because analysts rely primarily on their task-specific knowledge when determining the relative importance of various financial items (Jacoby et al. 2001), the prominence given to pro forma earnings in earnings announcements also is less likely to affect analysts' perceptions about the informativeness of pro forma information. Nonetheless, we cannot rule out the possibility that pro forma disclosures could consciously affect analysts' stock price judgments as there may be cases where (1) the GAAP earnings disclosure lacks sufficient detail for analysts to ascertain the presence and/or magnitude of material, non- or low-value-relevant items or (2) the pro forma disclosure highlights a non- or low-value-relevant item with which analysts are unfamiliar.

Research provides mixed evidence about whether pro forma earnings could cause unintentional cognitive effects in analysts. Research suggests that many documented instances of unintentional cognitive effects are due to the individuals' lack of task-specific expertise (Fischhoff 1982; Edwards 1983; Smith and Kida 1991; Maines 1995). Smith and Kida (1991) conclude that task-specific expertise often mitigates, and can eliminate, unintentional cognitive effects. For example, experienced auditors in Joyce and Biddle's (1981) study exhibited an unintentional anchoring effect when making general knowledge judgments, but not when making common audit judgments (Smith and Kida 1991). Thus, it is possible that the superior task-specific knowledge of analysts could mitigate any unintentional cognitive effects from pro forma earnings disclosures. On the other hand, other research has documented that the mere placement of items within financial statements can influence analysts'

judgments (Hopkins 1996; Hirst and Hopkins 1998), suggesting that analysts may be subject to unintentional cognitive effects even when performing tasks for which they have task-specific knowledge.

In summary, because analysts generally approach investment analysis tasks with well-defined valuation models that reflect an understanding of the relative importance of various pieces of financial information, we believe that there is a low likelihood that analysts consciously rely on pro forma earnings *per se*. Their expertise also suggests that there may be a relatively small chance of unintentional cognitive effects of such information. However, prior research shows that analysts' expertise does not always protect them from unintentional cognitive effects when making investment-related judgments. Accordingly, we do not offer a specific hypothesis for analysts. Instead, we offer the following research question:

RQ: Do pro forma disclosures influence analysts' stock price judgments?

IV. METHOD

Task, Design, and Participants

We conducted an experiment to test our hypothesis and research question. Participants were given a case about a hypothetical company called Advanced Imaging Technology Inc. (hereafter AIT), which was based loosely on a technology-oriented medical supply company that trades on the New York Stock Exchange. The case included background information and AIT's fiscal year 2001 annual and fourth-quarter earnings announcement. Participants then were asked to make several investment-related judgments and answer a series of follow-up questions about their judgments and the earnings announcement. Participants were nonprofessional investors and financial analysts. Within each participant group we manipulated the type of earnings announcement (GAAP versus pro forma).

We used M.B.A. students from a *U.S. World & News Report* top-35 M.B.A. program as proxies for nonprofessional investors. Nonprofessional investors are heterogeneous, making it difficult to identify a single group that is representative of all nonprofessional investors and that possesses all the desired characteristics. We viewed M.B.A.s as a reasonable participant group, particularly given their use in prior research as proxies for nonprofessional investors (e.g., Hirst et al 1995; Hirst et al. 1999; Maines and McDaniel 2000) and their accessibility. In addition, of the possible nonprofessional investor groups, we viewed M.B.A.s as providing the most stringent test of H1 because we expected that they would possess a relatively high level of knowledge about accounting and valuation issues due to their recent and current coursework in accounting and finance. The M.B.A.s in our experiment had taken an average of 3.6 accounting courses and 3.7 finance courses. The extent of the M.B.A.s' accounting and finance coursework biases against finding support for H1. With respect to their investment experience, 52 percent of the M.B.A.s in our experiment had previously invested in individual equity securities and another 27 percent had experience investing in equity mutual funds. Of the M.B.A.s who had invested in individual equity securities, the mean number of investments was 20.

The financial analysts who participated in the experiment were recruited from the alumni of the same university as that of the M.B.A.s. The analysts had a mean work experience of four years, with a range of one to ten years. Sixty-seven percent worked primarily as buy-side analysts and 33 percent as sell-side analysts. A total of 46 M.B.A. students and 34 analysts completed the experimental materials.

Earnings Announcement

The earnings announcement was patterned after actual earnings announcements and contained three primary sections. The first was the headline, which stated the percentage increase in annual earnings over the prior year. The percentage increase was based on GAAP earnings in the GAAP condition and pro forma earnings in the pro forma condition. The increases were 0.8 percent and 8.8 percent, respectively.

The second section was a narrative that stated current and comparative amounts for annual earnings, and quarterly earnings. GAAP earnings were reported for the annual and quarterly earnings in the GAAP condition, whereas both pro forma earnings and GAAP earnings were reported for these two items in the pro forma condition. Consistent with empirical evidence (Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003), pro forma earnings exceeded GAAP earnings; pro forma EPS and GAAP EPS were \$1.68 and \$1.24, respectively.⁴ Further, consistent with terminology used by some companies that disclose pro forma earnings, we labeled GAAP earnings as “reported earnings” and pro forma earnings as “operating earnings.”⁵ The narrative in the pro forma condition also included a list of the items (but not the dollar amounts) excluded from GAAP to obtain pro forma earnings.

The third section of the announcement contained comparative financial statements. This section contained GAAP income statements, GAAP balance sheets, and GAAP statements of cash flow in both announcement conditions. This section in the pro forma condition also contained pro forma comparative income statements, presented before the three GAAP comparative financial statements.

Pro forma earnings excluded four items that were included as expenses in GAAP earnings. We had two objectives in selecting the four items. First, because the primary concern of regulators, Congress, and the financial press is the effect of excluding high-value-relevant items (Burns 2001a, 2001b; Henry 2001; Weil 2001d, 2001b; SEC 2001), our pro forma earnings had to exclude high-value-relevant expenses. Presumably, if companies exclude high-value-relevant expenses, they also would exclude low-value-relevant expenses. Consistent with this, research indicates that companies exclude both low-value- and high-value-relevant expenses (Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003). Accordingly, to provide a realistic pro forma disclosure, we selected items that varied in their degree of value relevance: the first two excluded items have low value relevance and the last two items have high value relevance. Second, for realism, each of the items had to have been excluded by at least one company that discloses pro forma earnings. The four items are:

- **Goodwill amortization.** Goodwill amortization is a noncash expense, and research documents that goodwill, even though it is a recurring item, is not associated with stock prices (Jennings et al. 2001; Moehrlle et al. 2001). Further, it is one of the items that companies most often exclude from pro forma earnings (Bhattacharya et al. 2003; Johnson and Schwartz 2003; Lougee and Marquardt 2003).

⁴ Lougee and Marquardt (2003) report that pro forma earnings exceed GAAP earnings for 88 percent of their sample of pro forma disclosure firms. They also report that for their sample, pro forma earnings are on average triple GAAP earnings.

⁵ The term “operating income” has a strict definition under GAAP, whereas “operating earnings” has no particular meaning under GAAP (Weil 2001b). According to Weil (2001b), “operating earnings” is a commonly used term for pro forma earnings. Other terms include “as if earnings,” “economic earnings,” “core earnings,” “cash earnings,” and “ongoing earnings” (Weil 2001b).

- **Litigation settlement.** AIT's background financial statements indicated no litigation settlements in the prior five years, suggesting that the current litigation settlement was a nonrecurring item. The settlement was for cash.
- **Payroll taxes on exercised employee stock options.** These taxes are a cash operating expense, and AIT's background financial statements indicated that these taxes were recurring and fairly constant.
- **Excess bad debt expense.** Although the excess bad debt expense is a noncash item, we believe it has high value relevance because (1) AIT's background financial statements indicated that this expense is a recurring item and (2) more importantly, it is an operating expense directly tied to revenue already recognized. If the revenue is value relevant, then any bad debt expense associated with the revenue also is value relevant.

A key feature of the earnings announcements is that the GAAP comparative financial statements were sufficiently detailed to allow participants to calculate the pro forma earnings number reported in the pro forma condition. Thus, any difference in judgments across announcement conditions can be attributed solely to the pro forma disclosure *per se* and not to different information availability across conditions.

Procedure

We administered the case to the M.B.A. students in small groups.⁶ For the analysts, we first sent an introductory letter seeking their consent and then sent the case via overnight mail to those who agreed to participate. For both participant groups, the materials were divided into two envelopes. The cover letter stated that participants were to complete the first envelope before opening the second.

The first envelope contained background material about AIT, the company's fiscal year 2001 annual and fourth quarter earnings announcement, and several investment-related questions. The background material included general information about AIT, GAAP annual financial statements for fiscal years 1996 through 2000, and annual high and low stock prices for fiscal years 1996 through 2001.⁷ Participants could use the background material and earnings announcement while answering the questions in the first envelope.

After reviewing the background information and earnings announcement, participants were asked to provide a fair value for AIT's common stock, provide a written explanation of the basis for their judgment, and assess their confidence in their stock price judgment. We also asked participants to make several secondary investment judgments of factors that could potentially mediate the effect of the pro forma disclosure on stock price judgments. The factors were (1) the fiscal 2001 earnings number most useful for evaluating AIT's performance and investment potential (hereafter earnings judgment),⁸ (2) the riskiness of an equity investment in AIT, (3) AIT's future earnings growth, and (4) the credibility of AIT's management. Research indicates that as part of information processing, individuals

⁶ We made a \$1,000 donation to a local charity supported by the M.B.A. student association in return for student participation in the research project. The average time to complete the materials was approximately 45 minutes.

⁷ We did not provide participants with P/E ratios because the denominator of this ratio depends on how one defines earnings, which essentially is being manipulated across the earnings announcement conditions. Participants could use the high and low stock prices provided to calculate their own P/E ratios, using whatever definition of earnings they deemed appropriate.

⁸ The specific question was "The fiscal 2001 earnings per share (EPS) number that I believe is most useful for evaluating the financial performance and investment potential of Advanced Imaging Technologies Inc. is ..." Although the effect of pro forma earnings on earnings predictions is an important issue (see Bhattacharya et al. 2003), we did not ask participants to make these predictions to avoid creating a demand effect by drawing attention to the distinction between GAAP and pro forma earnings.

often convert quantitative information into qualitative or evaluative assessments (Bouwman 1983; Kida and Smith 1995; Kida et al. 1998). To capture this dimension of information processing, we also asked participants to assess the overall favorableness of AIT's earnings announcement. After answering this question, participants were instructed to put the materials, including the background materials and earnings announcement, back into the envelope and seal it before opening the second envelope.

The second envelope contained additional debriefing questions, divided into three parts. The first part contained case-specific questions designed to obtain information from participants in both conditions about their perceptions of the usefulness and clarity of AIT's earnings announcement, as well as their understanding of the announcement. This section also included a manipulation check question (discussed below). Participants in the pro forma condition had additional case-specific questions designed to determine (1) whether they had acquired the pro forma information and (2) their perceptions of this information. The second set of questions contained broad survey-type questions designed to collect information about participants' perceptions of pro forma earnings disclosures in general. The third set of questions collected demographic information.

V. RESULTS

Manipulation Check

In the debriefing questions, participants were asked to indicate whether AIT's earnings announcement contained GAAP earnings only, pro forma earnings only, or both. Eighty-eight percent of the analysts and 89 percent of the M.B.A.s answered this question correctly. These results indicate that the earnings announcement manipulation was successful.⁹

Test of Hypothesis and Research Question

Hypothesis 1 states that M.B.A.s' stock price judgments will be higher in the pro forma condition than in the GAAP condition. Table 1 reports descriptive statistics, and the associated statistical tests, for both M.B.A.s' and analysts' stock price judgments. The mean

TABLE 1
Stock Price Judgments and Associated Statistical Tests

Investor Type	Announcement Condition		t-tests	
	GAAP	Pro Forma	t-statistic	p-value
M.B.A.s				
Mean	\$25.36	\$28.31	1.62	0.05*
Standard deviation	6.01	6.47		
n	24	22		
Analysts				
Mean	\$25.59	\$25.80	0.10	0.92**
Standard deviation	5.33	6.89		
n	18	16		

*, ** Indicate one-tailed and two-tailed tests, respectively.

Stock price judgments represent participants' assessment of AIT's stock price after reading background financial information and reading a current period earnings announcement.

⁹ The results reported below are qualitatively similar if the participants who answered the manipulation check question incorrectly are excluded from the analysis. We report one-tailed (two-tailed) p-values for tests where we have a directional (nondirectional) expectation.

M.B.A. stock price judgment is \$28.31 in the pro forma condition and \$25.36 in the GAAP condition, a difference of almost 12 percent. A t-test indicates that the difference between the means is statistically significant ($t = 1.62$; $p < 0.05$, one-tailed), which supports H1.¹⁰

As shown in Table 1, the mean stock price judgment of analysts in the pro forma condition is \$25.80 compared with a mean of \$25.59 in the GAAP condition, a difference of less than 1 percent. A t-test indicates that the difference between the means is not statistically significant ($t = 0.10$; $p = 0.92$, two-tailed). These results indicate that pro forma disclosures do not affect analysts' stock price judgments

Pro Forma Disclosures and Cognitive Processes

Our theoretical discussion in Section II was based on two general cognitive processes: information acquisition (will investors acquire pro forma information?) and information evaluation (will the pro forma disclosure influence how investors process the information?). In this section we provide evidence about the effect of pro forma disclosures on these two cognitive processes to provide insight into why pro forma disclosures influenced the stock price judgments of M.B.A.s but not those of analysts.

Pro Forma Disclosure and Information Acquisition

We expected that both analysts and M.B.A.s would acquire pro forma earnings information when that information is contained in the earnings announcement. Of the analysts in the pro forma condition, 94 percent (15 out of 16) correctly recognized that their earnings announcement contained pro forma earnings, 88 percent (14 out of 16) correctly recalled that pro forma earnings exceeded GAAP earnings, and 63 percent (10 out of 16) correctly recalled that pro forma EPS was \$1.68. These results suggest that analysts acquired the pro forma earnings information. Thus, we can infer that the absence of a stock price effect for the analysts is not because analysts did not acquire the pro forma information.

Our finding that the pro forma disclosure affected M.B.A.s' stock price judgments suggests both that they acquired the pro forma information and that the information affected their information evaluation. Consistent with the first inference, 95 percent (21 out of 22) of the M.B.A.s in the pro forma condition correctly recognized that their earnings announcement contained pro forma earnings, and 82 percent (18 out of 22) correctly recalled that pro forma earnings exceeded GAAP earnings. Twenty-seven percent (6 out of 22) of the M.B.A.s correctly recalled the specific value of \$1.68 for pro forma EPS.¹¹

Pro Forma Disclosure and Information Evaluation and Weighting

Our theoretical discussion in Section II about information evaluation is based on the types of valuation models investors bring to a stock valuation task. We expected that

¹⁰ There is no difference in the demographics of M.B.A.s between the GAAP and pro forma conditions except for experience investing in equity mutual funds. A larger percentage of M.B.A.s in the GAAP condition had experience investing in equity mutual funds. However, follow-up analysis indicates that stock price judgments are not different between M.B.A.s who did versus did not have experience investing in mutual funds ($t = 0.10$; $p < 0.92$, two-tailed).

¹¹ Both analysts and M.B.A.s had more difficulty recalling the specific value of pro forma EPS than they did recalling whether GAAP earnings exceeded pro forma earnings. This effect is consistent with findings that individuals tend to translate quantitative information, such as earnings, into qualitative or evaluative assessments (Bouwman 1983; Kida and Smith 1995; Kida et al. 1998), and it is easier for individuals to subsequently retrieve the qualitative assessment than it is the underlying quantitative information (Kida and Smith 1995; Kida et al. 1998). This is especially true for nonexperts, as a Chi-square test indicates that the quantitative recall of pro forma EPS for M.B.A.s was statistically significantly lower than that of analysts ($\chi^2 = 4.71$, $p < 0.03$).

M.B.A.s would have relatively ill-defined valuation models while analysts would have relatively well-defined valuation models. Further, we expected that M.B.A.s' lack of well-defined models would cause the pro forma disclosure to influence them, either because they intentionally relied on the pro forma information or because of unintentional cognitive effects. We explore these issues in this subsection.

Valuation models. As part of the experiment, participants provided a written explanation of the basis for their stock price assessments. We classified their explanations based on the type of valuation model used, resulting in four classifications: earnings-multiple model, cash flow based model, a heuristic model based on adjustments to past stock prices, and other quantitative models (e.g., a balance sheet valuation model). Table 2 presents a summary of the classifications.

Panel A of Table 2 indicates that of the 22 (24) M.B.A.s in the pro forma (GAAP) condition, 12 (11) used a heuristic valuation model based on adjusting prior-period stock prices, eight (eight) used an earnings-multiple valuation model, zero (one) used a cash flow valuation model, and two (four) used some other model. Thus, the largest percentage of M.B.A.s (50 percent) used some form of a heuristic valuation model. In contrast to the M.B.A.s, Panel B of Table 2 indicates that over 90 percent of the analysts used either an earnings-multiple- or a cash-flow-based model, while only two (5.9 percent) analysts used a heuristic-based model.¹²

Additional analysis indicates that the analysts who used earnings-multiple models did not differ in their earnings assessments across the GAAP and pro forma conditions ($t = 0.86$, $p = 0.21$, one-tailed). Thus, the analysts who used earnings-multiple models did not allow the pro forma disclosures to influence the earnings measure used in their valuation models. The pro forma disclosure most likely did not affect the stock price judgments of analysts who used a cash flow model because earnings—and thus how earnings are defined—are irrelevant to their valuation models.

Relation between pro forma disclosures, secondary investment judgments, and stock price judgments. As discussed earlier, the debriefing materials asked participants to make several secondary investment judgments of factors that potentially mediate the effects of pro forma disclosures on stock price judgments. These factors are AIT's value-relevant earnings, riskiness, earnings growth potential, management credibility, and the overall favorability of AIT's earnings announcement. According to Baron and Kenny (1986), the following relations are necessary to demonstrate mediation: (1) the initial variable (i.e., pro forma disclosure) is associated with the outcome variable (i.e., stock price assessments), (2) the initial variable is associated with the mediator variable (i.e., secondary investment judgments), and (3) the mediator variable still is associated with the outcome variable after controlling for the effect of the initial variable. The t-tests reported earlier for the effect of the pro forma disclosure on stock price judgments indicate that the first requirement is met for M.B.A.s but not for analysts. Accordingly, we test the two remaining requirements only for M.B.A.s to determine whether secondary investment judgments mediate the impact of pro forma disclosure on stock price judgments.

Panel A of Table 3, which addresses the second requirement, reports M.B.A.s' secondary investment judgments by earnings announcement condition. The analysis indicates that two secondary judgments are associated with disclosure type. M.B.A.s in the pro forma

¹² There are no significant differences in stock price judgments between M.B.A.s (analysts) who used an earnings-multiple model and those who used a heuristic (cash-flow) model. Further, there are no significant differences in the judgments of buy-side and sell-side analysts.

TABLE 2
Classification of Valuation Models

Panel A: Classification of M.B.A.s' Valuation Models

Valuation Model	Announcement Condition					
	GAAP		Pro Forma		Overall	
	#	%	#	%	#	%
Cash Flow	1	4.2	0	0.0	1	2.2
Earnings-multiple	8	33.3	8	36.4	16	34.8
Heuristic Adjustment to Past Stock Prices	11	45.8	12	54.5	23	50.0
Other	4	16.7	2	9.1	6	13.0
Total	24	100.0	22	100.0	46	100.0

Panel B: Classification of Analysts' Valuation Models

Valuation Model	Announcement Condition					
	GAAP		Pro Forma		Overall	
	#	%	#	%	#	%
Cash Flow	8	44.4	8	50.0	16	47.1
Earnings-multiple	7	38.9	8	50.0	15	44.1
Heuristic Adjustment to Past Stock Prices	2	11.1	0	0.0	2	5.9
Other	1	5.6	0	0.0	1	2.9
Total	18	100.0	16	100.0	34	100.0

Participants' were asked to explain how they assessed the stock price for AIT. These explanations were used to classify the types of valuation models used by participants.

condition (1) perceived AIT's earnings announcement to be significantly more favorable (6.56 versus 5.25; $t = 2.36$; $p < 0.01$, one-tailed) and (2) assessed marginally significantly higher value-relevant fiscal year 2001 earnings (\$1.30 versus \$1.25; $t = 1.59$; $p < 0.07$, one-tailed). M.B.A.s' judgments of the other three variables (i.e., earnings growth, riskiness, and management credibility) did not differ across announcement conditions (smallest $p > 0.44$).

Panel B of Table 3, which addresses the third mediation requirement, reports the results from regressing M.B.A.s' stock price judgments on favorableness assessments, value-relevant earnings assessments (i.e., the two significant variables identified in the second requirement), and earnings announcement type. The coefficient on the favorableness assessments is significantly positive ($t = 2.78$; $p < 0.01$, one-tailed) while the coefficient on the earnings assessments is not significant ($t = 0.19$; $p = 0.42$, one-tailed). Additionally, the coefficient on earnings announcement type becomes insignificant in the regression ($t = 0.61$; $p = 0.27$, one-tailed). Taken together, these results indicate that the favorableness assessments completely mediated the effect of the pro forma disclosure on the stock price judgments; the pro forma disclosure affected M.B.A.s' stock price judgments only through its effect on their perceptions of the favorability of the earnings announcement.

Results from additional analyses that examined separately the M.B.A.s who used a heuristic valuation approach and those who used an earnings-multiple valuation approach not only confirm the importance of the favorability assessments, but also provide insights

TABLE 3
M.B.A.s' Secondary Investment Judgments and Regression of Stock Price Judgments on Secondary Investment Judgments

Panel A: Mean (Standard Deviation) of M.B.A.s' Secondary Investment Judgments

<u>Judgment</u>	<u>Expectation</u>	<u>Earnings Announcement Condition</u>		<u>t-statistic</u>	<u>p-value</u>
		<u>GAAP</u>	<u>Pro Forma</u>		
<i>EARNINGS</i>	GAAP < Pro forma	\$1.25 (0.02)	\$1.30 (0.15)	1.59	0.07*
<i>RISK</i>	?	4.94 (1.61)	4.92 (1.65)	-0.05	0.96**
<i>EARNGROWTH</i>	GAAP < Pro forma	5.81 (1.59)	5.88 (1.56)	0.15	0.44*
<i>CREDIBILITY</i>	?	5.70 (1.47)	5.58 (1.60)	-0.26	0.80**
<i>FAVORABLENESS</i>	GAAP < Pro forma	5.25 (2.16)	6.56 (1.53)	2.36	0.01*

Panel B: Regression of Stock Price Judgments on Earnings Announcement Type and Potential Mediator Variables

$$PRICE = \beta_0 + \beta_1 ANNOUNCETYPE + \beta_2 EARNINGS + \beta_3 FAVORABLENESS$$

<u>Variable</u>	<u>Expectation</u>	<u>Coefficient</u>	<u>t-statistic</u>	<u>p-value</u>
Intercept	?	29.57	2.72	0.01
<i>ANNOUNCETYPE</i>	+	1.14	0.61	0.27
<i>EARNINGS</i>	+	1.60	0.19	0.42
<i>FAVORABLENESS</i>	+	1.31	2.78	0.01

n = 46

*, ** Designate one-tailed and two-tailed p-values, respectively.

ANNOUNCETYPE = dummy variable taking the value of 0 for the GAAP condition, and 1 for the pro forma condition;

EARNINGS = response to: "The fiscal 2001 earnings per share (EPS) number that I believe is most useful for evaluating the financial performance and investment potential of Advanced Imaging Technologies Inc. is _____";

RISK = response to: "In the context of a well-diversified portfolio, I believe that an investment in Advanced Imaging Technologies, Inc. is a _____ investment" (scale is from 0, "very low risk," to 10, "very high risk");

EARNGROWTH = response to: "I believe Advanced Imaging Technologies, Inc.'s future earnings growth potential is _____" (scale is from 0, "very poor," to 10, "very good");

CREDIBILITY = response to: "I believe Advanced Imaging Technologies, Inc.'s management is" (scale is from 0, "not at all credible," to 10, "very credible"); and

FAVORABLENESS = response to: "Advanced Imaging Technologies, Inc.'s earnings announcement is" (scale is from 0, "unfavorable," to 10, "favorable").

into how favorability assessments affect nonprofessional investors' stock price judgments. The favorability assessments are significantly higher in the pro forma condition than in the GAAP condition for both M.B.A.s who used a heuristic valuation model ($t = 2.93$; $p < 0.01$, one-tailed) and those who used an earnings-multiple model ($t = 1.31$, $p < 0.10$, one-tailed). None of the other variables, including value-relevant earnings assessments, are significantly different across the two earning announcement conditions for either subset of

M.B.A.s (smallest p -value > 0.21 , one-tailed). Regressing the favorability assessments on stock price judgments reveals that favorability assessments are positive and significant for both the M.B.A.s who used a heuristic valuation model ($t = 1.56$; $p < 0.07$, one-tailed) and those who used an earnings-multiple model ($t = 2.89$, $p < 0.01$, one-tailed). Because all participants had the same information about prior stock prices, these results for M.B.A.s who used a heuristic model suggest that the pro forma disclosure positively affected the adjustment factor they applied to prior stock prices through the favorability assessments. The results for the M.B.A.s who used an earnings-multiple model suggest that the pro forma disclosure positively affected the multiple applied to earnings through the favorability assessments, but did not affect the earnings measure used.¹³

Effect of pro forma disclosures on M.B.A. judgments: Intentional or unintentional?

Consistent with our theoretical discussion in Section II, the effect of the pro forma disclosure on M.B.A.s' stock price judgments could reflect M.B.A.s intentionally relying on the disclosure because they perceived it to be informative or could reflect unintentional cognitive effects. Results from two additional analyses suggest the stock price effect is due to unintentional cognitive effects. First, we asked participants in the pro forma condition whether their stock price judgments would have been different had AIT's earnings announcement included only GAAP earnings. Participants made their judgments on a ten-point scale, ranging from 0 = much higher, to 5 = the same, to 10 = much lower. The mean response was 5.15, which is not significantly different from a response of "the same" ($t = 0.95$, $p < 0.35$, two-tailed). Thus, M.B.A.s in the pro forma condition perceived that they did not rely on the pro forma disclosure when forming their stock price judgments, consistent with unintentional cognitive effects causing the observed pro forma effect.

Second, we adopted a method used by Libby and Tan (1999) and Tan et al. (2002) and suggested by Kahneman and Tversky (1996), by conducting a follow-up experiment using 25 M.B.A. students from the same university as the M.B.A.s who participated in the original experiment. Specifically, we prepared an abbreviated within-subjects experiment that presented participants with both the GAAP earnings announcement and the pro forma earnings announcement and then asked them (1) how their stock price assessment based on the GAAP announcement would differ from their assessment based on the pro forma announcement (-5 = much lower than, 0 = the same as, and 5 = much higher than), (2) their assessment of the favorability of the GAAP announcement (-5 = very unfavorable, 0 = neutral, and 5 = very favorable), and (3) their assessment of the favorability of the pro forma announcement. Tan et al. (2002) note that this approach gives participants the opportunity to adjust unintentional reactions that would be measured in a between-subjects design. If participants believe that pro forma disclosures are informative, then they should indicate that the stock price would be higher for the pro forma announcement.

The mean response to the stock price question is 0.18, which is not significantly different from the response of "the same" ($t = 0.56$, $p = 0.58$, two-tailed). For the favorability assessments, participants perceived the pro forma announcement to be significantly more favorable than the GAAP announcement (1.50 versus 0.54; $t = 1.87$; $p < 0.03$, two-tailed). Thus, when viewing the GAAP announcement and pro forma announcements together, M.B.A.s believe that the presence of pro forma earnings makes the earnings announcement appear more favorable, but they also believe that the pro forma earnings would not affect

¹³ The distribution of earnings judgments provides additional evidence that the pro forma disclosure did not affect the earnings assessments of M.B.A.s who used an earnings-multiple model. Of the 16 M.B.A.s who used an earnings-multiple model, seven of the eight (88 percent) M.B.A.s in the GAAP condition and seven of the eight (88 percent) in the pro forma condition assessed earnings equal to GAAP earnings.

their stock price assessments. Combining this finding with our between-subjects experiment results suggests that pro forma disclosures affect M.B.A.s' favorableness assessments through an *intentional* cognitive process, but that the favorableness assessments then affect stock price judgments through an *unintentional* cognitive process.

VI. CONCLUSIONS

This paper presents the results of an experiment that examines the effects of pro forma earnings disclosures on nonprofessional (i.e., less sophisticated) investors' and professional analysts' (i.e., more sophisticated investors) stock price judgments. In the experiment, participants made several investment-related judgments based on a case that included an earnings announcement for a hypothetical company. The earnings announcement contained only GAAP disclosures for some participants (GAAP condition) and both pro forma and GAAP disclosures for the remaining participants (pro forma condition). Consistent with empirical evidence on actual pro forma earnings disclosures (Johnson and Schwartz 2003; Lougee and Marquardt 2003), pro forma earnings in our experiment exceeded GAAP earnings.

Our results show that analysts' stock price judgments did not differ across the two conditions, whereas M.B.A.s, who proxy for nonprofessional investors, assessed significantly higher stock prices in the pro forma condition than did M.B.A.s in the GAAP condition. Follow-up analyses provide insight into these results. Analysts assessed stock prices using well-defined valuation models, based on either earnings-multiples or cash flows, while M.B.A.s generally used ill-defined, heuristic-based valuation models. For analysts who used earnings-multiple valuation models, the pro forma disclosure did not affect their judgments about the company's valuation-relevant earnings. That is, analysts adjusted for the same items regardless of whether they were in the GAAP or pro forma condition. For M.B.A.s, those in the pro forma condition perceived the earnings announcement to be significantly more favorable than M.B.A.s in the GAAP condition, and results of a mediation test indicate that favorableness assessments mediated the effects of pro forma disclosures on M.B.A.s' stock price judgments. Thus, the pro forma disclosure caused M.B.A.s to perceive the earnings announcement as more favorable, which in turn caused them to assess a higher stock price. Follow-up analyses suggest that this effect is due to unintentional cognitive effects, rather than M.B.A.s relying on the pro forma earnings information because they perceived it to be informative. Further, analyses also suggest that the pro forma disclosure affected M.B.A.s' stock price judgments through the multiple they applied to their chosen performance metric (e.g., earnings); the disclosure did not affect the magnitude of the performance metric they used in their valuation model.

Our experiment is subject to several limitations. For example, our experimental materials contained only a subset of the information that investors typically would have available when making investment judgments. Further, although M.B.A.s are less sophisticated than analysts about financial statement items and issues, M.B.A.s arguably are more knowledgeable and sophisticated than many nonprofessional investors. Our results, therefore, may understate the effect of pro forma earnings disclosures on nonprofessional investors. Another potential limitation is that M.B.A.s completed the experimental materials in a monitored environment while analysts did not. We cannot rule out the possibilities that analysts did not work systematically through the materials, referred to other resources while completing the materials, or took more or less time than M.B.A.s to complete the experiment.

Other limitations of our study provide interesting opportunities for future research. For example, our results may not generalize to all types of pro forma earnings disclosures. We only examined a situation where pro forma earnings exceeded GAAP earnings. Future research could address situations where pro forma earnings are less than GAAP earnings.

We also purposely created a pro forma earnings disclosure that had low transparency. For example, we used a term for pro forma earnings that is similar to the term defined under GAAP for a company's on-going, central operations, we did not include the dollar amount of each excluded item in the narrative section of the announcement, and we did not reconcile pro forma earnings to GAAP earnings. Future research could examine the effect of pro forma earnings transparency on investors' judgments. Given Lougee and Marquardt's (2003) finding that pro forma disclosures have incremental value relevance over GAAP earnings for companies that explicitly reconcile their pro forma earnings to GAAP earnings, such reconciliations are a particularly interesting aspect of transparency. Also, actual pro forma disclosures may vary the order in which pro forma and GAAP earnings are presented within an earnings announcement. Future research could examine whether this variation results in order effects on investor judgments. Finally, we did not design our study to tease out the incremental effects of each item excluded to calculate pro forma earnings. Future research could examine whether the nature of the excluded items, such as revenue versus expense items or low-value-relevant versus high-value-relevant items, affects investors' judgments.

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