Analysts' Forecast Accuracy And the Presentation Of A Mandated Accounting Change

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Abstract

This paper examines whether the presentation method of a mandated accounting change affects financial analysts' forecasts. SFAS 96, Accounting for Income Taxes (FASB, 1987), allowed companies to use either the cumulative effect or the retroactive restatement method to account for the adoption of the change. In addition to the comparison of the two presentation methods, a regression model was developed to include the number of analysts making forecasts, the dispersion of their mean forecast, prior disclosure of the accounting change, and the relative year of adoption. Analysts' forecasts for companies using the two different methods were compared over several periods to determine if the alternative presentations enhanced forecast accuracy and if that was dependent on the forecast horizon. While some of the covariates were significantly correlated, the results indicate that analysts gained no forecast accuracy advantage from having the increased disclosure.

Introduction

This research addresses one of the more contentious areas of accounting policy setting: the tradeoff between comparability and choice. SFAS 96, *Accounting for Income Taxes* (FASB, 1987) allowed companies to use either the cumulative effect or the retroactive restatement method to account for the adoption of the change. Analysts' forecasts for companies using the two different methods were compared over several periods to determine if the alternative presentations enhanced forecast accuracy. The results indicate that analysts gained no forecast accuracy advantage from having increased disclosure provided by restating prior years as if the new method had always been used.

Readers with comments or questions are encouraged to contact the author via e-mail.

Whereas most companies would prefer alternatives for presenting their financial information, the FASB has sought to foster comparability through standardization of practice. The FASB elaborated on this conflict in the conceptual framework. "Left to themselves, business enterprises, even in the same industry, would probably choose to adopt different reporting methods for similar circumstances. But in return for the sacrifice of some of that freedom, there is a gain from the greater comparability and consistency that adherence to externally imposed standards brings with it. There also is a gain in credibility. The public is naturally skeptical about the reliability of financial reporting if two enterprises account differently for the same economic phenomena" (FASB, 1980, para. 16).

This study examines forecast error as a function of presentation method. Because retroactive restatement provides more detailed information on the impact of the new accounting method by showing the effect of the change over several periods, one would assume that forecasting future earnings effects of the accounting change would be easier for companies that used restatement rather than cumulative effect. After controlling for the number of analysts making forecasts for a specific firm, the dispersion of their forecasts, prior disclosure in the *Wall Street Journal*, and the relative year of adoption of SFAS 96, no significant difference in forecast accuracy was found.

Previously, researchers investigating analysts' forecasts of earnings have used non-parametric statistical methods to test for differences due to misspecification problems caused by abnormal distributions and outliers. This paper develops a regression model to test forecast accuracy by employing a log transformation of forecast error to overcome those problems. Variables, such as the number of analysts and the dispersion of their forecasts, which in the past were treated categorically, were demonstrated to be highly significant as continuous variables. The model developed proved to have high explanatory power.

The remainder of this paper is organized as follows. Section two provides background information about the accounting issue and its importance. Section three describes the model and sample selection. Section four describes the results of the statistical analysis, and section five summarizes and concludes.

Background

Accounting Changes

The majority of prior research studies on financial analysts have dealt with analysts' accuracy relative to various models of expected earnings. Those studies indicate that analysts are superior to mechanical models of earnings (see

for example, Conroy and Harris, 1987), and that their superiority is due to their ability to utilize information between quarterly earnings dates (Brown et al., 1987) and to revise their forecasts (Hughes and Ricks, 1987). Other studies have associated increased forecast error with accounting changes (Elliott and Philbrick, 1990; Biddle and Ricks, 1988; Brown, 1983). Buchman and Fort (1996) investigated the effects of voluntary accounting changes on forecast accuracy and found none in the years subsequent to the changes. Potential selection bias problems in that study suggested that a mandated change may provide better control against bias.

Accounting Principles Board Opinion (APBO) No. 20, *Accounting Changes* (AICPA, 1971) governs voluntary accounting changes in principles and estimates, and, in most principle change cases, calls for a cumulative effect of the change amount to be included in a company's income for the year in which a change is made. In certain cases (e.g. changes from LIFO, changes in accounting for long-term contracts) restatement of prior years is required in an "as if" manner (retroactive restatement), and when neither of the above is practicable, a no adjustment (prospective) method is required. The accounting treatment for mandated changes is outlined in each pronouncement, with approximately two-thirds of the Statements of Financial Accounting Standards (SFAS's) requiring prospective treatment and one-third requiring restatement. Until recently, no mandated change has exclusively required a cumulative effect treatment, although that treatment has been included as an alternative in some statements.¹

There has been an ongoing debate over the alternative treatments of both mandated and voluntary accounting changes (Mellman and Seiler, 1986; Grinnell and Norgaard, 1979; Snavely, 1976; APBO 20). The three presentation methods are, in effect, alternative ways of disclosing the same event, and the debate focuses on the justification and necessity for three different disclosure methods. Briefly, the arguments for and against each treatment are as follows:

Retroactive Restatement - provides the most consistent statements, because prior years are shown as if the new method had always been used. It may erode user confidence by altering past statements.

Cumulative Effect - highlights the accounting change on the income statement. Comparison with prior years is difficult, and it puts prior years' revenues/expenses, gains/losses on the current year's income statement.

Prospective - does not alter past statements or income, but makes comparison of current and future statements with past statements more difficult.

There are those who argue that all changes should have the same treatment, while others including the FASB) believe that different circumstances dictate different treatments.

Recently, the AICPA Special Committee on Financial Reporting (AICPA, 1994) came out strongly for the expansion of the use of retroactive restatement. According to the Committee report, users value financial information that is consistent over time more than comparable between companies, because it is easier to compensate for different accounting procedures than for inconsistencies resulting from business combinations and accounting changes. Among its recommendations, the Committee advocated that "companies should restate information in more circumstances than allowed in current practice." (AICPA, 1994, pp. 97).

Analysts Forecasts

The purpose of financial statement analysis is to evaluate a company's past performance as a guide for its future (Stickney, 1993). One would assume that forecasting future earnings after a change requiring a retroactive restatement would be easiest, because there is more data available on a consistent and comparable basis for the analyst to use in ascertaining the effect of the new method on income. The cumulative ef-

fect method requires pro forma treatment of the new change on the income statement, so the level of information provided by this method is closer to restatement although not as comprehensive.² The only information available to analysts with prospective changes is the effect of the change on the current year. Forecasting future earnings for that type of change would appear to be the most difficult, because there is no way to see the effect over more than one year.³

There is no one objective procedure for measuring or comparing the effectiveness of different accounting methods in communicating information to users. Numerous studies have used stock market price reactions as indicators of how investors interpret different methods for presenting accounting numbers (see Brown, 1987 for a review). Because it is impossible to study each individual investor's decision making process, the market reaction has been used as a proxy for investors' decisions. Investors often rely on the expertise of market professionals such as financial analysts as part of their decision process (Shipper, 1991). Analysts use accounting information (and other sources) to forecast future earnings per share, but their decision making process, like that of market investors, would be difficult, if not impossible to study. However, the forecasts of professional analysts are accessible and may provide an alternative proxy for individual decision making in interpreting stock market price reactions to different accounting methods, because analysts are well trained, professional users of accounting data.

Method

Mandated Accounting Changes

All accounting changes, whether mandated or voluntary, require one of the three presentation methods for the disclosure of the change. Certain mandated changes allow the adopter to choose between two presentation methods. Using a mandated change that allows a choice of presentation methods (a within-standard design) has advantages over comparing

presentation methods from different mandated or voluntary changes (a between-standard design). A within-standard design controls for any standard-specific forecast error that may be inherent in the new accounting method by only comparing firms that have adopted the same standard. However, the use of standards that allow two presentation methods limits the number of changes that can be studied. A comparison of forecast error among different standards would allow for a larger sample, but would also introduce questions about the objectivity of the comparison (due to standard-specific error). For this study, a within-standard design was chosen, because the design provides the best assurance that standard-specific error has been controlled.

SFAS 96, *Accounting for Income Taxes* (FASB, 1987), was chosen for the study, because it met the within-standard criterion and adopting firms were available in sufficient numbers in the NAARS database.⁴ The original adoption date was for fiscal years beginning after December 15, 1988, and early adoption was encouraged. SFAS 96 has since been amended by SFAS 100 (FASB, 1988), which deferred the required adoption date until December 15, 1989, SFAS 103 (FASB, 1989), which deferred the required adoption date until December 15, 1991, SFAS 108 (FASB, 1991), which deferred the adoption date until December 15, 1992, and superseded by SFAS 109 (FASB, 1992). Reversion back to methods used prior to SFAS 96 by early adopters was not permitted. Retroactive restatement for firms adopting SFAS 96 was voluntary. If firms chose not to restate, then the

cumulative effect treatment was required.

Sample Selection

The NAARS database was used to obtain the sample. For all firms in the sample, the footnote description of the accounting change was read to ascertain which year the firm adopted the new method and whether the effect of the change was material. In addition, the audit opinions of the firms were checked for any other qualifications (i.e., consistency, GAAP, or disclaimer). Firms with other qualifications or an immaterial effect from the accounting change (as defined on in the financial statements) were eliminated. Firms with other accounting changes in the year before, of, or following the change to SFAS 96 were also eliminated to control for error related to those other changes.⁵

The I/B/E/S tapes were used to obtain the analysts' mean forecasts for the sample firms. Not all of the firms in NAARS have forecasts listed in I/B/E/S, which resulted in a reduction of sample size due to the unavailability of data. In addition to forecasts, I/B/E/S was used to obtain actual EPS, the number of analysts making forecasts, and the standard deviation of those forecasts. Table 1 shows the breakdown for the sample firms adopting SFAS 96.

Model

McEwen (1989) showed that the ex ante choice of an error metric assumes a loss function

TABLE 1
Sample Summary Statistics

Presentation Method	NAARS Firms Adopting	No Other Changes*	Sufficient I/B/E/S Data
Restatement	133 (26%)	91 (27%)	39 (22%)
Cumulative Effect	376 (74%)	248 (73%)	139 (78%)
Total	509	339	178

* No other accounting changes in three year period.

for the user of the forecast. Because each individual user's loss function cannot be known, it is the task of the researcher to choose the error metric that best generalizes. Percentage error is the percentage difference between the mean analysts' forecast and the firm's actual EPS. This error metric is preferable to absolute error, because it deflates the error by the firms' EPS and thus adjusts all errors to the same scale (Christie, 1987)

Absolute percentage error (APE) has been widely used (Conroy and Harris, 1987; Brown, 1983; Collins and Hopwood, 1980; Chan, 1980), but disregards any information that may be contained in the direction of the forecast error. The use of absolute value operators implies that the magnitude of an error is more important than its direction.

Absolute percentage error was calculated using the following formula:

$$APE_{i,t} = |(A_{i,t} - F_{i,t}) / A_{i,t}|$$

Where:

$A_{i,t}$ = the actual EPS reported of firm i in period t

$F_{i,t}$ = the mean monthly forecast of year-end EPS of firm i in period t

Prior research investigating forecast accuracy has used nonparametric statistics, because forecast errors are not normally distributed. To test hypotheses about variables other than forecast error, these studies (e.g. Elliott and Philbrick, 1990; Conroy and Harris, 1987) have converted continuous covariates to categorical variables, but this method provides weaker results.⁶ There are several techniques that address this non-normality problem. Among them are the deletion of outliers (Hughes and Ricks, 1987), setting outliers to a predetermined level (Collins and Hopwood, 1980), or transforming the non-normal variable(s).

Box and Cox (1964) recommend power

transformations for non-normal dependent variables in standard linear models. Power transformations have the effect of stretching and contracting the scale on which the dependent variable is measured depending on which portion of the scale the variable falls. For example, as a value increases, log transformations increasingly contract the scale. This means that large forecast errors that might otherwise be outliers fall within acceptable limits. All of this can be accomplished without any loss of interpretability (Judd and McClelland, 1989).

Cheng et al. (1992) demonstrated that transformations are effective in reducing specification error when analysts' forecasts are used in earnings expectation models (e.g. CAR). Furthermore, the authors suggest that rank transformations are as effective and simpler than power transformations. The analysis in this paper was done using both a rank and a natural log transformed APE.⁷ The results of the two analyses were almost identical, with the rank transformation producing a slightly more powerful model (as measured by model F and adjusted R^2). However, the log transformation was more effective in normalizing regression residuals. Therefore, only the results using the log transformation are given. The dependent variable, log of the absolute percentage error, is designated LAPE.⁸

The comparison between the different accounting treatments was done by means of orthogonal polynomial contrast coded independent variables (Judd and McClelland, 1989). For the comparison between cumulative effect and restatement only one variable was necessary (CUMRES), which was coded 1 or -1.

With a regression model, variables that were tested categorically in prior research can now be included as continuous variables. Both Elliott and Philbrick (1990) and Conroy and Harris (1987) categorically demonstrated that mean forecast accuracy is higher for larger numbers of analysts. Including the number of analysts (NUMBER) as a covariate controls for cov-

erage differences and can also be used as a proxy for size, because larger firms generally have more analysts' coverage than smaller firms (Lobo and Mahmoud, 1989).

Conroy and Harris (1987) found that mean forecast error was greater when dispersion of analysts' forecasts was greater. Therefore the standard deviation of analysts' forecasts (STD.DEV.) was included in the model to control for any confounding effects of uncertainty surrounding forecasts.

In Elliott and Philbrick's (1990) sample, companies that disclosed changes in the *Wall Street Journal* (WSJ) prior to the financial statement dates had larger income effects from the changes but lower forecast error. The *Wall Street Journal* is one of many sources that analysts may use to obtain information about companies that they follow. Prior knowledge of a change in accounting method should help an analyst forecast the effects of that change. The variable, while imperfect as a measure of prior knowledge, was included to control for any advantages that analysts have obtained.

The full text of the *Wall Street Journal* was searched by using Dow Jones News/ Retrieval. Thirty-three percent of the sample firms had prior disclosure of the accounting change in either an earnings announcement or an article. That percentage was much higher for cumulative effect firms, because cumulative effects appear in income statements (and, thus in quarterly earnings announcements).⁹ From an information dissemination perspective, that is an advantage for cumulative effect. Prior disclosure was treated as a discrete variable.

The adoption year (YEAR) was included to determine if there was a learning effect over the years that a new method was adopted. For example, SFAS 96 was first required and adopted in 1987 and was still being adopted in 1991 due to implementation delays. One might assume that analysts could learn to adjust their forecasts for the effects of SFAS 96 after having

experience with those effects over a period of time. This variable was treated as continuous and coded in years relative to the required adoption date.¹⁰

The full model includes:

$$\text{LAPE}_{i,t} = B_0 + B_1 \text{CUMRES} + B_2 \text{NUMBER}_{i,t} + B_3 \text{STD.DEV.}_{i,t} + B_4 \text{YEAR} + B_5 \text{WSJ}$$

Where:

$\text{LAPE}_{i,t}$ = the natural log of the mean absolute percentage error.

CUMRES = contrast codes to compare two presentation methods.

$\text{NUMBER}_{i,t}$ = the number of analysts forecasting firm i in period t .

$\text{STD.DEV.}_{i,t}$ = the standard deviation of the analysts' mean forecast for firm i in period t .

YEAR = the year relative the first required year of adoption.

WSJ = prior disclosure in the *Wall Street Journal*.

Each firm had to have forecast data available for the two year window around the accounting change to be included in the sample.

Elliott and Philbrick (1990) used the last forecast made before the actual earnings announcement in calculating their error statistic. O'Brien (1990) felt that mid-year forecasts were more comparable, and Brown (1983) used the first quarterly forecast. The choice of forecast horizon may depend on what is being studied. Elliott and Philbrick (1990) compared forecast accuracy in the change year to either the year before or the year after the change looking for a change year difference. O'Brien (1990) compared the accuracy of individuals. Brown (1983) compared accuracy in the year following the change to the year before, and found some change specific effects. Precedent does not seem to dictate exactly which forecasts to use.

This study used the last forecast of the

change year and all of the monthly forecasts for the first year following the change. All of the forecasts in the year after the change year were used to determine if one method of presenting the change offered the analysts an advantage in forecasting future earnings.

Results

Table 2 lists the means and standard deviations of the APEs segmented by presentation method for each of the thirteen analysis periods. While there is a general trend of reduction of both mean and standard deviation as the earnings announcement nears, the data are erratic and indicate that there are many extreme observations.

method was adopted. Table 3 shows the signed T statistics and significance levels for the independent variables in the regression equation and the model F statistics and significance levels.¹¹ When a dependent variable is in natural log form, the more negative the dependent variable is, the closer it is to zero (e.g. $\ln .01 = -4.61$). Therefore, a negative coefficient for the number of analysts means that the greater the number, the lower the error. A positive coefficient for the standard deviation means that the greater the dispersion of forecasts, the higher the error. For the coded variables, the sign of the coefficients must be compared to the sign of the codes (listed below the table). For example, a positive coefficient for the variable CUMRES indicates that an

accounting change presentation using restatement (coded -1) results in a lower forecast error than cumulative effect (coded 1).

The model tends to explain better as the earnings announcement nears as measured by the F statistics and adjusted R-squares listed in Table 3. The model performs best for the final forecast of the year following the change (Month 12,

$F = 9.545$, $\text{Adj. } R^2 = .221$), which seems to indicate that there is an accounting change year effect on accuracy on the final forecast of the change year (Month 0, $F = 4.398$, $\text{Adj. } R^2 = .090$). The model predicts less accurately the further away the announcement date as indicated

Table 2
Absolute Percentage Error Sample Means

	Cumulative Effect			Retroactive Restatement		
	Number	Mean	Std. Dev.	Number	Mean	Std. Dev.
Month 0	134	0.465	0.972	39	0.729	2.033
Month 1	136	1.140	3.303	39	1.102	2.548
Month 2	136	1.091	3.050	39	1.059	2.509
Month 3	136	1.042	2.838	39	1.021	2.497
Month 4	137	1.018	2.629	39	0.971	2.523
Month 5	137	0.973	2.495	39	0.966	2.559
Month 6	137	0.922	2.476	38	0.501	0.753
Month 7	138	0.816	2.107	37	0.450	0.768
Month 8	138	0.749	1.909	37	0.437	0.759
Month 9	139	0.611	1.563	38	0.684	2.068
Month 10	139	0.458	0.959	38	0.358	0.730
Month 11	138	0.435	0.897	35	0.295	0.719
Month 12	122	0.688	3.257	30	0.145	0.232

Month 0 = Last forecast of change year

Number = number of firms analyzed in period (unequal due to deletion of outliers or missing data)

Cumulative Effect = SFAS 96 firms using cumulative effect to present the accounting change

Retroactive Restate = SFAS 96 firms using retroactive restatement to present the accounting change

The full statistical comparison of the two methods was done using a multiple regression that included the number of analysts, dispersion of forecasts (standard deviation), prior disclosure in the *Wall Street Journal*, and the year the new

Table 3
Regression Results

Variable	Month 0		Month 1		Month 2		Month 3		Month 4		Month 5		Month 6	
	T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.
CUMRES	-0.015	0.988	-1.314	0.191	-0.560	0.576	-0.560	0.576	-0.036	0.972	-0.121	0.904	0.583	0.561
NUMBER	-2.129	0.035	-1.492	0.138	-2.290	0.023	-2.625	0.010	-2.813	0.006	-2.794	0.006	-3.849	0.000
STD.DEV.	4.063	0.000	0.352	0.725	1.179	0.240	1.561	0.121	1.746	0.083	1.837	0.068	2.659	0.009
YEAR	-1.918	0.057	0.652	0.516	0.160	0.873	0.452	0.652	0.445	0.657	0.055	0.956	-0.376	0.707
WSJ	-0.857	0.393	-1.337	0.183	-0.797	0.426	-0.442	0.659	-0.301	0.764	-0.488	0.626	-0.533	0.595
Model F	4.398	0.001	1.205	0.309	1.295	0.268	1.666	0.146	1.859	0.104	1.850	0.106	3.436	0.006
Adj. R Square	0.090		0.006		0.008		0.019		0.024		0.024		0.065	
Variable	Month 7		Month 8		Month 9		Month 10		Month 11		Month 12			
	T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.	T	Sig.
CUMRES	0.763	0.446	0.612	0.542	0.105	0.916	0.025	0.980	0.698	0.486	1.833	0.069		
NUMBER	-4.180	0.000	-4.079	0.000	-3.443	0.001	-4.731	0.000	-4.126	0.000	-5.103	0.000		
STD.DEV.	2.973	0.003	2.818	0.005	3.645	0.001	2.944	0.004	3.306	0.001	5.304	0.000		
YEAR	-0.208	0.835	0.314	0.754	-0.493	0.623	-1.091	0.277	-1.022	0.308	0.584	0.721		
WSJ	-0.448	0.654	-0.172	0.864	-0.480	0.632	-0.628	0.531	-0.188	0.851	-1.101	0.396		
Model F	4.144	0.001	3.918	0.002	4.053	0.002	5.308	0.000	4.684	0.001	9.545	0.000		
Adj. R Square	0.083		0.077		0.080		0.109		0.097		0.221			

CUMRES = Coded Variable to compare cumulative effect (1) with restatement (-1)

NUMBER = Number of analysts

STD. DEV. = standard deviation of analysts' mean forecasts

YEAR = year relative to required adoption date of new standard (i.e. 1 = 12/15/87 to 12/14/88, 2 = 12/15/88 to 12/14/89)

WSJ = Prior disclosure in the Wall Street Journal (Yes = 1, No = 0)

by the trend in F statistics and adjusted R-squares from Month 1 to Month 12.

CUMRES compared cumulative effect to restatement. This variable was not statistically significant at the .05 level in any period, but was significant at the .10 level in Month 12. In Month 12 firms that chose the restatement method had moderately less forecast error than firms that chose cumulative effect after controlling for covariates. While this is consistent with predictions, probably not too much meaning can be attached to this one result when compared to the lack of significance in the previous eleven periods. However, it does indicate that the choice of forecast period can influence results.

In all but three periods the variable for the number of analysts (NUMBER) was significantly correlated with forecast accuracy at the .01 level or greater. In two months the variable was significant at the .05 level, and it was not significant in Month 1. In all periods where significant, accuracy increased with the number of analysts making forecasts. These results are consistent with the categorical tests of this variable, and indicate that either analysts are better as a group or larger firms (with more coverage and more information available) are easier to forecast. This variable does not appear to be particularly sensitive to forecast horizon.

The dispersion of analysts forecasts was significantly correlated with forecast accuracy in eight periods at the .01 or greater level. It was not statistically significant at the .05 level in the other five periods (Months 1-5). In those periods where it was significant, forecast accuracy decreased as the dispersion around the mean forecast increased. This seems to indicate that the mean forecast is a good predictor of actual EPS as long as there is a reasonable consensus among analysts. This appears to be more evident as the earnings announcement horizon (and the dispersion of forecasts) decreases.

The coded variable for prior disclosure in the *Wall Street Journal* (WSJ) was not statisti-

cally significant at any level in any period.¹² While not significant, the sign of the coefficient in every period indicated that prior disclosure was in the same direction as decreased forecast accuracy.

The variable for year of adoption (YEAR) was statistically significant (at the .057 level) only in Month 0. The sign of the coefficient indicates that analysts' forecast accuracy improved in the years following the initial release of the statement. If this variable had been significant in the year following the accounting change, then one could assume analysts were learning to adjust for the effects of SFAS 96 on adopters from experience. Given that Month 0 is the last forecast of the adoption year, it is difficult to argue that there is any learning, especially when analysts are forecasting earnings before discontinued, extraordinary, and cumulative effect items. A more likely explanation may be that there is a difference between those firms that adopted SFAS 96 in the first allowable year and those that adopted in later years that makes forecasting their earnings more difficult.

Summary

The central focus of the research was to determine if analysts' forecast accuracy in the period following an accounting change was affected by the presentation of the change. This was not demonstrated to be the case. Quite the contrary, the analysis of forecasts of firms using either restatement or cumulative effect in adopting SFAS 96 only showed a weak difference in one of twelve post-change periods studied. One could only conclude that, as measured by forecast accuracy in this one instance, restating financial statements does not appear to be a superior way of presenting an accounting change when compared to the cumulative effect method.

This research extends prior studies that looked at variables that influence forecast accuracy. The number of financial analysts covering a firm is strongly positively correlated with the accuracy of their mean forecasts. This relation-

ship tends to remain constant regardless of forecast horizon. Also, the dispersion around analysts' mean forecasts is strongly negatively correlated with forecast accuracy in periods close to the earnings announcement. Because of their high explanatory power, these results demonstrate the need to control for these two factors in any studies that use analysts' forecast accuracy.

It was weakly demonstrated that analysts' adoption-year forecast accuracy improved in the years following the original pronouncement of an accounting change. This is probably best interpreted as an indication of a difference between early adopters and later adopters that makes forecasting their earnings more difficult. Surprisingly, prior disclosure in the *Wall Street Journal* did not seem to affect forecast accuracy. This result is contrary to the findings of Elliott and Philbrick (1990) and Biddle and Ricks (1988).

Overall, this study demonstrated, through the use of variable transformations, that parametric methods can be used to make comparisons that have been made previously almost exclusively using nonparametric statistics. Transformations effectively address the problem of error non-normality that has necessitated the use of nonparametric statistics in prior studies. The parametric model is more comprehensive, because several variables can be included to control for alternative explanations of forecast accuracy and to test other hypotheses of interest.

The main limitation of the study was the focus on only one accounting change. Ideally the comparison would have been made using all of the mandated accounting changes instead of the most current. Using all of the mandated changes would have allowed for the inclusion of all standards that allow more than one presentation method, and a between standards comparison of all changes that allow only one method. Any generalizations that can be made from this study will be limited by the sample size. However, given the data that was available, the study was as comprehensive as was possible.

Suggestions For Future Research

This study demonstrated that the presentation of a specific mandated accounting change did not affect financial analysts' forecast accuracy in the year following the change. One possible way to extend this research would be to include more accounting changes. This could be done by studying a new accounting change that allows for two presentation methods, or by comparing across several accounting changes. If accounting method-specific difference could be controlled for, then accounting changes that only allow one presentation method could be compared. In that situation, firms would not be able to self-select into a presentation method. From the findings above, there is no reason to assume that extending the research to include more changes would alter the results.

Endnotes

1. SFAS No. 5, *Accounting for Contingencies* (FASB 1975), required the cumulative effect treatment, but was later modified to require restatement by SFAS No. 11, *Accounting for Contingencies - Transition Method* (FASB 1975). SFAS 115, *Accounting for Certain Investments in Debt and Equity Securities* (FASB 1993) required cumulative effect, and several other mandated changes have offered cumulative effect as an option (e.g. SFAS 109, 96, 92, 90, 71, 65, 63, 61, 60, 48, 43).
2. Certain mandated changes did not require (e.g. SFAS 96, 109) or allow (e.g. SFAS 115) pro forma amounts.
3. Given that the prospective method is only required when neither restatement nor cumulative effect is practicable, the only true alternatives are the later two. Therefore, the prospective method is not a true choice alternative, but rather a default when the other two methods cannot be applied. This research, out of necessity, only investigates the differences between the two true choices.
4. Both SFAS 90, *Regulated Enterprises* -

Accounting for Abandonments and Disallowances of Plant Costs (FASB 1986), and SFAS 91, *Accounting for Nonrefundable Fees and Costs Associated with Originating or Acquiring Loans and Initial Direct Costs of Leases*, (FASB 1986) allowed two presentation methods. However, there were insufficient numbers of firms adopting either method in the NAARS database for those firms to be analyzed.

5. The one exception to this rule was SFAS 95, *Statement of Cash Flows*. This change was allowed for three reasons. First, SFAS 95 had no impact on income. Because earnings were being forecast, changes that did not affect earnings were assumed to have no impact on forecast accuracy. Second, the financial statement treatment for disclosing the change was inconsistent. In many cases firms adopted the new method but did not disclose the change in their audit opinion. Trying to identify the firms adopting would have been very difficult. Third, the change was so prevalent that, if it had been used to disqualify firms, the sample size would have been prohibitively small.
6. For example, Elliott and Philbrick (1990) segmented their sample into low coverage (less than five analysts) and high coverage to test for differences. This converts a robust continuous variable into a much weaker (and, as the authors admitted) arbitrary categorical variable.
7. The residual histograms of the untransformed variables were extremely leptokurtic, and included some excessive observations (e.g. 10,900 and 9,900 percent error). Kolmogorov-Smirnov tests for normality indicated the probability that the residuals were normal was less than 0.001 in every period.
8. Log transformations cannot be performed on zero or negative numbers. The absolute value (APE) eliminated the negative errors, and .01 was added to each data point to allow for the inclusion of zeroes (Mosteller and Tukey 1977). While the

log transformation normalized the distribution and drastically reduced the number of outliers, it did not completely eliminate outliers. Therefore, all outliers that were indicated by the regression analysis (residual > 3 standard deviations) were deleted. For the analysis this resulted in the elimination of 26 of 2457 observations (1.1%). Twenty of those were forecasts for three firms.

9. For the sample, fifty-nine percent of the firms using the cumulative effect method for SFAS 96 in the period following the original pronouncement (SFAS 96 was pronounced late in 1987) had prior disclosure, while 18 percent of the restatement firms in the same period had prior disclosure.
10. Eighty-three firms (coded 1: 67 cumulative effect, 16 restatement) adopted in 1987/88, 60 firms (coded 2: 45 cumulative effect, 15 restatement) adopted in 1988/89, and 35 firms (coded 3: 27 cumulative effect, 8 restatement) adopted in 1989/90.
11. The sign of the regression coefficients (sign of the T statistic) was provided rather than the number. Because of differences in scale, the direction of change is easier to interpret than the magnitude of change when using logs.
12. The variable for prior disclosure in the *Wall Street Journal* was not included in the regression for Month -12, because it did not make sense. Disclosure came in the year following Month -12, so it does not follow that the event of disclosure could somehow have a retroactive effect on the prior year.

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