

The Value–Relevance Of The Cumulative Effect Reporting Method: Some Evidence In Support Of FAS 154

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ABSTRACT

The Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 154 (FAS 154), Accounting Changes and Error Corrections—a replacement of APB Opinion No. 20 and FASB Statement No. 3 (FASB 2005). The retrospective application reporting method of FAS 154 is a significant departure from the cumulative effect method of its predecessor standard, Accounting Principles Board Opinion No. 20 (APB No. 20) (AICPA 1971). This study examines the value relevance of the cumulative effect reporting method used a priori FAS 154. The results indicate that for most years the cumulative effect was not a significant variable in explaining the market value of a firm and there was inconsistency in the sign and size of the coefficient. Accordingly, these results suggest that FAS 154, aside from its other merits, eliminated from financial statements accounting information that was not relevant, thus providing support for the issuance of FAS 154.

1. INTRODUCTION

In May 2005 the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 154 (FAS 154), *Accounting Changes and Error Corrections—a replacement of APB Opinion No. 20 and FASB Statement No. 3* (FASB 2005). FAS 154 is a significant departure from its predecessor standard, Accounting Principles Board Opinion No. 20 (APB No. 20) (AICPA 1971) and FASB Statement No. 3 (FAS 3) (FASB 1974). A motive for the issuance of FAS 154 by the FASB was a joint convergence effort with the International Accounting Standards Committee (IASC) to minimize the differences between U.S. accounting standards and international accounting standards. FAS 154 requires that changes in accounting principle be accounted for by “retrospective application,” where the effects of the change are reflected in the annual report by restating the prior years’ financial statements presented in the annual report as if the newly adopted accounting policy had been in effect during those prior years (FASB 2005). Thus, the effects of the change in accounting method ripple through the amounts on the prior years’ financial statements presented in the annual report. The current year and future years’ financial statements are reported prospectively in the body of the financial statements with no obvious evidence of a change in accounting principle, except for footnote disclosures of the accounting change.¹

Prior to FAS 154, from 1971 until 2005, most changes in accounting principles required reporting in the year the accounting change took place the ‘cumulative effect gain or loss on prior years of a change in accounting principle’ (here in “cumulative effect”). The cumulative effect was a retroactive application of a new accounting method reported as a special net-of-tax amount on the income statement shown below income from continuing operations. It captured the cumulative effect the accounting change would have had on earnings in all years prior to the year the accounting change took place. The end result of the cumulative effect method of reporting was that the cumulative expenses (or revenues) that would otherwise escape earnings recognition as a result of a change in accounting method would instead be recognized in earnings in the year a change in accounting principle took place.

Thus, aside from specific exceptions, an entity would not avoid recognition of a material amount of expense or revenue by most changes in accounting methods.²

The issuance of FAS 154 eliminated the cumulative effect as a component of earnings.³ This raises the question as to whether the cumulative effect method of reporting *a priori* FAS 154 provided useful information to investors and creditors. Other articles have provided technical guidance on the implementation of FAS 154 and have explained the convergence effort, topics outside the focus of this paper. However, this study investigates whether the cumulative effect previously reported as a component of earnings provided value relevant information. To provide evidence inferring the presence of value relevance we estimate both pooled and annual regression equations for the years 1988 to 2005. We assume value relevance is present if a variable measuring the cumulative effect is a significant coefficient in a regression of the book value of assets, liabilities, income and cumulative effect to the market value of an entity's equity.

While FAS 154 has been issued and is not likely to be rescinded, an investigation of a reporting method, even one recently superseded, can provide contributions to accounting research. First, a qualitative characteristic of useful accounting information is *relevance* (FASB 1980, FAC No. 2). Evidence of value relevance, or lack thereof, in regard to the cumulative effect measures the presence or absence of a qualitative characteristic of accounting method, relevance, which should be of interest to accounting regulators and academics. Evidence of the extent or absence of value relevance of the cumulative effect also provides an assessment of the decision to eliminate cumulative effect by FAS 154. Second, an investigation of investors' perceptions is generally helpful and the findings contribute to accounting research literature. Third, the findings of any investigation can reveal issues suitable for future research.

This study examines the value relevance of the cumulative effect reporting method used *a priori* FAS 154 to determine if the reported amount was reflected in the market value of a firm's equity. The results in this study indicate that for most years the variable for cumulative effect was not significant and thus not a significant explanatory variable in explaining the market value of a firm. In addition, there was inconsistency in the sign and size of the coefficient. Accordingly, these results suggest that the elimination of the cumulative effect gain or loss reporting method did not eliminate value relevant information, thus providing indirect evidence in support of the issuance of FAS 154.

Previous studies on accounting changes, the source of cumulative effect gain or loss is discussed next, followed by the research design and the data collection section. Lastly, the results and the conclusion are presented.

2. PREVIOUS RESEARCH

Our study contributes to accounting research by investigating the value relevance of the cumulative effect amount reported as a component of earnings as a result of a change in accounting principle. This reporting method was used for over three decades. Previous studies did not investigate the value relevance of cumulative effect of accounting changes.⁴ Most prior research focuses on the stock market reaction or behavior to the announcement of an accounting change. For instance, Abdel-Khalik and McKeown (1978) incorporated earnings expectations into an explanatory model of the equity security market's response to announcements of a discretionary accounting policy change. Harrison (1977) notes that both discretionary and nondiscretionary accounting changes that increase net income are associated with concurrent and unique stock market behavior, however, the negative return differences for discretionary changes, contrasted with positive return differences for nondiscretionary changes, suggest that the discretion available to management in making the accounting changes possesses information content.

Moore, Atkinson, and Nix (2003) make argument for eliminating the cumulative effect adjustment because it could be misleading to users. For example, some cumulative effects are not in the income statement but rather are carried directly to retained earnings as an adjustment to the beginning balance. Several exceptions are mentioned (e.g., change from the LIFO method on inventory pricing, change in the method of accounting for long-term construction contracts, change to or from the full cost method in the extractive industries, change to the equity method of accounting for investments, etc.).

Ricks and Hughes (1985) examined the market's reaction to a change from the cost to the equity method of accounting for long-term investments. They argued that there were two major weaknesses of Harrison (1977) paper: 1) there may be other events which cause adjustments of the market's expectations regarding the impact of an accounting change (for example, the market may react at times when an impending change is proposed, revised, approved, or enacted (e.g. Lev (1979), Pfeiffer (1980), Smith (1981), Hughes and Ricks (1984))), 2) decrease in statistical power which results from using lengthy time periods to test for market reactions (Brown and Warner (1980)). Solution: identify the dates when specific public disclosures of events related to the change are made and then to examine price behavior near to those dates (Binder (1983), Schipper and Thompson (1983)). Results: evidence to support the view that earnings adjustments precipitated by the change contained new information, however, no market reaction was detected in weeks containing public announcements leading up to and including the APB's adoption of the change.

Chung, Park, and Ro (1996) examined whether the direction of voluntary accounting method changes for inventory, depreciation, and investment tax credit has a stock price implication. Direction of accounting changes in each area is defined relative to the most commonly-used accounting practices by industry. Results show that the abnormal stock returns of the sample firms around the accounting change announcements are, on average, positive for the accounting changes away from the common accounting practices in the selected areas and negative for the accounting changes towards the practices. Evidence suggests that the direction of voluntary accounting changes relative to the common accounting practices has a stock price implication, and that the uniformity of accounting rules across all firms may limit investors' access to some firm-specific info.

Other prior research on voluntary accounting changes indicated that voluntary accounting changes can affect stock price if they affect future cash flows via, for example, taxes (e.g., Morse and Richardson 1983; Biddle and Lindahl 1982; Johnson and Dhaliwal 1988) or contracting/monitoring (Holthausen and Leftwich 1983). Stock prices might also be affected if voluntary accounting changes affect the precision of information (Verrecchia 1982; Holthausen and Verrecchia 1990).

While the above studies provided insights into the stock market reaction to announcements of accounting changes, our study adds to the research literature by exploring the value relevance of the cumulative effect reporting method as previously used. In addition, the specific research question and methodology of this study is different from prior studies.

3. RESEARCH DESIGN

The cumulative effect gain or loss of a change in accounting principle was reported as a component of earnings on the income statement prior to the issuance of FAS 154. A valid research issue is to investigate whether the cumulative effect, since eliminated by FAS 154, provided value relevant information associated with the market value of an entity's equity. To provide evidence concerning the value relevance of the cumulative effect we estimate pooled and annual regressions that measure the association of accounting measurements of assets, liabilities, income and the cumulative effect to market value of an entity's equity.

We choose a research design that employs an established valuation model to test the value relevance of the cumulative effect gain or loss due to a change in accounting principle. Barth, Beaver and Landsman (2001) addressed the merits of value relevance studies and cite numerous examples of value relevance studies that have been published in premier accounting journals. Moreover, Barth et al. (2001) defended this methodology as providing results useful for forming inferences that are of interest to accounting standard setters. Some recent value relevance studies employing a methodology similar to our study include Henning et al. (2000), Hughes (2000), and Ahmed et al. (2006). Our study adds to this segment of the accounting literature.

An early use of this methodology by Landsman (1986) established that elements of the balance sheet are significant explanatory variables in the market value of a firm's equity:

$$MVE = \alpha + \beta_1 ASSET + \beta_2 LIAB + \lambda \tag{1}$$

ASSET is the book value of the firm’s assets and LIAB is the book value of the firm’s liabilities, both at fiscal year-end. The dependent variable, MVE, is the market value of a firm’s equity, i.e., common stock, also at fiscal year-end.

Barth, Beaver, and Landsman (1993) included only income statement items in a model to explain the market value of a firm’s equity. However, Olson (1995) showed that the market value of a firm’s equity might be explained better by a model that includes both balance sheet elements and a measure of firm earnings:

$$MVE = \alpha + \beta_1 ASSET + \beta_2 LIAB + \beta_4 NI + \lambda \tag{2}$$

In this study NI is the firm’s reported net income before extraordinary items. The use of an income measure before extra ordinary items, and before other non-operating adjustments, seems appropriate since this particular earnings measure does not include the cumulative effect adjustment, one of the independent variables in the study. It appears appropriate not to include one of the independent variables within another independent variable.

Building upon model (2) we add ACCHG, which is the cumulative effect of a change in accounting principle by the firm during the fiscal year:

$$MVE = \alpha + \beta_1 ASSET + \beta_2 LIAB + \beta_4 NI + \beta_5 ACCHG + \lambda \tag{3}$$

To address heteroskedasticity the amounts for the above variables are deflated by the number of shares outstanding (Annual Compustat data item #25) at fiscal year-end. The expectation for the independent variables is that the ASSET, NI, and ACCHG variables will be significantly positive and the LIAB variable will be significantly negative. To mitigate possible multicollinearity between ASSET and LIAB these two variables are also collapsed into a single variable, BVE, the book value of equity:

$$MVE = \alpha + \beta_3 BVE + \beta_4 NI + \beta_5 ACCHG + \lambda \tag{4}$$

The models used in this study are not intended to specify all explanatory variables of the market value of an entity’s equity. Both Landsman (1986) and Olson (1995) concluded that there are other explanatory factors and possible measurement error that determine a firm’s market value. Thus a significant intercept is presumed. However, meaningful results have been found in other studies examining other issues employing the methodology used in this study.

4. DATA COLLECTION

The data collection for this study consists of firms which reported a cumulative effect gain or loss for the fiscal years 1988 through 2005. Our study includes all firms that reported a non-zero cumulative effect in Annual Compustat (data item #183). Other variables in the study include: Market Value of Equity (MVE, reported as data item #199), Total Assets (ASSET, reported as data item #6 over data item #25), Total Liabilities (LIAB, reported as data item #181 over data item #25), and Book Value of Equity (BVE, reported as ASSET minus LIAB). Firms in the banking and regulated industries were excluded. The firms included in the statistical tests were those firms which met the data requirements of the models mentioned above.

5. RESULTS

Table 1 presents descriptive statistics for the variables used in the study, consolidated for firm years 1988 through 2005. The ACCHG variable shows, “Accounting Changes – Cumulative Effect” in Table 1, ranges from negative to positive due to the fact that ACCHG consists of both losses and gains, which is expected. Income before extraordinary items, NI, is positive because the models used in this study presume that MVE, market value of equity, responds to positive earnings and not negative earnings. Further, Book Value of Equity, BVE, is positive since when we combine ASSET and LIAB we restrict our analysis only firm-years where the BVE is positive.

Table 1. Descriptive Statistics Results Pooled for 1988-2005.

Variables	N	Mean	Percentile								
			1st	5th	10th	25th	50th	75th	90th	95th	99th
MVE	4,114	28.6	1.1	2.8	4.3	8.9	18.1	31.9	49.0	61.1	97.0
ASSET	4,114	37.5	1.0	3.0	4.7	9.6	18.8	36.5	65.5	93.2	193.9
LIAB	4,111	23.2	0.2	0.8	1.3	3.6	9.7	22.5	44.0	65.9	151.7
BE	4,051	14.6	0.4	1.4	2.4	4.8	8.3	14.2	22.9	30.2	58.0
NI	4,114	1.60	0.01	0.07	0.15	0.41	0.97	1.76	2.94	4.00	7.54
ACCHG	3,177	-0.44	-7.92	-2.60	-1.18	-0.24	-0.03	0.05	0.23	0.44	1.35

Table 2 shows the correlation coefficients of the variables. The Pearson (Spearman) correlations are below (above) the diagonal. As expected, there is a high positive correlation between most of the variables. However, in both correlations the ACCHG, “Accounting Changes – Cumulative Effect” in Table 2, is negatively correlate to other variables, which is not expected. The correlation results for Accounting Changes – Cumulative Effect presages the regression results discussed later.

Table 2. Pearson and Spearman Correlations.

Pearson correlations are below the diagonal and Spearman correlations are above the diagonal. N = 3,122. P-values are reported in parentheses.

Variables	MVE	ASSET	LIAB	BVE	NI	ACCHG
MVE	1.000 -	0.629 (0.00)	0.544 (0.00)	0.675 (0.00)	0.728 (0.00)	-0.180 (0.00)
ASSET	0.930 (0.00)	1.000 -	0.958 (0.00)	0.842 (0.00)	0.606 (0.00)	-0.202 (0.00)
LIAB	0.846 (0.00)	0.982 (0.00)	1.000 -	0.680 (0.00)	0.531 (0.00)	-0.209 (0.00)
BVE	0.982 (0.00)	0.979 (0.00)	0.923 (0.00)	1.000 -	0.627 (0.00)	-0.145 (0.00)
NI	0.987 (0.00)	0.954 (0.00)	0.886 (0.00)	0.988 (0.00)	1.000 -	-0.145 (0.00)
ACCHG	-0.467 (0.00)	-0.428 (0.00)	-0.386 (0.00)	-0.455 (0.00)	-0.472 (0.00)	1.000 -

Table 3 shows the results of four regression models based on the equations discussed in the methodology section of the paper. The results are pooled for all years under study, 1988 – 2005. To control for lack of independence of firm data through time we used the clustering method recommended by Peterson (2009). The coefficients are significant at the <.001 level and the signs are in the predicted direction for ASSET, LIAB, and NI. It is expected that LIAB would show a negative sign, which it does. However, the variable of primary interest in this study, ACCHG, is not significant. It is negatively correlated to MVE, consistent with the findings in the correlation coefficients found in Table 2.

Table 3. Regression Results Pooled for 1988-2005.

Model 1: $MVE = \alpha + \beta_1*ASSET + \beta_2*LIAB + \beta_4*NI + \lambda$

Model 2: $MVE = \alpha + \beta_1*ASSET + \beta_2*LIAB + \beta_4*NI + \beta_3*ACCHG + \lambda$

Model 3: $MVE = \alpha + \beta_3*BVE + \beta_4*NI + \lambda$

Model 4: $MVE = \alpha + \beta_3*BVE + \beta_4*NI + \beta_5*ACCHG + \lambda$

T-statistics are reported below the coefficient and statistical significance is denoted **, *, and + at the 0.01, 0.05, and 0.10 levels (two-tailed test), respectively. Robust standard errors that allow heteroscedasticity and dependence for observations for the same firm (cluster) are used to calculate t-statistics used the clustering method recommended by Peterson (2009).

Independent Variables	Dependent Variable is the Fiscal Year-End MVE			
	Model 1	Model 2	Model 3	Model 4
Intercept	2.6 *	3.2 *	-6.2	-7.6
	1.8	2.0	-1.3	-1.4
ASSET	1.57 ***	1.59 ***		
	8.6	8.0		
LIAB	-2.09 ***	-2.12 ***		
	-7.6	-7.3		
BVE			0.6	0.5
			0.8	0.7
NI	9.70 ***	9.53 ***	16.81 *	17.35 *
	4.0	3.7	1.8	1.8
ACCHG		-0.18		-0.68
		-0.2		-0.5
Adj. R-Square	0.988	0.989	0.975	0.976
N	4,111	3,174	4,051	3,122

However, estimating a regression for each individual year might reveal that the significance and sign of the coefficient changes over time or at least varies by year. The next table explores the regression models on an annual basis.

Table 4 presents the results for individual years from 1988 through 2005. Panel A, the top panel, shows the basic model which was described in the discussion of equation 2. The results show the basic model works as expected. ASSET and NI have positive coefficients and LIAB has a negative coefficient, the *ex ante* expectation. The coefficients for most years are significant at <.001 level.

Panel B, the lower panel, shows the results of equation 3 for each year. For most years, the results for ASSET, LIAB, and NI and are significant at the <.001 level and the signs are in the expected direction. ACCHG, Accounting Changes – Cumulative Effect, the variable of the greatest interest, is significant for only seven of the eighteen years at the <.001 level. The ACCHG variable fails to contribute significantly to the model in the majority of the years under study. Further casting doubt on the explanatory power of ACCHG is that in three of the seven years the coefficient is negative and is positive in the other four years. Thus, the results in Panel B do not, on balance, appear to provide evidence to suggest that ACCHG is value relevant.

Panel C shows a variation of the model in Panel A except the ASSET and LIAB are collapsed into a single variable, BVE. Again, this version of the basic model appears to work as expected with the signs of the coefficients in the expected direction for all years and significant for most years.

Panel D expands the model shown in Panel C to include ACCHG, Accounting Changes – Cumulative Effect. As found in Panel B the coefficient for ACCHG is significant in only seven of the eighteen years and is negative in three years and positive in four years. In addition, in Panel D and Panel B the size of the coefficient varied from large to small, though without any apparent pattern. Confirming the results of Panel B, the ACCHG variable does not provide evidence that the cumulative effect method of reporting provides value relevant information in most years.

Table 4. Regression Results on an Annual Basis for 1988-2005.

T-statistics are reported below the coefficient and statistical significance is denoted **, *, and + at the 0.01, 0.05, and 0.10 levels (two-tailed test), respectively.

Panel A -- Model 1: $MVE = \alpha + \beta_1*ASSET + \beta_2*LIAB + \beta_4*NI + \lambda$

Fiscal Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Independent Variables	Dependent Variable is the Fiscal Year-End MVE																	
Intercept	5.2 *** 7.4	6.3 *** 3.8	0.9 0.5	5.3 ** 2.1	6.1 *** 5.9	1.2 *** 2.8	4.5 *** 7.0	3.9 1.5	8.1 * 2.0	14.9 *** 3.3	7.6 *** 3.1	10.9 *** 5.3	9.8 *** 4.2	15.4 *** 9.2	-7.6 *** -4.3	2.7 0.8	13.9 *** 3.8	11.7 *** 4.9
ASSET	0.26 *** 3.8	0.59 *** 3.7	0.52 *** 3.0	0.69 *** 2.8	1.23 *** 17.3	1.27 *** 41.1	0.62 *** 9.7	1.29 *** 5.9	0.91 *** 8.7	0.28 0.8	0.10 0.5	0.35 1.4	0.97 *** 4.1	1.00 *** 7.9	2.35 *** 20.7	1.91 *** 10.9	0.77 ** 2.2	0.84 *** 5.3
LIAB	-0.30 *** -3.9	-0.63 *** -3.8	-0.55 ** -2.6	-0.78 *** -2.7	-1.38 *** -14.6	-1.24 *** -32.8	-0.56 *** -9.2	-1.46 *** -5.7	-0.85 *** -5.4	-0.06 -0.2	0.00 0.0	-0.41 -1.3	-1.20 *** -4.0	-0.99 *** -7.0	-2.47 *** -17.5	-2.71 *** -12.0	-0.77 * -1.8	-0.82 *** -4.0
NI	7.41 *** 14.0	7.49 *** 5.3	7.99 *** 6.7	10.71 *** 6.0	5.45 *** 11.8	7.58 *** 19.2	6.44 *** 12.8	7.00 *** 6.5	5.83 *** 3.1	8.42 *** 3.6	11.27 *** 5.8	6.43 *** 4.5	5.84 *** 4.8	1.15 1.3	2.02 *** 4.1	12.16 *** 8.3	3.50 ** 2.5	4.41 *** 6.4
Adj. R-Square	0.706	0.678	0.805	0.666	0.694	0.999	0.644	0.668	0.959	0.295	0.455	0.297	0.283	0.527	0.669	0.904	0.455	0.719
N	293	77	49	86	480	1,132	494	70	23	57	92	127	183	182	348	281	39	98

Panel B -- Model 2: $MVE = \alpha + \beta_1*ASSET + \beta_2*LIAB + \beta_4*NI + \beta_5*ACCHG + \lambda$

Fiscal Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Independent Variables	Dependent Variable is the Fiscal Year-End MVE																	
Intercept	5.1 *** 6.4	6.0 *** 3.7	1.6 0.8	5.9 ** 2.2	6.9 *** 5.8	0.7 1.1	4.0 *** 4.4	2.9 0.8	1.2 0.3	16.3 *** 3.4	7.6 *** 3.1	11.3 *** 5.6	10.0 *** 4.3	15.3 *** 8.8	-6.6 *** -3.6	5.5 * 1.8	14.1 *** 3.8	11.7 *** 4.9
ASSET	0.39 *** 3.7	0.39 ** 2.3	0.49 *** 2.7	0.68 *** 2.8	1.22 *** 15.8	1.24 *** 31.2	0.63 *** 8.1	1.37 *** 4.7	1.11 ** 4.5	0.20 0.6	0.10 0.5	0.47 * 1.9	0.99 *** 4.2	1.01 *** 7.9	2.35 *** 20.7	1.46 *** 8.6	0.71 * 1.9	0.86 *** 5.3
LIAB	-0.47 *** -4.1	-0.47 *** -2.8	-0.53 ** -2.5	-0.79 *** -2.7	-1.38 *** -12.9	-1.21 *** -25.2	-0.57 *** -7.6	-1.56 *** -4.6	-1.12 ** -2.8	0.04 0.1	0.00 0.0	-0.55 * -1.8	-1.20 *** -4.0	-0.99 *** -6.9	-2.44 *** -17.4	-2.09 *** -9.5	-0.70 -1.6	-0.84 *** -4.1
NI	6.96 *** 10.0	8.45 *** 6.0	7.79 *** 6.4	9.13 *** 4.6	5.38 *** 10.5	7.77 *** 15.2	5.86 *** 8.9	6.87 *** 4.9	10.09 *** 5.0	8.48 *** 3.6	11.27 *** 5.8	6.86 *** 4.8	5.66 *** 4.6	1.11 1.2	2.00 *** 4.1	12.78 *** 9.6	3.65 ** 2.5	4.34 *** 6.2
ACCHG	1.15 1.0	10.41 ** 2.6	2.18 0.9	-5.21 * -2.0	0.06 0.2	-0.79 ** -2.5	-0.93 -0.9	-2.54 -0.8	-11.54 *** -3.0	7.82 0.8	-0.21 -0.1	12.45 ** 2.2	3.65 1.0	-0.96 -0.3	0.86 ** 2.1	13.83 *** 7.6	-0.81 -0.6	0.81 0.8
Adj. R-Square	0.751	0.702	0.803	0.676	0.686	0.999	0.668	0.631	0.977	0.291	0.449	0.318	0.283	0.525	0.672	0.920	0.445	0.717
N	198	76	48	81	413	631	256	47	20	57	92	127	183	179	348	281	39	98

Table 4. continued

Panel C -- Model 3: $MVE = \alpha + \beta_3*BVE + \beta_4*NI + \lambda$

Fiscal Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Independent Variables	Dependent Variable is the Fiscal Year-End MVE																	
Intercept	4.8 *** 6.7	5.6 *** 3.2	2.6 1.5	5.2 ** 2.0	5.3 *** 5.1	0.9 ** 2.0	4.2 *** 6.6	7.0 *** 2.7	8.5 * 1.9	16.4 *** 3.5	8.1 *** 3.2	11.3 *** 5.3	11.6 *** 5.0	15.2 *** 9.6	-10.0 *** -5.7	-5.1 -1.2	13.9 *** 3.8	12.1 *** 5.3
BE	0.36 *** 4.2	0.64 *** 3.8	0.02 0.1	0.54 ** 2.5	1.05 *** 17.5	1.22 *** 38.3	0.71 *** 10.5	0.83 *** 4.6	1.00 *** 21.1	0.42 1.1	0.22 1.0	0.24 1.1	0.43 *** 3	1.05 *** 9	2.30 *** 22.2	-0.48 *** -5.1	0.78 ** 2.7	0.86 *** 6.1
NI	6.35 *** 10.7	6.82 *** 4.8	10.44 *** 8.8	10.77 *** 6.0	5.13 *** 11.0	8.61 *** 19.7	6.44 *** 13.3	5.62 *** 5.3	6.20 *** 3.3	9.00 *** 3.8	11.21 *** 5.7	6.17 *** 4.5	6.02 *** 4.7	0.96 1.0	1.75 *** 3.5	24.29 *** 14.6	3.49 ** 2.5	4.39 *** 6.3
Adj. R-Square	0.709	0.682	0.843	0.660	0.683	0.999	0.639	0.620	0.961	0.280	0.437	0.293	0.257	0.539	0.675	0.831	0.470	0.712
N	289	75	48	85	477	1,116	489	70	20	55	90	125	180	180	341	276	39	96

Panel D -- Model 4: $MVE = \alpha + \beta_3*BVE + \beta_4*NI + \beta_5*ACCHG + \lambda$

Fiscal Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Independent Variables	Dependent Variable is the Fiscal Year-End MVE																	
Intercept	5.5 *** 6.6	5.5 *** 3.2	3.8 * 1.9	5.6 ** 2.1	5.8 *** 4.9	0.2 0.3	3.7 *** 4.1	5.9 1.6	-0.8 -0.3	17.5 *** 3.5	8.1 *** 3.2	11.7 *** 5.6	11.4 *** 4.9	15.1 *** 9.2	-8.6 *** -4.8	2.4 0.7	14.1 *** 3.8	12.1 *** 5.3
BE	0.26 ** 2.4	0.51 *** 2.7	-0.07 -0.3	0.51 ** 2.3	1.07 *** 16.4	1.17 *** 28.1	0.74 *** 9.0	0.94 *** 3.8	1.11 *** 31.9	0.38 1.0	0.21 1.0	0.30 1.4	0.58 *** 3	1.05 *** 8	2.32 *** 22.6	-0.37 *** -4.7	0.73 ** 2.4	0.88 *** 6.1
NI	6.55 *** 8.9	7.20 *** 5.0	10.29 *** 8.5	9.33 *** 4.6	5.42 *** 10.4	9.21 *** 16.0	5.85 *** 9.4	4.98 *** 4.0	11.39 *** 7.1	9.05 *** 3.8	11.21 *** 5.6	6.43 *** 4.7	5.56 *** 4.3	0.92 1.0	1.73 *** 3.5	21.12 *** 15.0	3.63 ** 2.5	4.32 *** 6.1
ACCHG	0.59 0.5	5.29 1.4	3.05 1.4	-4.81 * -1.8	0.78 ** 2.3	-0.84 *** -2.8	-1.76 -1.6	-4.61 -1.4	-15.54 *** -5.1	6.94 0.7	-0.33 -0.1	11.57 ** 2.1	6.02 1.5	-1.33 -0.4	1.08 *** 2.7	22.59 *** 11.3	-0.79 -0.6	0.81 0.8
Adj. R-Square	0.732	0.685	0.847	0.667	0.677	1.000	0.662	0.586	0.989	0.273	0.431	0.311	0.263	0.537	0.681	0.885	0.460	0.711
N	195	74	47	80	411	619	253	47	17	55	90	125	180	177	341	276	39	96

6. CONCLUSIONS

Taken at face value, the results suggest that FAS 154, aside from its other merits, eliminated from financial statements accounting information that was not relevant. While the results of this study do not provide direct support for FAS 154, the study indicates that there was not a cost related to FAS 154 in terms of it eliminating value relevant information from financial statements. Perhaps future research could examine FAS 154 more directly by testing the value relevance of the retrospective application approach of FAS 154.

A limitation of this study is that results are not dissected by the type of accounting change, mandatory or non-mandatory, because such information is not readily available on Compustat and archival collection of such data for the sample size used in this study would be too costly. The data available on Compustat is a single consolidated cumulative effect gain or loss for each firm, even if a firm experienced more than one accounting change in the same year. This is also how the cumulative effect gain or loss was presented in the body of the income statement. However, due to data limitations the explanation of the alternating signs of the coefficient is left to speculation. It may be that some cumulative effect gains or losses are perceived as “real” gains or “real” losses, while other cumulative effect gains or losses are not perceived as possessing economic substance. If this is the case, then the cumulative effect gain or loss is acting as a proxy or signal that the market may interpret in a positive or negative way, or in a significant or insignificant manner.

NOTES

1. For a more extensive discussion of the technical aspects of FAS 154 see J.L. Morris. 2005. The change game. *Journal of Accountancy* (December) 67-73.
2. The main variable on interest in this study is the cumulative effect gain or loss as reported on financial statements under APB No. 20 prior to the issuance of FAS 154. Explaining and illustrating the application of APB No. 20 to specific changes in accounting principles is beyond the scope of this paper.
3. FAS 154 does measure the effect of an accounting change on periods prior to those presented on the annual report. For example, if 2008 is the current year of an annual report and 2007 and 2006 are the prior years’ presented on the annual report, then 2005 and all previous years are “periods prior to those presented.” The earliest year presented in the annual report will adjust its opening balance of retained earnings so as to force stockholders’ equity to equal the reported assets less the liabilities, resulting in a “balanced” balance sheet. This adjustment to the beginning balance of retained earnings for the earliest year presented is referred to in FAS 154 as a ‘cumulative effect adjustment.’ However, this adjustment is not a component of current year earnings in the year of a change in accounting principle, but essentially a forced amount on the balance sheet for the earliest year on the annual report. According to Compustat the adjustment to the beginning balance of retained earnings for the earliest year presented is not reported as a data item in Compustat and there are no plans to report this as a data item in the future.
4. A study by Ayers (1998) did investigate the value relevance of a cumulative effect amount for a specific accounting change for 1992 and 1993. That study constructed a cumulative effect variable consisting of the cumulative effect of changing from APBO 11 to FAS 109. Ayers did find that FAS 109 did provide value relevant information beyond that provided by APB No. 11.

REFERENCES

1. Abdel-Khalik, A. R. & McKeown, J. C. (1978). Understanding accounting changes in an efficient market: Evidence of differential reaction. *The Accounting Review*, October, 851- 868.
2. Ahmed, A.S., Kilic, E. and Lobo G.J. (2006). Does recognition versus disclosure matter? Evidence from value-relevance of banks' recognized and disclosed derivative financial instruments. *The Accounting Review*, May, 567-88.
3. Ayers, B. (1998). Deferred Tax Accounting Under SFAS No. 109: an empirical investigation of its incremental value-relevance relative to APB No. 11. *The Accounting Review*, 73 (2), April, 195-212.
4. American Institute of Certified Public Accountants. (1971). *Accounting Principles Board (APB) Opinion No. 20, Accounting Changes*, July, New York, NY.

5. Barth, M.E., Beaver, W.H. & Landsman, W.R. (1993). A structural analysis of pension disclosures under SFAS 87 and their relation to share prices. *Financial Analysts Journal*, January-February, 18-26.
6. Barth, M.E., Beaver, W.H. & Landsman, W.R. (2001). The relevance of value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics* (31) 77-104.
7. Biddle, G. C. & Lindahl, R. W. (1982). Stock price reactions to LIFO adoptions: The association between excess returns and LIFO tax savings. *Journal of Accounting Research*, 20 (3), 551-588.
8. Binder, John J. (1983). *Measuring the effects of regulation with stock price data: a new methodology*. Dissertation: The University of Chicago.
9. Brown, S. & Warner, J. (1980). Measuring security price performance. *Journal of Financial Economics*, 8, 205-258.
10. Chung, Kun Y, Park, Taewoo & Byung, T Ro. (1996). Differential market reactions to accounting changes away from versus towards common accounting practices. *Journal of Accounting and Public Policy*, Spring, 15 (1), 29-54.
11. Financial Accounting Standards Board. (1974). Statement of Financial Accounting Standard No. 3. Reporting Accounting Changes in Interim Financial Statements--an amendment of APB Opinion No. 28.
12. Financial Accounting Standards Board. (1980). Statement of Financial Accounting Concept No. 2. Qualitative Characteristics of Accounting Information.
13. Financial Accounting Standards Board. (2005). *Statement of Financial Accounting Standards No. 154, Accounting Changes and Error Corrections—a replacement of APB Opinion No. 20 and FASB Statement No. 3*.
14. Harrison, T. (1977). Different market reactions to discretionary and nondiscretionary accounting changes. *Journal of Accounting Research*, Spring, 84-107.
15. Henning, S. L., Lewis, B.L. and Shaw, W. H. (2000). Valuation of the components of purchased goodwill. *Journal of Accounting Research*, (Autumn), 375-377.
16. Holthausen, R. W. & Verrecchia, R. E. (1990). The effect of informedness and consensus on price and volume behavior. *The Accounting Review*, 65 (1), 191–208.
17. Holthausen, R.W. & Leftwich, R.W. (1983). The economic consequences of accounting choice: implication of costly contracting and monitoring. *Journal of Accounting and Economics*, July, 77-117.
18. Hughes II, K.E. (2000). The value relevance of nonfinancial measures of air pollution in the electric utility industry. *The Accounting Review*, April, 75 (2), 209-229.
19. Hughes, J.S., & Ricks, W. (1984). Accounting for retail land sales: Analysis of a mandated change. *Journal of Accounting and Economics*, 6, 101-132.
20. Johnson, W. B. & Dhaliwal, D.S. (1988). LIFO abandonment. *Journal of Accounting Research*, Chicago: Autumn, 26 (2), 236-272.
21. Landsman, W. (1986). An empirical investigation of pension fund property rights. *The Accounting Review*, October, 662-691.
22. Lev, B. (1979). The impact of accounting regulation on the stock market: the case of oil and gas companies. *The Accounting Review*, 54, July, 485-503.
23. Moore, P., Atkinson, M. & Nix, K. (2003). Cumulative effect of a change in accounting principle: remove it from the income statement. *The CPA Journal*, January, 73 (1), 52-53.
24. Morris, J. L. (2005). The change game. *Journal of Accountancy* (December) 67-73.
25. Morse, D. & Richardson, G. (1983). The LIFO/FIFO decision. *Journal of Accounting Research*, Spring, 21, 106-127.
26. Ohlson, J.A. (1995). Earnings, book values, and dividends in security valuation. *Contemporary Accounting Research*, Spring, 11 (2), 661-688.
27. Petersen, Mitchell A., 2009. Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *Review of Financial Studies*, 22(1): 435-480
28. Pfeiffer, G.M. (1980). *Accounting for long term financial commitments: An investigation into the economic effects of lease accounting changes*. Dissertation: Cornell University.
29. Ricks, W.E. & Hughes, J.S. (1985). Market reactions to a non-discretionary accounting change: the case of long-term investments. *The Accounting Review*, 60, 33–52.
30. Schipper, K. & Thompson, R. (1983). Evidence on the capitalized value of merger activity for acquiring firms. *Journal of Financial Economics*, 11, 437-467.
31. Smith, A.J. (1981). *An empirical investigation of the information effects of a change in the financial reporting standards for oil and gas producers: the proposed elimination and subsequent retention of full cost accounting*. Dissertation: Cornell University.
32. Verrecchia, R.E. (1982). Information acquisition in a noisy rational expectations economy. *Econometrica*; November; 50 (6), 1415-1431.