

The Relation between Accounting Choice and Voluntary Management Earnings Forecasts

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November 2002

We are grateful for helpful comments from Bill Baber, Walt Blacconiere, Alope Ghosh, Ole-Kristian Hope, Krishna Kumar, Chao-Shin Liu, Jamie Pratt, Robin Tarpley, James Wahlen and workshop participants at the George Washington University and Indiana University. Paquita Davis-Friday is grateful for research support from Ernst & Young, LLP.

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ABSTRACT

This study examines the association between managers' financial reporting choices and their tendencies to issue voluntary management earnings forecasts. Specifically, we investigate whether managers that use "conservative" accounting practices are more or less likely to issue forecasts. This question is important because it can provide insights about not only how accounting choice affects mandatory disclosures (i.e., the information that appears in the financial statements), but also about how it affects voluntary disclosures and therefore the total amount of information disclosed. First, we examine managers' motivation for disclosing earnings forecasts and their incentives and ability to meet those forecasts through specific accounting practices. Then, using a sample of forecasting and non-forecasting firms, we perform empirical tests to determine whether there is an association between management's use of more or less conservative accounting policies and the nature and incidence of their voluntary earnings forecasts.

Employing a sample of 6,395 Compustat firms during the period 1995-2000, we find that there is an association between managers' financial reporting choices and discretionary disclosure behavior. Our evidence indicates that managers who have made more conservative accounting choices are less likely to issue forecasts. These findings suggest that managers who choose more conservative accounting policies are also likely to be more reticent about providing voluntary disclosures.

Key Words: Management forecasts; accounting choice; conservatism.

Data Availability: The data used in this study are publicly available from the sources indicated in the text. A list of the sample firms is available from the authors.

I. INTRODUCTION

This research investigates whether there is an association between the use of conservative accounting policies and the incidence of management earnings forecasts. This question addresses the relation between accounting choice and disclosure practices which is important because both have been considered independently in terms of their ability to signal manager's private information, but their relation to each other has never been investigated. In this respect, the research differs from prior studies that investigate the factors associated with the disclosure of management earnings forecasts (Waymire 1985; Ruland, Tung, and George 1990) or the relation between the accuracy of forecasts and discretionary accounting choices (Jaggi and Sanella 1995; Kasznik 1999). Additionally, this research provides an empirical test of the theory developed by Gigler and Hemmer (2001). They predict that firms with relatively more conservative accounting are less likely to make timely voluntary disclosures than firms with less conservative accounting.

Managers have several incentives to disclose voluntary earnings forecasts. Those incentives include aligning investor expectations with their own (Ajinkya and Gift 1984; Hassell and Jennings 1986), reducing information asymmetry between firm insiders and external stakeholders (Leftwich, Watts, and Zimmerman 1981; Collier and Yohn 1997), and correcting or confirming analysts' forecasts (Clement, Frankel, and Miller 2001). Evidence also suggests that voluntary disclosures can reduce the cost of equity capital (Botosan 1997). Despite the various incentives for disclosing management forecasts, the practice is still relatively rare in the U.S.¹

¹ For example, Skinner (1994) finds that earnings-related voluntary disclosures occur once on average for every ten quarterly earnings announcements and Baginski, Hassell and Kimbrough (2002) report that the forecast frequency of Canadian firms is almost 2.5 times that of U.S. firms.

While there are benefits to disclosing forecasts (Waymire 1986; Clement et al., 2001), there are also costs, especially for those that are less accurate (Kasznik 1999). The costs include legal exposure (Skinner 1994) and management's loss of reputation for accuracy (Williams 1996). Kasznik (1999) asserts that managers have an incentive to manage reported earnings toward their forecasts that might otherwise be inaccurate. However as in Brown (1988), we argue that managers have the tools to influence reported earnings *ex ante* and as a result are more likely to issue forecasts when they perceive they have the ability to influence the earnings outcome. Therefore, we also investigate whether differences in management forecast accuracy are associated with managers' accounting choices.

The empirical evidence regarding the nature of firms that disclose forecasts is limited. Imhoff (1978) provided the first research evidence regarding the different characteristics between firms that published management earnings forecasts and those that did not. He found that disclosing firms have less variable earnings than non-disclosing firms. Cox (1985) extended the Imhoff (1978) study and confirmed that earnings variability is greater for nondisclosing firms. He also found that while disclosing firms were larger than non-disclosing firms, they were not any riskier in terms of beta. Waymire (1985) also extended the Imhoff (1978) study, but examined a sample of forecast firms alone, differentiated by the frequency of their disclosures. He finds that repeat disclosers have less volatile earnings than firms that disclose only once during his sample period (7/1/69-12/31/73). Additionally, he documents that there is a relation between volatility and disclosure timing in that firms with relatively more volatile earnings tend to issue forecasts in the fourth quarter. Because earnings are a function of accounting choices, we investigate the Imhoff (1978), Cox (1985) and Waymire (1985) results

further by examining the nature of the accounting practices of firms that disclose voluntary management forecasts.

Using a sample of 6,395 Compustat firms during the period 1995-2000, we find that there is an association between the use of conservative accounting practices and the incidence of management earnings forecast disclosures. Specifically, our results indicate that relative to disclosing firms, non-disclosers use more conservative accounting practices. These results are consistent with the theory proposed by Gigler and Hemmer (2001) and also with the empirical evidence in Givoly and Hayn (2000) that more conservative accounting practices lead to more variable earnings. We also find that disclosers are followed by more analysts than non-disclosers, which is consistent with prior research. Our study contributes to the literature on voluntary management forecasts by documenting a relation between accounting choice (i.e., mandatory disclosure) and voluntary disclosure. Our results are also consistent with the results from Frankel, McNichols, and Wilson (1995) who provide evidence that managers' decision to forecast is part of a long-term disclosure policy, not simply a response to short-term goals as Kasznik (1999) would suggest.

We organize the remainder of the paper as follows. Section 2 reviews prior research on managerial incentives to disclose voluntary forecasts and the accounting choice literature. Section 3 discusses the research design including our hypotheses and the procedures for selecting the management forecast and non-disclosure samples. Section 4 reports the empirical results and Section 5 concludes the paper.

II. BACKGROUND AND PRIOR RESEARCH

Managerial Incentives to Disclose Voluntary Earnings Forecasts

Primarily, the empirical research suggests that managers issue forecasts to align investor expectations with their own (Ajinkya and Gift 1984; Hassell and Jennings 1986) and reduce information asymmetry (Coller and Yohn 1997). Bid-ask spreads are one potential manifestation of information asymmetry between managers and the market as a whole. Coller and Yohn (1997) examine bid-ask spreads prior to the release of a management forecast and find that the spreads of forecasting firms are significantly higher than those of a matched sample of nonforecasting firms. However, after the forecast they find no difference in the bid-ask spreads between the two groups of firms.

Analyst forecast dispersion is potentially an indication of information asymmetry between managers and analysts and investors that results from disagreement among analysts about expected earnings. If earnings are completely predictable, analysts should be able to arrive at similar forecasts of a firm's earnings. However, if a firm's earnings are very volatile, then they will be less predictable and may cause variation among analysts' earnings forecasts. If analyst forecast dispersion is a proxy for uncertainty (Barron and Stuerke 1998) then managers may want to reduce that uncertainty by providing their own forecast. However, the results from Imhoff (1978) indicate that forecasting firms have *less* variable earnings than nonforecasters. Cox (1985) found that forecast firms have significantly less variable earnings than non-forecast firms *except* when the earnings variable is measured as operating income before depreciation. Therefore, these results suggest that forecast firms have less variable earnings only after fixed charges (i.e., depreciation) are included in the income numbers. The implication of Cox's

finding for our research is that firms' accounting choices (e.g., depreciation methods) may be associated with the differences between forecasters and nonforecasters.

Botosan (1997) offers another potential incentive for providing voluntary management earnings forecasts. She suggests that if a firm can expand its investor base, possibly by providing voluntary annual report disclosures, then it will reduce its cost of equity capital. She examines the association between disclosure level and the cost of equity capital directly. Her results indicate that among firms that attract only a small following of analysts an increase in disclosure level is associated with a reduction in the cost of equity capital.

While there are benefits to providing management earnings forecasts, there are also potential litigation costs associated with failure to meet management forecasts. Securities and Exchange Commission Rule 10b-5 serves as the general legal basis under which suits for damages are brought when management forecasts turn out to be inaccurate. Baginski, Hassell, and Kimbrough (2002) provide evidence that in the less litigious Canadian environment, there is a greater incidence of management earnings forecast disclosure than in the U.S. Therefore, managers have incentives to acquire and maintain a reputation for credible (i.e., accurate) disclosure (Healy and Palepu 1993; Pownall, Wasley, and Waymire 1993; Skinner 1994; Williams 1996).

Frankel, McNichols, and Wilson (1995) investigate the hypothesis that firms that use external financing more frequently also forecast their earnings more frequently. While they find that financing firms forecast more frequently than non-financing firms, they do not find that firms seeking financing are more likely to forecast in the period shortly before an offering than at other times. Rather, the Frankel et al. (1995) results indicate that firms seeking external

financing forecast more in general, as part of a longer-term disclosure policy, not because they increase their level of forecasting around the time they seek financing.²

Based on the results from previous research, it appears that managers have incentives to provide voluntary earnings forecasts, possibly to avoid litigation, but generally to mitigate information asymmetry. One of the benefits from reduced asymmetry is a reduction in the firm's overall cost of capital, which is especially beneficial when the firm seeks external financing.

Forecast Accuracy and Management's Credibility

Managers who provide earnings forecasts are usually responsible for choosing the accounting practices within generally accepted accounting principles (GAAP) that determine those earnings and there is evidence that managers provide relatively more accurate forecasts than time-series models or security analysts (Hassell and Jennings 1986). It is still an empirical question whether the comparatively higher accuracy of management earnings forecasts is the result of better predictions or the accounting choices that managers make that may allow them to report earnings that meet the forecasts. Jaggi and Sannella (1995) and Kasznik (1999) investigate whether managers take actions to meet forecasts via accounting changes and discretionary accruals, respectively. Their evidence suggests that managers appear to use discretionary accounting changes and accruals to meet voluntary earnings forecasts. However, Healy and Palepu (1990) suggest that accounting changes have high implementation costs and they reduce the amount of flexibility to make accounting changes in subsequent years. Additionally, the visibility of a discretionary accounting change could result in signaling proprietary information to competitors. The purpose of this research is to investigate whether

² Ruland, Tung, and George (1990) find that firms issuing management earnings forecasts are more likely to seek external financing in the quarter subsequent to the forecast than a matched sample of firms that did not issue forecasts. However, they do not investigate the timing of forecast issuance in general.

there is a systematic association between managers' long-term accounting policy choices and their tendencies to issue forecasts.

Brown (1988) describes three environmental factors that influence the relative accuracy of management earnings forecasts. They include: (1) the availability of asymmetric inside information about the firm's operations, (2) self-selection bias on the part of management when deciding whether to disclose a forecast, and (3) the fact that managers have control over transactions that impact reported earnings and their resultant forecast accuracy. Brown (1988) indicates that factors two and three suggest that forecast accuracy could be achieved by releasing a forecast only when management has already established the ability to manage reported earnings. Since managers who provide accurate forecasts are rewarded by the market (Waymire 1986), they may make accounting choices that allow them to report earnings that conform to forecasts. Williams (1996) demonstrates that analysts do not always fully adjust to management earnings forecasts due to variations in management forecasting credibility. Her results indicate that management establishes a forecasting reputation based on prior earnings forecasts. Therefore, if managers who issue less accurate forecasts lose their credibility, they have an incentive to make financial reporting choices that make their forecasts more accurate.

Accounting Choice and Conservatism

Fields, Lys and Vincent (2001) in a review of the empirical research on accounting choice in the 1990s, conclude that there has been little progress in advancing the state of knowledge. They propose that one of the reasons for the lack of progress may be that researchers generally focus on refining knowledge of specific accounting choices rather than taking an integrated perspective on accounting choice (Fields et al. 2001, 258). Additionally, they suggest that absent a theory, researchers appear to limit their inquiries to the pathological,

and perhaps, less frequent, use of accounting choice and ignore the major role of accounting in normal, day-to-day situations (Fields et al. 2001, 258).

The purpose of this research is to provide a direct empirical test of the assertions arising from Gigler and Hemmer's (2001) analytical work regarding the relation between mandatory and voluntary disclosures. They provide theoretical evidence that the value of voluntary disclosures decreases in the level of conservatism of the firm's financial reporting system. Specifically, they find that only firms that apply accounting standards sufficiently liberally would adopt a policy of providing timely voluntary disclosures (Gigler and Hemmer 2001, 480). This result holds even when firms have limited discretion to determine the properties of their financial reporting systems.

Therefore, this research provides empirical evidence regarding the role of accounting in normal operations and therefore provides an incremental contribution beyond Kasznik (1999) who finds that managers of firms having more accounting flexibility reduce their forecast errors more than do firms with less flexibility. Kasznik (1999) does not attempt to determine whether managers make accounting choices to create accounting flexibility. Jaggi and Sanella (1995) and Kasznik (1999) instead examine ex post accounting (i.e., accounting changes and discretionary accruals) that allow managers to manage earnings toward forecasts. In fact, Kasznik (1999) indicates that while his evidence is consistent with managers managing reported earnings toward their forecasts, he cannot rule out the possibility that the abnormal discretionary accruals and related management forecasts that he observes may be simultaneously determined as part of an overall reporting strategy (Kasznik 1999, 76). The purpose of this research is to investigate whether there is an association between management's long-term accounting choices and its voluntary disclosure behavior.

We examine firms' accounting choices in terms of whether they choose more or less conservative accounting practices. Penman and Zhang (1999) define conservatism as consistently applied accounting practices, such as LIFO relative to FIFO (when inventory costs are increasing), expensing R&D, accelerated depreciation, and high estimated allowances that keep the book value of net assets relatively low. They suggest that conservative accounting leads to otherwise lower earnings that create "hidden reserves." These reserves can be increased, thereby reducing earnings, by increasing investment and they can be subsequently reduced to create earnings by reducing investment or the rate of growth in investment.³ One might assume that conservative accounting creates flexibility that would allow managers to better predict earnings and therefore be more willing to provide forecasts. However, Givoly and Hayn (2000) provide evidence that an increase in reporting conservatism by U.S. companies has led to an increase in the dispersion of earnings. Therefore, accounting conservatism may cause managers to be less likely to issue forecasts since prior research has found a negative association between earnings variability and the incidence of management forecasts (Cox 1985; Waymire 1985).

In order to investigate the relation between conservatism and managerial disclosure practices, we identify two proxies for the level of conservatism in a firm's accounting policies. The first focuses on the accounting choices that managers make. Penman and Zhang (1999) empirically demonstrate that conservative accounting can yield lower quality earnings, where they measure the quality of earnings in terms of current earnings' ability to predict future earnings. The important outcome of the Penman and Zhang (1999) characterization of conservatism is that manipulation and earnings management may or may not be intended by

³ Lev and Zarowin (1999) indicate that while it is generally believed that expensing intangibles is conservative, and leads to lower reported profitability than under capitalization, for mature firms immediate expensing may in fact be aggressive.

management. However, the effect is achieved as a result of the interaction between real activity and accounting policy.

Therefore, our first proxy for the level of conservatism in a firm's accounting choices is the following conservatism index based on Penman and Zhang (1999):

$$CI_{it} = \frac{(D * ACCDEP_{it}) + RESDEV_{it} + LIFO_{it}^{res}}{TA_{it}} \quad (1)$$

where the depreciation hidden reserve is an accelerated depreciation indicator variable (D) times accumulated depreciation (ACCDEP); the research and development (R&D) hidden reserve is reported R&D expense (RESDEV); the inventory hidden reserve ($LIFO_{it}^{res}$) equals the LIFO reserve reported in the footnotes (the value is zero for non-LIFO firms); and TA is total assets.⁴

Givoly and Hayn (2000) describe and investigate several proxies for the level of conservatism in a firm's financial reporting. The first measure is the sign and magnitude of accumulated accruals over time. They argue that the nature of accounting suggests that periods with positive (negative) accruals should be followed by periods with negative (positive) accruals, where accruals are defined as the difference between net income (before depreciation and amortization) and cash flows. A relatively high incidence of consistently negative accruals over time is an indication of conservatism (Givoly and Hayn 2000).

The next measures Givoly and Hayn (2000) consider rely on the fact that accounting conservatism suggests that expenses and losses are anticipated while revenues and gains are not recognized until realized and earned. Therefore, if accounting conservatism leads to immediate recognition of negative events and delayed recognition of positive events, it will result in a

⁴Other studies use different approaches to estimate the level of conservatism in reported book values (e.g., Ahmed, Morton, and Schaefer, 2000; Beaver and Ryan (2000)), but they also validate their assumptions by correlating their

negatively skewed earnings distribution. Related to this point, the immediate, as opposed to gradual, recognition of bad news or a greater tendency to provide for anticipated future costs or losses should also lead to an increase in the variability of the earnings stream. Therefore, the skewness and variability of the earnings distribution may be additional measures of the level of accounting conservatism.

Another proxy for accounting conservatism that Givoly and Hayn (2000) investigate relates to analytical work by Feltham and Ohlson (1995) and empirical work by Stober (1996). Stober (1996) suggests that under unbiased accounting, accounting book values, on average, equal market values, while under conservative accounting, book values, on average, are less than market values. Therefore, conservatism is operationalized in terms of bias in book values relative to market values. Empirically, market-to-book (P/B) values greater than one indicate conservative bias in accounting book values.

Finally, Givoly and Hayn (2000) also consider the relation between negative returns and earnings as in Basu (1997). However, Gigler and Hemmer (2001) demonstrate that the assumption in Basu (1997) that the timeliness of returns in reflecting economic events is uncorrelated with the resulting accounting earnings may be invalid since he does not control for the amount of voluntary disclosure across firms.

In order to avoid the issues associated with the Basu (1997) conservatism metrics as identified in Gigler and Hemmer (2001), we rely on the relative variability of earnings to cash flows as our second measure of conservatism as follows:

$$SIGMADIFF = \sigma_{ROA} - \sigma_{CFROA} \quad (2)$$

conservatism estimates with accounting proxies (like those in Penman and Zhang 1999) and find that they are significantly related.

SIGMADIFF is measured as the difference between the standard deviation of ROA (net income/total assets) and CFROA (cash flows from operations/total assets).

By considering explicit accounting choices (i.e., accelerated depreciation, large research and development expenditures, and LIFO) as well as the ex post patterns in the earnings distribution, we are able to triangulate the effects of conservative accounting choices in the research design.

III. RESEARCH DESIGN

Hypothesis Development

Gigler and Hemmer (2001) predict that firms that use conservative accounting policies are less likely to issue management forecasts. Additionally, Givoly and Hayn (2000) find that the earnings distribution has become more dispersed and negatively skewed, relative to that of cash flows, over the period 1950-1998. Early studies of the characteristics of firms issuing management forecasts found that they had relatively less variable earnings than firms that did not issue forecasts (Cox 1985) and those that issued fewer forecasts (Waymire 1985). Therefore if conservative accounting practices lead to more variable earnings, it is probable that more conservative firms are less likely to provide forecasts. Therefore, based on the theory from Gigler and Hemmer (2001) and the empirical evidence in Givoly and Hayn (2000), we hypothesize that all else equal, firms that use conservative accounting policies are less likely to issue management forecasts. Our primary hypothesis is therefore:

H₁: Managers that use more (less) conservative accounting practices are less (more) likely to issue forecasts, ceteris paribus.

Additionally, if more liberal accounting practices give firms more reporting flexibility, then the managers of those firms will also be more likely to avoid large negative forecast errors since their accounting practices may allow them to produce earnings to meet those forecasts.

Our secondary hypothesis is:

H₂: Among forecasting firms, those with the least conservative accounting practices will also have smaller negative forecast errors, *ceteris paribus*.

Sample Selection

We conduct pooled cross-sectional analyses of forecasting and nonforecasting firms. We selected sample firms from the 21,012 firms on the 2000 Compustat Annual Industrial File for which the relevant Compustat data are available. We eliminated firms if consensus analysts' forecasts were not available on the First Call Summary Statistics database. This resulted in a sample of 7,668 firms. The sample was further reduced if the firms did not have a sufficient earnings volatility history. This resulted in the final sample of 6,395 firms. The management forecast sample was determined from the First Call "Company Issued Guidance" (CIG) database. We obtained management forecasts from the First Call database for the period 1995-2000.⁵ We determined that the forecasts were made by corporate officials and not by analysts. We include forecasts in the form of point estimates and ranges of EPS or specific amounts or rates of growth in net income or EPS from the previous year. In order to investigate whether there is an association between firms' accounting policies and their tendency to disclose earnings forecasts, we also investigate a sample of non-forecasting firms. The members of the non-forecasting

⁵ The database coverage begins during 1993 and First Call collected only a limited number of forecasts in 1993 (60) and 1994 (273). Therefore, we conduct the analyses based on the years for which the database is complete.

sample are so designated if they are not included in the First Call database. There are 4,026 forecasting firms and 2,369 non-forecasting firms in the sample.⁶

[Insert table 1 about here]

Sample Attributes

Table 2 shows the distribution of forecasting firms and non-forecasting firms by year and industry in the sample. Panel A of table 2 shows the distribution by year. The trend for non-forecasting firms is stable with 931 firms in 1995 and 1,173 firms in 2000. In contrast, the forecasting firms show a general upward trend, starting at 1,733 firms in 1995 and ending at 2,591 firms in 2000. This result is consistent with Kile, Pownall and Waymire (1998) who find that management forecast frequency has increased over time. Panel B of table 2 partitions the sample by forecasting and non-forecasting firms and shows the sample distribution by broad industry groupings. Both types of firms are distributed similarly across industries with the exceptions of manufacturing and retail trade. Twenty-nine percent of forecasting firms are manufacturers compared to 13 percent for non-forecasting firms. In contrast, 29 percent of non-forecasting firms are retailers compared to 10 percent for forecasting firms.

[Insert table 2 about here]

Empirical Model

We test for differences in accounting choices between forecasting and nonforecasting firms by regressing a forecast indicator variable on an accounting conservatism variable and variables that proxy for factors that have been found to be associated with the decision to issue forecasts. We use a logistic regression model to examine whether the conservatism variable bears a significant statistical relationship to the forecast probability of a firm. Whether or not a

⁶ We also performed the analyses using a matched pair design (based on total assets and four-digit SIC) and obtained

firm discloses a forecast in a period depends on the firm's own characteristics as well as the information environment. We control for these factors by including several variables in the model that previous research has found to be related to the decision to disclose a forecast. For example, we include industry dummies (based on one-digit SIC code) and a proxy for size (total assets) since, for larger firms, the benefits of producing forecasts is reduced because of the level of information already available about the firm (Baginski and Hassell 1997). The dependent variable is a binary classification of the firms as either forecasters or non-forecasters. We estimate the following logistic regression model to determine the extent to which the accounting conservatism variable is able to classify the firms based on the disclosure indicator:

$$P(\text{FORECAST}) = \alpha_0 + \beta_1 \text{CONSERVATISM}_i + \beta_2 \text{ANALYSTS}_i + \beta_3 \text{DISPERSION}_i + \beta_4 \text{NEWCAPITAL}_i + \beta_5 \text{OWNERSHIP}_i + \beta_6 \text{ASSETS}_i + \beta_7 \text{EARNVOL}_i + \beta_8 \text{SIC1}_i + \dots + \beta_{15} \text{SIC8}_i + \varepsilon_i \quad (1)$$

where FORECAST equals one if the firm issued a management earnings forecast during each year of the sample period, and zero otherwise;

CONSERVATISM is one of two proxies (described above) of the degree of conservative accounting choices;

ANALYSTS represents the number of analysts following the firm during the fiscal year. It is determined from the consensus forecast that is outstanding at the beginning of the fiscal year in the First Call Summary Statistics File.

DISPERSION is a proxy for the level of uncertainty. It is the dispersion of analysts' forecasts and it is determined using the consensus forecast that is outstanding at the beginning of the fiscal year in the First Call Summary Statistics File.

NEWCAPITAL is a proxy for new capital issued during the year. It is calculated as stock and debt issued for the year scaled by total assets.

results very similar to those reported here.

OWNERSHIP is a proxy for the dispersion of ownership. It is calculated as the number of common shareholders scaled by the book value of equity. The higher the number of shareholders for a fixed amount of equity, the more dispersed the ownership.

ASSETS is the year-end total assets for 1995-2000.

EARNVOL is a measure of the volatility of a firm's earnings. It is calculated as the standard deviation of income before extraordinary items for the fifteen years preceding the forecast scaled by the absolute value of the mean income before extraordinary items for the preceding 15-year period.⁷

SICn is an industry dummy variable taking on the value of one if the one-digit SIC code is n, and 0 otherwise.

IV. RESULTS

Descriptive Statistics and Univariate Comparisons of Disclosers and Non-Disclosers

Table 3 presents the values of the variables used in the analysis for the forecaster (discloser) and non-forecaster (non-discloser) samples. The left side gives the results for the non-disclosers, and the right side gives the results for the disclosers. The number of observations varies across variables because we chose to use all available data for each variable estimated. The number of observations included in each estimation is indicated in the first column of each panel. The mean (median) CI-Score is 0.26 (0.23) for the disclosers. The non-disclosers' CI-Score statistics are larger than the disclosers' amounts with a mean (median) CI-Score of 0.32 (0.25). The results from the univariate tests show both the mean and median CI-Scores are significantly lower for the disclosers. This suggests that non-disclosers tend to use more conservative accounting practices than disclosers. This result is a preliminary confirmation of

⁷ All of the independent variables, except the SIC dummy, are averaged over the number of years that the firm appears in the sample.

the analytical predictions in Gigler and Hemmer (2001). This result is also consistent with our hypothesized direction of the relation between accounting choice and disclosure.

The second proxy for the level of accounting conservatism is SIGMADIFF, the difference between the standard deviation of net income to total assets (ROA) and cash flows to total assets (CFOA). Givoly and Hayn (2000) suggest that firms with more conservative financial reporting will exhibit larger ROA variation relative to the underlying cash flows. Our results indicate that disclosers have significantly smaller mean (0.01) and median (-0.01) differences than non-disclosers (0.02 and 0.00, respectively). In fact, the median forecasting firms exhibit smaller ROA variability relative to cash flows. This result confirms the CI-score evidence and shows that both ex ante accounting choices and the ex post earnings patterns are consistent with more conservative firms being less likely to forecast.

The remaining variables are proxies for firm characteristics that previous research has found to be associated with the likelihood firms will issue a management earnings forecast. The number of analysts following the firms is larger for the discloser sample with a mean (median) value of 5.06 (3.80) versus 4.16 (3.00) for the non-disclosers. This result is consistent with prior research, and may be a function of the relative size of the firms. The mean (median) total assets are \$4.1 (0.35) billion for the disclosers and \$5.3 (.05) billion for the non-disclosers. On average, the two groups are similar in size in terms of total assets, but disclosers are somewhat larger firms as demonstrated by the fact that their median total assets are significantly higher. Additionally, the disclosers have a significantly larger median price-to-book ratio of 2.26 as compared to 1.94 for the non-disclosers. The average values are similar for disclosers (3.49) and non-disclosers (3.13).

The amount of dispersion in analysts' forecasts, a proxy for information asymmetry, is similar across the two groups. The mean (median) value for disclosers is 0.11 (0.00) and for non-disclosers it is 0.17 (0.00). Prior research suggests that firms with less volatile earnings are more likely to make forecasts (Cox 1985; Waymire 1985). The results from our samples are mixed. The mean (median) value for the measure of earnings volatility is 4.34 (1.00) for disclosers and 4.51 (0.82) for non-disclosers. Only the median differences are significant. We directly examine the relation between earnings dispersion and the likelihood of forecasting in the multivariate tests that follow. Ruland, Tung, and George (1990) and Frankel, McNichols, and Wilson (1995) provide evidence that financing firms tend to also be forecasting firms. The value of our new capital variable is inconsistent with these findings. The mean (median) value of stock and debt issued (scaled by total assets) is 0.19 (0.10) for disclosers and 0.23 (0.12) for non-disclosers. Non-disclosers appear to have issued more new capital. Finally, Ruland et al. (1990) provide evidence that a firm's ownership structure, and in particular the level of managerial ownership, is associated with its managers' disclosure of forecasts. Specifically, they find that as the manager's ownership share decreases, outside shareholders demand more monitoring. This would suggest that the managers of more widely held firms are more likely to forecast. We find that the mean (median) measure of ownership dispersion is 0.04 (0.01) for disclosers and 0.19 (0.01) for non-disclosers. The values are not significantly different.

[Insert table 3 about here]

Correlation Analysis

Table 4 reports correlation statistics for the regression variables. Results for the forecasting firms are reported above the diagonal and results for non-forecasting firms are reported below the diagonal. For the forecasting firms all of the regression variables are

correlated with CI-Score at the .01 level. In terms of magnitude, the CI-Score's largest correlations are with the second earnings conservatism proxy (0.10), analyst forecast dispersion (0.13), ownership dispersion (0.15), and new capital issuance (-0.18). The positive correlation between CI-Score and SIGMADIFF is consistent with a setting in which both measures capture the level of conservative accounting. Additionally, it is positively correlated with the price-to-book ratio. A high price to book ratio may indicate that firms are writing off assets at a faster rate than their true economic depreciation and in the case of mature firms, this would indicate past aggressive accounting practices. Other variables that are highly correlated are number of analysts with total assets and dispersion with number of analysts. The finding that the number of analysts and assets are correlated is consistent with prior research documenting that large firms have larger analyst followings. The finding that dispersion is negatively correlated with the number of analysts is consistent with prior research documenting that larger analyst following creates a richer information environment with lower uncertainty.

In contrast to the forecasting sample, in the non-forecasting sample SIGMADIFF and new capital issuance are not correlated with CI-Score. Like the forecasting sample, CI-Score is negatively correlated with total assets and positively correlated with price to book ratio. Also like the forecasting sample, other independent variables that are highly correlated in the non-forecasting sample include analysts with total assets, and dispersion with the number of analysts. It is important to note that the CI-Score for both samples is negatively correlated with earnings volatility. The earnings volatility metric is an absolute measure of the standard deviation of earnings over time. Givoly and Hayn (2000) suggest that it is the variability in earnings relative to cash flows that captures the level of conservatism. Therefore, the fact that the CI-Score is *negatively* correlated with SIGMADIFF indicates that it is not simply a proxy for earnings

volatility, a measure that previous research has found to be related to firms' tendencies to forecast (Imhoff 1978; Waymire 1985), but that it captures conservatism.

[Insert table 4 about here]

Regression Analysis

The univariate results suggest that there is an association between accounting choice and disclosure practices. Specifically, it appears that more conservative firms are less likely to forecast. We investigate the relation between accounting choice and disclosure practices further by using logistic regression analysis. Table 5 provides results from the logistic regression estimation where the accounting choice variable is the CI-Score. The coefficient on the conservatism index (β_1) is negative (-0.98) and significant ($p=0.00$), indicating that there is a negative association between the magnitude of the conservatism index and the likelihood of issuing a forecast. This result suggests that after controlling for other factors associated with the likelihood to forecast, more conservative firms are less likely to issue forecasts. The coefficient (β_2) on the number of analysts following the firm is positive and significant as in prior research. This suggests that firms that issue forecasts are more heavily followed by analysts. The coefficients on the remaining explanatory variables, except new capital issuance, are extremely small and indistinguishable from zero. The fact that we find a negative relation between the tendency to issue forecasts and new capital issuance may indicate that our firms are more mature and do not need to fund any potential growth through external capital raising. Finally, we find evidence that firms in certain industries (manufacturing, wholesale and retail trade, and services) are more likely to issue forecasts. However, even after controlling for the industry differences, our accounting choice measure is still significantly associated with the likelihood to forecast.

[Insert table 5 about here]

Table 6 provides results from the logistic regression estimation where the accounting choice variable is SIGMADIFF, the difference between the standard deviation of firms' net income to total assets (ROA) and cash flows to total assets (CFOA). This estimation captures the effect of conservatism on the firm's financial reporting as opposed to the CI-score, which measures the firms' ex ante accounting choices. The coefficient on the conservatism proxy (β_1) is negative (-1.24) and significant ($p=0.00$), indicating that there is a negative association between the level of the conservatism index and the likelihood of issuing a forecast. This result is consistent with our findings in the previous estimation. The coefficient (β_2) on the number of analysts following the firm is again positive and significant. The coefficients on the remaining explanatory variables are not significantly different from zero. However, we again find evidence that firms in certain industries (manufacturing, wholesale and retail trade, and services) are more likely to issue forecasts.

Overall, we provide evidence that accounting choice, measured as the degree of accounting conservatism in a firm's financial reporting, is significantly related to the propensity to issue management forecasts. Taken together it appears that firms that make accounting choices that reduce earnings are less likely to issue forecasts. This result is consistent with the Frankel et al. (1995) finding that issuing management forecasts is part of a long-term disclosure policy instituted by firms with certain characteristics. In Frankel et al. (1995), there is a positive association between firms' tendencies to access capital markets and to disclose earnings forecasts. We document that firms are also more likely to disclose an earnings forecast if they use less conservative accounting practices.

[Insert table 6 about here]

One implication of our research is that the liberal accounting choices that forecasting firms make provide them with the flexibility to avoid large negative forecast errors. In order to investigate this hypothesis, we sort firms into quintiles based on their forecast errors and test whether there is a significant difference between the conservatism proxies for firms in the first and fifth quintile. In untabulated results we find that less conservative firms are more likely to avoid large negative forecast errors.

V. SUMMARY AND CONCLUSIONS

This paper examines the relation between accounting choice and management's propensity to issue earnings forecasts. Kasznik (1999) finds that managers of firms having more accounting flexibility reduce their forecast errors more than firms with less flexibility. However, he does not investigate the choices that managers make in order to create accounting flexibility. Instead, Kasznik (1999) focuses on short-term discretionary accrual manipulation as the source of management's ability to consistently provide relatively accurate forecasts. However, there is evidence that management forecasts are part of a long-term disclosure policy (Frankel, McNichols, and Wilson 1995). Healy and Palepu (1990) also suggest that current accounting changes have high implementation costs and they reduce the amount of flexibility to make accounting changes in subsequent years. Therefore, we investigate whether there is a systematic association between accounting choice (i.e., conservative accounting policies) and managers' tendencies to issue forecasts.

Using samples of firms that did and did not issue management earnings forecasts during the period 1995-2000, we find that there is a negative association between the use of conservative accounting practices and the incidence of management earnings forecasts. Our

results are consistent with the prediction from Gigler and Hemmer (2001) that more conservative firms are less likely to issue forecasts. Therefore, we provide direct empirical evidence of an association between mandatory and voluntary disclosures. This suggests that accounting choice and issuing voluntary management forecasts are both parts of firms' long-term disclosure policies. Our study contributes to the literature on voluntary management forecasts by documenting a relation between accounting choice and the incidence of management forecast disclosures and by showing that accounting choice is associated with the total amount of information disclosed.

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Table 1
Sample Selection Procedures

Firms in the Compustat Database	21,012
Less: Firms without First Call Analysts' Consensus Forecasts	<u>(13,334)</u>
	7,668
Less: Firms without sufficient earnings volatility history	<u>(1,273)</u>
Number of Firms in the Sample	<u>6,395</u>
<hr/>	
Forecasting Firms (as determined by the First Call CIG database)	4,026
Non-forecasting Firms (those not included on First Call)	<u>2,369</u>
Number of Firms in the Sample	<u>6,395</u>

Table 2**Distribution of Management Forecasts**

<i>Panel A: Forecast Year</i>	<i>Non-Forecasters</i>	<i>Forecasters</i>	<i>Total</i>
1995	931	1,733	2,664
1996	1,219	2,260	3,479
1997	1,267	2,732	3,999
1998	1,234	2,913	4,147
1999	1,179	2,874	4,053
2000	<u>1,173</u>	<u>2,591</u>	<u>3,764</u>
Total	7,003	15,103	22,106

Panel B: Industry Distribution of Sample Firms

Industry	Non-Forecasters		Forecasters	
	Frequency	Percent	Frequency	Percent
Agriculture, Forestry, and Fishing	4	0.2	12	0.3
Mining	175	7.4	142	3.5
Construction	311	13.1	546	13.6
Manufacturing	325	13.7	1182	29.4
Transportation, Communications, Electric, Gas, and Sanitary Services	296	12.5	343	8.5
Wholesale Trade	148	6.2	482	12.0
Retail Trade	705	29.8	424	10.5
Finance, Insurance, and Real Estate	326	13.8	699	17.4
Services	71	3.0	184	4.6
Public Administration	8	0.3	12	0.3
	2,369	100.0	4,026	100.0

Table 3
Summary (Descriptive) Statistics of Variables

<i>Variable</i>	<i>Non-Disclosers^a</i>				<i>Disclosers^a</i>				<i>T^b</i>	<i>Z^b</i>
	<i>n</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Median</i>	<i>n</i>	<i>Mean</i>	<i>Std Dev</i>	<i>Median</i>	<i>(p-value)</i>	<i>(p-value)</i>
CI-Score	819	0.32	0.29	0.25	2152	0.26	0.18	0.23	4.83 (0.00)	2.29 (0.02)
SIGMADIFF	1262	0.02	0.13	0.00	3103	0.01	0.12	-0.01	2.48 (0.01)	6.17 (0.00)
Analysts	2372	4.16	3.11	3.00	4025	5.06	3.60	3.80	-10.19 (0.00)	-12.31 (0.00)
Dispersion	2340	0.17	3.18	0.00	4018	0.11	3.13	0.00	0.77 (0.44)	2.59 (0.01)
New Capital	1808	0.23	0.52	0.12	3716	0.19	0.28	0.10	2.93 (0.00)	3.15 (0.00)
Ownership	1628	0.19	4.51	0.01	3699	0.04	0.74	0.01	1.32 (0.19)	0.69 (0.49)
Earnings Volatility	2353	4.51	33.38	0.82	4019	4.34	29.00	1.00	0.21 (0.84)	-10.15 (0.00)
Total Assets	2145	5258	30135	53	3971	4,112	25,786	353	1.49 (0.14)	5.19 (0.00)
PB Ratio	2101	3.13	20.61	1.94	3950	3.49	18.81	2.26	-0.66 (0.51)	-6.42 (0.00)

Variable Definitions

CI-Score	Conservatism Index Score = $[(\text{AccDum} [\text{AFTNT15}] * \text{AccDep} [\text{A223}]) + \text{ResDev} [\text{A46}] + \text{LifRes} [\text{A240}]] / \text{TotalAssets} [\text{A6}]$;
SIGMADIFF	$\sigma\text{ROA} - \sigma\text{CFOA}$, The difference between the standard deviation of net income to total assets (ROA) and cash flows from operations to total assets (CFOA);
Analysts	The number of analysts following the firm during the fiscal year (IBES);
Dispersion	The standard deviation of analysts' forecasts of annual earnings per share from IBES prior to the forecast disclosure.
New Capital	The dollar amount of stock [#A108] and debt [#A111] issued for the year scaled by total assets [#A6];
Ownership	The number of common shareholders [#A100] scaled by the book value of equity [#A60].
Volatility	The standard deviation of income before extraordinary items [#A18] for the fifteen years preceding the forecast scaled by the absolute value of the mean income before extraordinary items for the preceding 15-year period;
Total Assets	Book value of total assets [#A6];
PB Ratio	March 31 market value of common equity (closing price [#A199]) scaled by book value of common equity per share [#A60/#A25];

^a The data are totals in terms of millions of U.S. dollars. Ratios are actual amounts.

^{b*(#)} The test of the mean (median) difference between disclosers and non-disclosers is statistically significant at the 10% level or better, two-tailed, based on a t-test (Wilcoxon Rank sum test).

Table 4
Correlation Analysis^{1,2}

	CI-Score	SIGMADIFF	Analysts	Dispersion	New Capital	Ownership	Earnings Volatility	Total Assets	PB Ratio
CI-Score		0.10 (0.00)	-0.07 (0.00)	0.13 (0.00)	-0.18 (0.00)	0.15 (0.00)	-0.05 (0.01)	-0.08 (0.00)	0.05 (0.01)
SIGMADIFF	0.04 (0.36)		0.04 (0.03)	0.22 (0.00)	0.11 (0.00)	-0.01 (0.56)	0.27 (0.00)	-0.01 (0.41)	0.05 (0.01)
Analysts	-0.19 (0.00)	-0.04 (0.12)		-0.24 (0.00)	0.02 (0.20)	-0.16 (0.00)	-0.05 (0.00)	0.62 (0.00)	0.30 (0.00)
Dispersion	0.27 (0.00)	0.26 (0.00)	-0.10 (0.00)		0.12 (0.00)	0.03 (0.08)	0.26 (0.00)	-0.24 (0.00)	-0.37 (0.00)
New Capital	-0.03 (0.35)	0.12 (0.00)	0.07 (0.00)	0.09 (0.00)		-0.10 (0.00)	0.14 (0.00)	-0.01 (0.63)	0.04 (0.01)
Ownership	0.22 (0.00)	0.06 (0.04)	-0.19 (0.00)	0.08 (0.00)	-0.09 (0.00)		0.01 (0.66)	-0.19 (0.00)	0.13 (0.00)
Earnings Volatility	-0.17 (0.00)	0.28 (0.00)	0.09 (0.00)	0.20 (0.00)	0.09 (0.00)	-0.04 (0.10)		-0.16 (0.00)	-0.01 (0.52)
Total Assets	-0.26 (0.00)	-0.13 (0.00)	0.40 (0.00)	-0.28 (0.00)	-0.11 (0.00)	-0.26 (0.00)	-0.16 (0.00)		0.00 (0.96)
PB Ratio	0.17 (0.00)	-0.01 (0.67)	0.15 (0.00)	-0.18 (0.00)	0.09 (0.00)	0.23 (0.00)	0.02 (0.27)	-0.13 (0.00)	

¹Upper (Lower) Diagonal: Forecast (Non-Forecast) Firms' Spearman Correlation Coefficients. Numbers in parentheses represent p-values, two tailed tests.

²See table 3 for variable definitions.

Table 5
Logistic Regression Tests of the Relation between Forecasting and Accounting Choice
(CI-Score)

$$P(\text{FORECAST}) = \alpha_0 + \beta_1 \text{CONSERVATISM}_{it} + \beta_2 \text{ANALYSTS}_{it} + \beta_3 \text{DISPERSION}_{it} + \beta_4 \text{NEWCAPITAL}_{it} \\ + \beta_5 \text{OWNERSHIP}_{it} + \beta_6 \text{ASSETS}_{it} + \beta_7 \text{EARNVOL} + \beta_8 \text{SIC1}_{it} + \dots + \beta_{15} \text{SIC8} + \varepsilon_{it}$$

<i>Independent Variable (Coefficient)</i>	Predicted Sign	Coefficient Estimate	Wald Chi-square	p-value
Intercept (α_0)		1.48	29.64	0.00
CI-Score (β_1)	-	-0.98	20.14	0.00
<u>Control Variables</u>				
Number of Analysts (β_2)	+	0.03	6.76	0.01
Analyst Forecast Dispersion (β_3)	+	-0.03	0.49	0.48
New Capital (β_4)	+	-0.54	12.39	0.00
Ownership Concentration (β_5)	+	-0.03	1.32	0.25
Total Assets (β_6)	+	0.00	1.71	0.19
Earnings Volatility (β_7)	-	0.00	1.97	0.16
SIC3 Dummy (β_{10})		-0.58	4.36	0.04
SIC5 Dummy (β_{12})		-1.12	8.24	0.00
SIC7 Dummy (β_{14})		-3.27	46.07	0.00
N = 2,738				
Likelihood Ratio $\chi^2 = 240.17$ (p=0.00)				
Pseudo R ² = 8.40%				

Variable definitions:
Forecast = one if the firm issued a forecast during the sample period (n=2,035), and zero (n=703) otherwise;
CI-Score = [(AccDum*AccDep)+ResDev+LifRes]/TotalAssets;
Number of Analysts = The number of analysts following the firm during the fiscal year;
New Capital = The total amount of debt and equity issued scaled by total assets;
Ownership Concentration = The number of common shareholders scaled by the book value of equity;
Total Assets = The year-end total assets for 1995-2000;
Earnings Volatility = The standard deviation of income before extraordinary items for the fifteen years preceding the forecast scaled by the absolute value of the mean income before extraordinary items for the preceding 15-year period;
SICn Dummy = An industry dummy variable taking on the value of one if the one-digit SIC code is n, and 0 otherwise.

Table 6
Logistic Regression Tests of the Relation between Forecasting and Accounting Choice
(Earnings vs. Cash Flows Distribution)

$$P(\text{FORECAST}) = \alpha_0 + \beta_1 \text{CONSERVATISM}_{it} + \beta_2 \text{ANALYSTS}_{it} + \beta_3 \text{DISPERSION}_{it} + \beta_4 \text{NEWCAPITAL}_{it} \\ + \beta_5 \text{OWNERSHIP}_{it} + \beta_6 \text{ASSETS}_{it} + \beta_7 \text{EARNVOL} + \beta_8 \text{SIC1}_{it} + \dots + \beta_{15} \text{SIC8} + \varepsilon_{it}$$

<i>Independent Variable (Coefficient)</i>	Predicted Sign	Coefficient Estimate	Wald Chi-square	p-value
Intercept (α_0)		1.28	35.74	0.00
SIGMADIFF (β_1)	-	-1.24	14.61	0.00
<u>Control Variables</u>				
Number of Analysts (β_2)	+	0.08	37.43	0.00
Analyst Forecast Dispersion (β_3)	+	-0.17	1.79	0.18
New Capital (β_4)	+	-0.22	2.17	0.14
Ownership Concentration (β_5)	+	-0.05	1.90	0.17
Total Assets (β_6)	+	0.00	0.09	0.76
Earnings Volatility (β_7)	-	0.00	0.96	0.33
SIC2 Dummy (β_9)		-1.41	32.74	0.00
SIC3 Dummy (β_{10})		-0.65	8.43	0.00
SIC5 Dummy (β_{12})		-0.96	17.68	0.00
SIC7 Dummy (β_{14})		-2.05	82.81	0.00
N = 4,010				
Likelihood Ratio $\chi^2 = 490.81$ (p=0.00)				
Pseudo R ² = 11.52%				

Variable definitions:
Forecast = one if the firm issued a forecast during the sample period (n=2,959), and zero (n=1,051) otherwise;
SIGMADIFF = The difference between the standard deviation of net income to total assets (ROA) and cash flows from operations to total assets (CFOA);
Number of Analysts = The number of analysts following the firm during the fiscal year;
New Capital = The total amount of debt and equity issued scaled by total assets;
Ownership Concentration = The number of common shareholders scaled by the book value of equity;
Total Assets = The year-end total assets for 1995-2000;
Earnings Volatility = The standard deviation of income before extraordinary items for the fifteen years preceding the forecast scaled by the absolute value of the mean income before extraordinary items for the preceding 15-year period;
SICn Dummy = An industry dummy variable taking on the value of one if the one-digit SIC code is n, and 0 otherwise.
