THE IMPACT OF PURCHASE AND POOLING METHODS ON FINANCIAL ANALYSTS' FORECASTS AND PRICE INFORMATIVENESS

Sung S. Kwon, Rutgers University, Camden
Gordian A. Ndubizu, Drexel University
Kathleen Dunne, Rider University

The FASB issued an Exposure Draft in 1999, requiring all business combinations to be accounted for using the purchase method. The proposed rule eliminates use of the pooling method and creates opportunity for achieving convergence on how business combinations are accounted for internationally. The Exposure Draft requires that goodwill expense be presented after income from continuing operation on a net-of-tax basis as a separate line item on the income statement. These changes are expected to reduce the "information loss" reported for the purchase method and improve global financial statement comparability. These changes are generally consistent with the policy implications of our results, which show that the "information loss", measured by analysts' forecast accuracy; analysts' convergence of beliefs, and stock price variability, from the existing purchase method adjustments is quite substantial.

In August 21, 1996, the Financial Accounting Standards Board (FASB) decided to add to its agenda a project to reconsider the requirements of APB Opinion No. 16, Business Combinations, and No. 17, Intangible Assets, which were issued in 1970 by the Accounting Principles Board (APB). The most controversial issue in accounting for business combination is the use of purchase and pooling methods. These methods require distinctly different accounting adjustments, which affect investor behavior. The chief accountant of the Securities and Exchange Commission (SEC), Michael H. Sutton, cited the volume of inquiries received by SEC and FASB on the application and interpretation of the adjustments as the important reason for urging the FASB to reconsider APB Opinion No. 11. Similar reasons were given by the FASB in the special report on business combination (issued June 1997) to justify the need to reconsider APB Opinion No. 16. As a result, the FASB issued an Exposure Draft in September 7, 1999 requiring use of the purchase method for all business combinations, thereby eliminating the pooling method. The new rule also sharpens the disclosure of goodwill expenses and requires them to be presented on a net-of-tax basis after income from continuing operation as a separate line item on the income statement. These changes are likely to improve financial analysts' information and analysts' forecasts.

To the extent that the purchase method fair-value adjustments include assets with higher degree of uncertain future recovery, such as goodwill or other intangible assets, the mandated market-value adjustments in business combination may not always improve analysts' information at least around the announcement of mergers and acquisitions. The evidence from prior empirical studies has also shown that accounting adjustments are not

always clearly evident. As Elliott and Philbrick (1990) correctly point out, accounting adjustments could bring some unknown elements or noise into the reported earnings.[1] To date, there is little empirical evidence concerning the impact of this noise in earnings induced by purchase and/or pooling adjustments on firm value and analysts' forecast ability.[2]

Drawing on recent analytical research, we examine this "noise" effect of purchase and pooling methods' adjustments on stock price variability, analysts' earnings forecast errors, and divergence of beliefs among financial analysts.[3] only the purchase method involves the creation of goodwill in the balance sheet of acquirers in business acquisitions. According to Henning (1994), "Premium goodwill - the component of goodwill associated with bid premia in acquisitions - represents a substantial portion of purchased goodwill. Furthermore, lump-sum write-offs of goodwill occur most frequently for acquisitions where premium goodwill represents a significantly higher portion of the purchase price." Therefore, the noise associated with the amortization/write-off of goodwill is expected to affect the financial analysts' ability to forecast earnings in the purchase method more significantly than in the pooling method where no purchased goodwill asset exists. The fact that banks and others have been fond of pooling ever since the conglomeration rage of the 1960s can be partly attributed to this noise associated with amortization/write-off of goodwill and resultant lower earnings in the purchase method of acquisitions. A Wall Street Journal article entitled, "A Modest Proposal to Stop Pooling," written by Roger Lowenstein on May 9, 1996, reported:

> Of course, goodwill amortization has no effect on cash or "economic" earnings. But banks are fearful of goodwill nonetheless. In the short term, at least, Wall Street pays attention to reported numbers, substantive or not. So if you run your company for Wall Street, rather than for economic substance, a pooling is the way to go.

To delineate the adjustment effect, we use the acquisition consummation date as the event date, for we believe that the acquisition accounting methods and their effects ought to be known at the consummation date in contrast to initial acquisition announcement date.

Specifically, we test three hypotheses related to the effect of purchase and pooling adjustments on the structural component of the stochastic process generating future earnings and associated earnings uncertainty.[4] First, we hypothesize that the larger adjustments induced by the purchase method and associated earnings uncertainty will reduce financial analysts' forecasting ability more than the limited pooling adjustments. Therefore, the purchase method will have larger analysts' forecast errors at the acquisition consummation date than the pooling method. Second, we hypothesize that the heightened earnings uncertainty resulting from purchase method induced adjustments will increase divergence of beliefs among investors.[5] As a result, the purchase method will have larger divergence of beliefs at the acquisition date than the pooling method. Third, we theorize that the capital markets expectation of the true cash distribution is perturbed by measurement errors when the purchase method of accounting is known to be used to record the merger transactions than the pooling of interests method is known to be used on the date of merger. To the extent that the acquisition accounting method is not fully anticipated by the capital market prior to the merger, the difference in price reaction between the purchase and pooling

method is captured by the variance of abnormal return (i.e., our price variability metric) on the merger date. This is because the announcement of the acquisition accounting method constitutes new information to the market for both purchase and pooling firms. However, the market is expected to significantly discount the value of the new information at the announcement of the purchase method due to the measurement error/noise associated with estimating fair market value, goodwill amortization, and depreciation based on the fair value of the asset. Therefore, it is less likely to observe an increase in stock price variability resulting from the announcement of the acquisition accounting method (new information) for the purchase method than for the pooling method.

The empirical analyses are based on a sample of 65 purchase firms and 41 pooling firms, which reported business combinations between 1983 and 1986. First, we compare analysts' forecast errors, divergence of beliefs, and price variability for the purchase and pooling samples of periods prior to and following business acquisitions. Three prior years are used in the pre-acquisition control analysis. Second, to further examine the validity of our results, we repeated the analyses on purchase and pooling firms by matching the sample groups separately on (1) a single bid with no hostile takeover and (2) the size of the acquired firms.

As predicted, the results show that the purchase method has higher forecast errors and divergence of beliefs than the pooling firms. These findings appear to suggest that the purchase method generated more earnings uncertainty, which in turn increases the idiosyncratic noise term unique to each agent.[6] This noise is expected to reduce price variability for the purchase firms. Non-directional tests based on price variability are used to examine the stock price effect of the accounting adjustments related to the purchase and pooling method because in these tests, positive and negative stock price reactions are not distinguished and thus do not cancel one another. The result on price variability is also consistent with our predictions. The purchase firms do appear to have less percentage change in price variability than the pooling firms. In fact, the monthly price variability has increased from 0.74 (month -2) and 0.79 (month -1) to 0.89 under the pooling of interests method while the measure decreased from 0.98 (month -2) and 0.86 (month -1) to 0.84 under the purchase method on the merger consummation month. Thus, the results lead us to conclude that the purchase method adjustments convey less information relevant to stockholders and security analysts than the pooling method.

The remainder of the paper is organized as follows. The theory underlying the study and hypotheses is described in the next section. Section three describes the sample and data. Section four specifies the models and methodology. Section five discusses the empirical results. Conclusions and implications appear in the final section.

HYPOTHESES FORMULATION

The quality of accounting numbers may be related to the differences between the purchase and pooling methods' adjustments. Typically, the purchase method requires more accounting adjustments than the pooling of interests method.[7] Purchase method adjustments include goodwill amortization expense, additional depreciation expense resulting from the use of fair market values, and inventory valuation effects on cost of goods sold. In contrast, the pooling method has one period change, no adjustments, and thus less effect on security analysts' ability to forecast earnings per share.

An empirical question expresses whether the adjustments required by the purchase method help or hinder market agents in forecasting earnings of firms. Evidence from Ricks and Hughes (1985), Hughes and Ricks (1986), and Elliott and Philbrick (1990) suggest that accounting adjustments (changes) reduce financial analysts' ability to forecast earnings. The deterioration of forecast ability could arise if accounting adjustments bring noise into the reported earnings.[8, 9]

The notion of quality (more information) as the inverse of noise is consistent with the economic model examined by Holthausen and Verrecchia (1988, p. 84). For example, Holthausen and Verrecchia measure the quality of reporting as the one less perturbed by noise inherent in the market participants' interpretation of the true liquidating dividend of a risky firm (firm value). Such noise is represented in Imhoff and Lobo (1992) as a form of the uncertainty in analysts' earnings forecasts.[10]

In addition, Holthausen and Verrecchia (1988, p. 85) predict, using a model involving homogeneous beliefs, that stock price variability will be reduced if earnings uncertainty reflects noise induced by the changes in accounting method (e.g., purchase vs. pooling methods, LIFO vs. FIFO inventory costing methods, etc.). We predict that the capital market's expectation of the true cash distribution will be more perturbed by some noise or measurement error when the purchase method of accounting is known to be used to record the merger transactions than when the pooling of interests method is known to be used on the date of merger. The capital market is expected to significantly discount the value of the new information at the announcement of the purchase method due to the measurement error/noise associated with estimating fair market value, goodwill amortization, and depreciation based on the fair value of the asset.

Therefore, it is less likely to observe the increased security price variability resulting from the announcement of the acquisition accounting method (new information) in the purchase method than in the pooling of interests method. However, to the extent that the accounting method of acquisition was fully anticipated by the capital market prior to the merger, and the noise in the pre-disclosure information increased, the chance of finding a significant difference in price reaction between the purchase and pooling methods can be reduced on the merger date.

Consequently, we hypothesize the following:

HA1: The purchase method adjustments will lead to higher analysts' forecast errors than the pooling of interests method around the acquisition consummation date, ceteris paribus.

HA2: The purchase method adjustments will lead to higher analysts' divergence of beliefs than the pooling of interests method around the acquisition consummation date, ceteris paribus.

HA3: The announcement of purchase method adjustments will lead to lower security price variability than the pooling of interests method in comparison to prior month(s), *ceteris paribus*.

SAMPLE SELECTION AND DATA

The sample consists of successful business combinations announced during the period from 1983 to 1986.[11] A sample of 258 acquisitions is drawn by screening the National Automated Accounting Research System (NAARS). The sample consists of acquisitions for which (1) an acquisition consummation date and (2) the acquisition accounting methods are identified from NAARS and the Wall Street Journal (WSJ). A total of 172 acquisitions using the purchase accounting method and 86 firms using the pooling method are identified.

Security analyst consensus earnings per share forecasts are retrieved from the IBES data tape.[12] the historical I/B/E/S tape is well known for providing the most broad-based and widely analyzed earnings forecast data. We deleted 107 purchase firms and 45 pooling firms due to missing or fewer than two ($n < 2$, where n is the number of analysts) forecast data. The final sample consists of 65 purchase firms and 41 pooling firms. For stock price informativeness tests, the return data for the surviving firms are retrieved from the CRSP Monthly Stock Return database. The sample with complete return data consists of 50 purchase firms and 37 pooling firms.[13]

In all the sample firms, the price paid for the target firms exceeded the book value of the acquired assets. This sampling criterion allows heightened uncertainty (noise) associated with the determination of market price under the purchase method but not under the pooling method. The sample selection criteria, the classification of the sample firms by the month of acquisition, and the CRSP SIC codes for the sample firms are reported in panels A, B, and C of Table 1, respectively. There were 38 two-digit SIC industries represented in the sample. Electric and Electronic Equipment comprised 12.3% (13 firms) of the sample. No other industry comprised more than 10% of the sample.

The event date is the acquisition consummation date reported in the WSJ. The consummation date is chosen as the event date instead of the date that the merger is first announced because the data reported on the initial WSJ announcement date are not useful in identifying the acquisition accounting methods.[14] In case of a stock offer, it is difficult to determine at the initial announcement date whether the criteria for using the pooling of interests method have been met.

The WSJ was reviewed two months around the merger date for other significant firm-specific events. There were 240 (143) firm specific events other than merger-related announcements for the purchase (pooling) sample during this period. About 74% (83%) of the events relate to quarterly dividend, quarterly earnings, and annual earnings announcements for the purchase (pooling) firms.[15] Similar patterns of occurrences in other firm-specific events are expected in prior years. Our use of the control group based on prior years' data will mitigate the effects of these events. To the extent that the control analysis fails to maintain the ceteris paribus condition over the years investigated concerning these non-acquisition events, the accuracy of our inference could be weakened.

The distribution of the sample into purchase and pooling groups is constrained by APB Opinion No. 16. Accordingly, certain acquisitions must use the purchase method, whereas others must use pooling. This implies that self-selection bias exists in the data. This issue is addressed in the sensitivity analysis section of the paper.

The profile analyses of the purchase and pooling samples based on (1) earnings/assets, (2) research and development (R&D)/sales, (3) dividend payout, (4) leverage, (5) current ratio, (6) sales/assets, and (7) market value are provided in Table 2.[16] The difference in a

descriptive variable for each sample group is computed by subtracting the prior-year values from the post-event year. The differences in the descriptive variables for the purchase and pooling groups are tested using Wilcoxon Rank Sum statistics. The results show no statistically significant differences between the two sample groups at the conventional 5% significance level. Although the difference is only 10% significant, the purchase group experienced some increase in leverage (positive change) while the pooling sample experienced some decrease in leverage (negative change) during the period investigated. This reflects that most purchases are transacted with cash or debt while poolings are accomplished through an exchange of stock.

TABLE 1
Sample Characteristics

Panel A: Sample Selection Criteria	No. of Firms	
	PURCHASE	POOLING
NAARS Firms which acquired another firm from 1983 through 1986	172	86
Less: Missing Forecast Data in the IBES tape	(107)	(45)
Samples for Forecast Error & Divergence of Beliefs Tests	65	41
Less: Missing Monthly Return Data in the CRSP tape	(15)	(4)
Samples for Price Variability Tests	50	37

Panel B: Classification of Sample by the Month of Acquisition

	PURCHASE				POOLING			
Month	1983	1984	1985	1986	1983	1984	1985	1986
January	1	3	2	0	1	5	1	0
February	0	4	4	0	0	3	2	0
March	1	1	3	0	0	1	1	1
April	0	2	2	0	0	2	0	0
May	0	2	1	0	3	1	2	0
June	0	2	1	0	2	1	0	0
July	1	0	3	1	1	0	0	0
August	1	3	4	0	0	0	1	0
September	2	1	4	0	3	0	1	0
October	1	1	5	0	2	0	0	0
November	0	0	3	0	1	1	0	0
December	3	2	1	0	1	2	2	0
Total	10	21	33	1	14	16	10	1

Panel C: By Two-Digit CRSP SIC Code		PURCHASE		POOLING	
2-Digit SIC	Name	No. of Firms	Percent	No. of Firms	Percent
10	Metal Mining	0	0.0	1	2.4
11	Anthracite Mining	1	1.5	0	0.0
12	Bituminous Coal and Lignite Min.	0	0.0	1	2.4
13	Oil and Gas Extraction	3	4.6	0	0.0
20	Food and Kindred Products	4	6.2	0	0.0
21	Tobacco Manufacturers	1	1.5	0	0.0
23	Apparel and Other Textile Prod.	2	3.1	0	0.0
24	Lumber and Wood Products	1	1.5	1	2.4
26	Paper and Allied Product	2	3.1	0	0.0
27	Printing and Publishing	4	6.2	2	4.9
28	Chemicals and Allied Products	3	4.6	4	9.8
29	Petroleum and Coal Products	1	1.5	0	0.0
30	Rubber and Misc. Plastics Prod.	1	1.5	1	2.4
31	Leather and Leather Products	0	0.0	2	4.9
32	Stone, Clay, and Glass Products	2	3.1	0	0.0
33	Primary Metal Industries	2	3.1	0	0.0
34	Fabricated Metal Products	4	6.2	2	4.9
35	Machinery, Except Electrical	6	9.2	4	9.8
36	Electric and Electronic Equipment	5	7.7	8	19.5
37	Transportation Equipment	3	4.6	0	0.0
38	Instruments and Related Products	2	3.1	4	9.8
39	Misc. Manufacturing Industries	1	1.5	0	0.0
40	Railroad Transportation	1	1.5	0	0.0
41	Local and Interurban Pass. Trans.	1	1.5	0	0.0
47	Transportation Services	1	1.5	0	0.0
48	Communication	0	0.0	1	2.4
50	Wholesale Trade-Durable Goods	1	1.5	0	0.0
51	Wholesale Trade-Nondurable Goods	1	1.5	0	0.0
52	Building Materials & Garden Sup.	1	1.5	1	2.4
53	General Merchandise Stores	2	3.1	1	2.4
54	Food Stores	1	1.5	0	0.0
58	Eating and Drinking Places	1	1.5	2	5.4
59	Misc. Retail	0	0.0	1	2.4
67	Holding and Other Investment Off.	5	7.7	0	0.0
73	Business Services	1	1.5	1	2.4
76	Miscellaneous Repair Services	0	0.0	1	2.4
80	Health Services	0	0.0	3	7.3
89	Miscellaneous Services	1	1.5	0	0.0
	Total	65	100.0	41	100.0

TABLE 2
The Comparison of Differences of Descriptive Variables Between the Post Year and the Prior Year

PURCHASE Difference			POOLING Difference			Comparison[a]
Mean	Median	Std.	Mean	Median	Std.	Wilcoxon Rank-Sum Z
A. EARNINGS/ASSETS[b]						
-0.0165	-0.0061	0.0463	-0.0153	-0.0054	0.0336	0.49
B. R&D/SALES[b]						
0.0009	0.0000	0.0071	0.0016	0.0000	0.0085	-0.17
C. DIVIDENDS PAYOUT[b]						
0.0890	-0.0190	0.7900	0.0070	0.0030	0.2690	-1.25
D. LEVERAGE[b]						
0.0430	0.0120	0.1150	-0.0110	-0.0090	0.0850	1.77*
E. CURRENT RATIO[b]						
-0.1690	-0.1000	0.4590	-0.1800	-0.0450	0.8770	-0.48
F. SALES/ASSETS[b]						
-0.2391	-0.1647	0.3833	-0.0904	-0.0839	0.1135	-1.58
G. MARKET VALUE[b]						
470	170	922	352	236	507	-0.41

[a] The difference of a descriptive variable is computed by subtracting the value of the prior year from the value of the post year when the current year is the year of acquisition. The symbols of *, **, and *** indicate statistical significance levels of 10%, 5%, and 1%, respectively, in two tailed-tests. Only 48 purchase firms and 28 pooling firms have complete data for this analysis from the COMPUSTAT Industrial tape.

[b] A. Earnings excluding Extraordinary Items (MM$)(#20)/Assets (#6)
B. Research and Development Expense (MM$)(#46)/Sales (#12)
C. Dividends for Common Stockholders (MM$)(#21)/(Income #20 - Preferred Dividends #19)
D. Total Debt (#5 + #9) / Total Assets (#6)
E. Current Assets (#4) / Current Liabilities (#5)
F. Sales (#12)/Assets (#6)
G. Closing Price (#24) * Outstanding Common Shares (#25)
where #n refers to the COMPUSTAT data item number.

In sum, the evidence from table 2 suggests that the observed differences in price variability, divergence of beliefs, and forecast accuracy over the periods examined in this study are unlikely to have resulted from the differences in changes in their operating, financing, and investing activities.

METHODOLOGY

Forecast Error

We compare the accuracy of security analysts' earnings forecasts made for purchase method mergers with forecasts made for pooling mergers. If the purchase method adjustments weaken analysts' earnings forecasting ability, then these forecasts will be less accurate than forecasts based upon the adjustment-free pooling method. We use consensus analysts' forecast from the I/B/E/S summary database to calculate absolute forecast errors.

The monthly absolute percentage forecast error is computed as:

$$\text{Absolute Forecast Error (AFE)} = \left|(AEPS - FEPS)/AEPS\right| \quad (1)$$

where:

AEPS = the actual/realized earnings per share for the I/B/E/S one-year-ahead forecast of earnings per share made at the acquisition month.

FEPS = the I/B/E/S one-year-ahead forecast of earnings per share made at the acquisition month.

The one-year-ahead earnings forecast instead of its current-fiscal-year counterpart is used because the capital market has a multi-year earnings forecast horizon rather than a single-year forecast horizon (see Brown et al. [1985], p.4). However, both current-fiscal-year and one-year-ahead forecast errors and divergence of beliefs are examined. Current-fiscal-year forecast results have the predicted sign but are generally less significant than the one-year-ahead forecast results. This evidence is consistent with the results from Brown, Foster, and Noreen (1985). The results based on divergence of beliefs are qualitatively similar across forecast horizons.

Divergence of Belief and its Percentage Change

Prior research used the coefficient of variation of financial analysts' earnings forecasts to measure divergence of beliefs (Brown et al. [1987], Daley et al. [1988], and Swaminathan [1991]). Following these studies, we measure the divergence of beliefs (DB) as follows:

$$DBim = \frac{\left[(1/n-1)\sum_{j=1}^{n}(FEPSimj - \overline{FEPSim}\right]^{1/2}}{\overline{FEPSim}} \quad (2)$$

where:

$$\overline{FEPSim} = (1/n)\sum_{j=1}^{n} FEPSimj,$$

n = the number of analysts making the forecast; n > 1, and FEPSimj is the one-year-ahead earnings per share forecast for firm i issued in month m (m equals 0 for the first monthly forecast occuring on or immediately after the acquisition date) by analyst j.

Consistent with Swaminathan (1991, p.32), the percentage change in divergence of beliefs (PCHDB) for firm i is calculated as:

$$PCHDBi = [Post\ DBim - Pre\ DBim] / Pre\ Dbim \quad (3)$$

where Pre indicates the last quarterly earnings announcement month prior to acquisition, and Post refers to the first quarterly earnings announcement month after acquisition. PCHDBs are truncated at 200% as is the case with PCHPV, and thus are consistent with Swaminathan's (1991) treatment of extreme values.

Percentage Change in Price Variability (PCHPV)

Following Patell (1976), price variability is computed using the market model of Sharpe (1964) and Lintner (1965) as follows:

During the estimation period,

$$R_{i\tau} = \alpha_i + \beta_i * R_{m\tau} + e_{i\tau} \quad (4)$$

where: $R_{i\tau}$ = return on security i at time τ,
$R_{m\tau}$ = return on market portfolio at time τ (CRSP equally-weighted index).
α_i = $E(R_{i\tau}) - \beta_i * E(R_{m\tau})$,
β_i = $Cov(R_{i\tau},R_{m\tau})/Var(R_{m\tau})$ (systematic risk).
$e_{i\tau}$ = error term
i = 1,....., N, firm index, and
τ = 1,....., T, time index.

During the event period,

$$u_{it} = R_{it} - (a_i + b_i * R_{mt}); \quad t = -2, -1, 0, +1, +2 \text{ (month index)} \quad (5)$$

where, u_{it} = the abnormal stock return during the event period for stock i at month t in which month [0] is the month of acquisition.

The CRSP monthly return tape is used to obtain the ordinary least squares (OLS) estimates of market model parameters (ai, bi). The estimation period extends from month [-106] to month [-7] (i.e., 100 monthly returns). Consistent with Swaminathan (1991, p. 31), the Patell's price variability metric (Uit) and the percentage change in price variability (PCHPV) for firm i are determined as:

$$U_{it} = [u^2_{it}(T_i - 4)]/[C_{its}{}^2_i(T_i - 2)] \quad (6)$$

where

$$C_{it} = 1 + 1/T_i + (R_{mt} - \overline{R_m})^2 / \sum_{\tau=1}^{T_i} (R_{m\tau} - \overline{R_m})^2$$

$$\overline{R_m} = (1/T_i) \sum_{\tau=1}^{T_i} R_{m\tau}.$$

S^2_i is the variance of the market model's residuals during the estimation period, Cit measures the increase in variance due to prediction outside the estimation period, and Ti is the number of available stock returns in the estimation period.

Based on equation (3), PCHPV is defined as:

$$PCHPV_i = [\text{Post } U_{it} - \text{Pre } U_{it}] / \text{Pre } U_{it} \quad (7)$$

where the pre indicates one (two) month(s) prior to acquisition date, and the post refers to the month involving the acquisition. The PCHPV tests are aimed at assessing whether

month 0 variance is abnormal (significant increase for the pooling and drastic decrease for the purchase firms after the acquisition accounting method is publicly known) and thus significantly differs across the acquisition accounting methods given that pre-merger variances are similar between the purchase and pooling firms. We truncated PCHPVs at 200 percent in order to reduce the effect of extreme values, which is consistent with Swaminathan's (1991) treatment of such anomalous values.

Non-Event Pre-Acquisition Control Analysis

All analyses are repeated on a control group to enhance the internal validity of the study. We used the experimental firms during non-event periods as the appropriate control. When analyzing the accuracy metric (actual minus forecast, divided by actual) of one-year-ahead and current-fiscal-year forecasts, we use data for the experimental firms in the non-event periods of one, two and three year(s) prior to the date of acquisition. To analyze the divergence of beliefs, which does not require the use of actual EPS, we use experimental firms' data from the non-event period of one year prior to the acquisition date. The non-event pre-acquisition control analysis enhances the accuracy of our inference and ensures that the experimental firms are not predisposed to behave in the hypothesized manner.

EMPIRICAL RESULTS

Forecast Error

This investigation focuses on how much the acquisition accounting method adjustments influence the security analysts' consensus forecast errors. The results for the purchase and pooling firms at the acquisition consummation date are shown in table 3. Significant forecast errors are reported for the two groups (purchase t-value 2.86; pooling t-value 1.79). The result of Wilcoxon Rank Sum test indicates that the forecast errors of the purchase firms are greater than those of the pooling firms at the 0.05 significance level ($Z = 1.74$). A similar significant difference in forecast errors was not evident in panels B, C and D of table 3 for the one-year, two-year and three-year pre-acquisition control periods. These non-event period results indicate that the composition of the purchase and pooling samples do not seem to be predisposed to behave in the predicted manner prior to the acquisition year at least with respect to analysts' forecast accuracy.

When the absolute forecast errors (AFE) are truncated to eliminate the effects of extreme observations, similar differences to those of unadjusted AFE are observed between the purchase and pooling firms. As indicated in panel A of table 3, the purchase group has greater forecast errors at the acquisition month than the pooling group ($Z=1.74$). In contrast, the non-event period shows no major difference between the two sample groups ($Z=0.92$, $Z=0.85$, $Z=0.74$ for the one-year, two-year and three-year pre-acquisition periods, respectively).

The results based on both unadjusted and truncated absolute forecast errors appear to support our first hypothesis that the purchase method induced adjustments reduce analysts' forecast ability more in comparison to the limited pooling adjustments.[17]

TABLE 3
The Comparison of Absolute Forecast Errors (AFE)[a]

	PURCHASE			POOLING			Comparison[a]
	Mean	Median (t-value)[b]	Std.	Mean	Median (t-value)[b]	Std.	Wilcoxon Rank-Sum Z
Panel A. Experimental Analysis: Acquisition Year							
Purchase (n=65) vs. Pooling (n=41)							
a. Unadjusted Absolute Forecast Error							
(2.86***) (1.79*)	2.136	0.589	6.016	1.452	0.239	5.184	1.74**
b. Truncated Absolute Forecast Error[c]							
(11.57***) (6.96***)	0.574	0.589	0.400	0.417	0.239	0.384	1.74**
Panel B. Control Analysis 1: One Year Prior to Acquisition							
Purchase (n=53) vs. Pooling (n=39)							
a. Unadjusted Absolute Forecast Error							
(4.50***) (4.07***)	0.717	0.223	1.150	0.479	0.144	0.734	0.92
b. Truncated Absolute Forecast Error[c]							
(7.67***) (5.69***)	0.410	0.223	0.386	0.312	0.144	0.342	0.92
Panel C. Control Analysis 2: Two Years Prior to Acquisition							
Purchase (n=50) vs. Pooling (n=39)							
a. Unadjusted Absolute Forecast Error							
(2.37**) (2.60**)	1.025	0.248	3.054	0.526	0.201	1.261	0.91
b. Truncated Absolute Forecast Error[c]							
(7.86***) (6.29***)	0.374	0.248	0.337	0.329	0.201	0.327	0.85
Panel D. Control Analysis 3: Three Years Prior to Acquisition							
Purchase (n=46) vs. Pooling (n=39)							
a. Unadjusted Absolute Forecast Error							
(7.11***) (2.67**)	0.362	0.278	0.345	0.598	0.220	1.398	0.71
b. Truncated Absolute Forecast Error[c]							
(7.11***) (6.17***)	0.342	0.277	0.297	0.307	0.220	0.311	0.74

[a] See equation (1) for the forecast error computation. Sample size varies across years due to data availability. The symbols of *, **, and *** indicate statistical significance levels of 10%, 5%, and 1%, respectively, in one tailed-tests (Purchase > Pooling).

[b] Whether the absolute forecast errors are significantly different from zero is examined (two-tailed tests).

[c] Observations with | (AEPS - FEPS) / AEPS | > 100% are truncated at ± 100%. The FEPS on the Acquisition month is used for panel A.

Divergence of Beliefs

Panel A of table 4 presents inter-group comparison results for the divergence of beliefs (DB) in both the acquisition year and the prior year. A comparison of DB between the two groups shows that for all the months of the test period, DB of the purchase group is significantly higher that that of the pooling sample. The differences are significant at the 5% level for months 0, +1, and +2. For these months, the Z-statistics from the Wilcoxon Rank Sum test are 2.33, 1.88, and 2.84, respectively, in one-tailed comparisons. Thus, the results reported in panel A of table 4 are consistent with the hypothesis that the purchase method

adjustments lead to higher analysts' divergence of beliefs than the pooling of interests method around the acquisition consummation date if other elements are kept constant (our second hypothesis).

This finding is further supported by the insignificant result reported in panel B of table 4 for the nonevent period. Only month {0} shows a weak difference in divergence of beliefs between the two samples at the 10% level (Z = 1.61), which can be easily overwhelmed by the powerful performance of the event period at month {0} (Z = 2.33, 1% significant). It appears from the results in table 4 that the purchase method induced adjustments increase divergence of beliefs among investors more than the pooling method.[18]

TABLE 4
Comparison of Divergence of beliefs (DB)[a]

Panel A. Acquisition Year

	Purchase (n=65) vs. Pooling (n=41)				
	PURCHASE		POOLING		Comparison[b]
	DB		DB		Wilcoxon
Month[b]	Mean	Median	Mean	Median	Rank Sum Z
{-2}	0.120	0.076	0.079	0.057	1.48*
{-1}	0.108	0.073	0.080	0.057	1.39*
{0}	0.104	0.071	0.067	0.050	2.33***
{+1}	0.106	0.068	0.072	0.052	1.88**
{+2}	0.107	0.080	0.068	0.052	2.84***

Panel B. Control Analysis: One Year Prior to Acquisition

	Purchase (n=53) vs. Pooling (n=39)				
	PURCHASE		POOLING		Comparison[b]
	DB		DB		Wilcoxon
Month[b]	Mean	Median	Mean	Median	Rank Sum Z
{-2}	0.096	0.071	0.073	0.076	1.02
{-1}	0.099	0.070	0.076	0.082	0.56
{0}	0.093	0.070	0.069	0.055	1.61*
{+1}	0.092	0.061	0.079	0.060	0.76
{+2}	0.110	0.070	0.081	0.072	0.53

[a] The mean coefficient of variation of monthly financial analysts forecasts of one-year-ahead earnings per share is used to measure divergence of beliefs (DB) of market participants. Also, see equation (2) for further details.
[b] The symbols of *, **, and *** indicate statistical significance levels of 10%, 5%, and 1%, respectively, in one tailed-tests (Purchase > Pooling). Month {0} is the month of acquisition for panel a and one year prior to the month of acquisition for panel b.

A similar conclusion is drawn from the percentage change in divergence of beliefs (PCHDB) between the last quarterly earnings announcement month prior to the acquisition

and the first quarterly earnings announcement month after the acquisition presented in table 5. A difference in PCHDB between the purchase and pooling group (0.000 vs. -0.1488) is observed. The Wilcoxon Z-statistic of 1.86 is significant at the five-percent level in one-tailed tests. Thus, the results support the hypothesis that a higher level of uncertainty (i.e., noise) is associated with the purchase method, and therefore the convergence of beliefs is more difficult to achieve with the purchase method than with the pooling of interests method around the acquisition month.

TABLE 5
Percentage Change in Divergence of Beliefs (PCHDB)
Between the last Quarterly Earnings Announcement Month prior to Acquisition and the first Quarterly Earnings Announcement Month after Acquisition[a]

Purchase (n=53) vs. Pooling (n=39)[b]				
PURCHASE		POOLING		
PCHDB		PCHDB		Wilcoxon[c]
Mean	Median	Mean	Median	Rank Sum Z
-0.0410	0.0000	-0.1646	-0.1488	1.86**

[a] As shown in equations (2) and (3), the percentage change in divergence of beliefs (PCHDB) for firm i is measured as follows:

DBi = the standard deviation of multiple analysts' earnings forecasts / the mean of the earnings forecasts for firm i.

PCHDBi = [Post(DBi) - Pre(DBi)] / Pre(DBi)

where Pre indicates the last quarterly earnings announcement month prior to acquisition and Post means the first quarterly earnings announcement month after acquisition. PCHDBs are truncated at 200% which is consistent with Swaminathan' (1991) treatment of extreme values.

[b] Twelve purchase firms and two pooling firms had missing earnings announcement dates in the quarterly COMPUSTAT file.

[c] The symbols of *, **, and *** indicate statistical significance levels of 10%, 5%, and 1%, respectively, in one tailed-tests (Purchase > Pooling). Individual values of both measures are statistically significant at 0.01 level.

Price Variability

To examine the price effect, the percentage change in price variability (PCHPV) around the acquisition consummation date is measured using the Swaminathan's (1991) approach, and results are reported in panel A of table 6. The PCHPV decreases from month {-2} to {0} for the purchase group (median PCHPV = -0.472), while pooling firms increased the PCHPV (0.512). More significant difference (5% significance level) is found during the transition from month {-1} to {0} between two groups.[19] The results in panel B of table 6 are based on the control analysis with the data from one year prior to the acquisition. One striking difference between panels A and B is that the purchase firms experienced a greater increase in price variability between the prior months and one year prior to the acquisition month in panel B. This phenomenon is in opposition to the evidence in panel A where pooling firms show a bigger increase in price variability as predicted in HA3.

Thus, the results shown in table 6 are consistent with our third hypothesis that the purchase method has shown less stock price variability than the pooling method on the

merger month, relative to prior month(s). This finding does support the notion that (1) price variability changes as the level of informativeness changes, and (2) purchase method induced adjustments reduce informativeness, at least in the short run.

TABLE 6
Comparison of Percentage Change in Price Variability (PCHPV) Between the Acquisition Month and the Prior Months[a]

Purchase (n=50) vs. Pooling (n=37)				
PURCHASE PCHPV		POOLING PCHPV		Comparison Wilcoxon
Mean	Median	Mean	Median	Rank Sum Z
-0.0410	0.0000	-0.1646	-0.1488	1.86**
Panel A. Experimental Analysis: Acquisition Year				
Month{-2} to Month{0}				
0.229	-0.472	0.641	0.512	1.27*
Month{-1} to Month{0}				
0.287	-0.296	0.801	2.000	1.78**
Panel B. Control Analysis: One Year Prior to Acquisition				
Month{-2} to Month{0}				
0.796	2.000	0.437	-0.164	-1.07
Month{-1} to Month{0}				
0.762	2.000	-0.138	-0.713	-2.85***

[a] Patell's U is used as a measure of price variability (see Patell[1976, p.258] and equations (5) thru (7)).
Patell's U = Uit = uit2 (Ti - 4) / CitSi2(Ti - 2)
E(Uit) = 1 and Var(Uit) = 2(Ti - 3)/ (Ti - 6)
PCHPV = [Post(Patell's U) - Pre(Patell's U] / Pre(Patell's U)

Pre indicates two (M{-2}) or one (M{-1}) month(s) prior to the acquisition date, and Post refers to the acquisition month (M{0}). Data are truncated at 200% to minimize undue effect of extreme values. The symbols of *, **, and *** indicate statistical significance levels of 10%, 5%, and 1%, respectively, in one tailed-tests (Purchase < Pooling).

Alternative Explanations for the Findings

Most acquisitions in which there are multiple bidders and/or resistance from the management of the acquired firm result in purchase methods. Hostile takeovers are usually completed with cash or debt. Furthermore, a resistant management team could easily take steps that would repudiate the pooling-of-interests method. The result is that firms in the purchase sample will be surrounded with the most uncertainty before the consummation of

the acquisition. That is, the competition among multiple bidders and uncertainty involved in hostile takeovers can unfavorably affect financial analysts' forecasting ability. This could very well be driving the reported results. To control this competing hypothesis, we use only a single bidder with no hostile takeover firms in table 7.[20]

Table 7 shows a slightly weaker but similar pattern of differences in absolute forecast error, divergence of beliefs, and percentage change in price variability between the purchase and the pooling firms. Most of the differences are still significant at the 10% level, which can be compared with the 5% significance level of the main results in the prior tables. Therefore, our primary results from previous tables do not seem to be driven, in any material degree, by heightened uncertainty from the competition among multiple bidders and from the hostile takeover operation.

TABLE 7
Comparisons of Absolute Forecast Error, Divergence of Beliefs, and Percentage Change in Price Variability between the Purchase and Pooling Firms Single Bidder with No Hostile Takeover Firms Only[a]

PURCHASE			POOLING			COMPARISON
Purchase (n=37) vs. Pooling (n=41)						
Panel A. Absolute Forecast Error (AFE)q						
Mean	Median (t-value)	Std.	Mean	Median (t-value)	Std.	Wilcoxon Rank Sum Z
a. Unadjusted Absolute Forecast Error						
2.900	0.680 (2.28**)	7.750	1.452	0.239 (1.79*)	5.184	1.38*
b. Truncated Absolute Forecast Error						
0.570	0.677 (8.12***)	0.426	0.417	0.239 (6.96***)	0.384	1.33*

Panel B. Divergence of Beliefs (DB)

Month	Mean	Median	Mean	Median	Wilcoxon Rank Sum Z
{-2}	0.134	0.066	0.079	0.057	0.83
{-1}	0.118	0.064	0.080	0.057	1.10
{0}	0.107	0.057	0.067	0.050	1.60*
{+1}	0.109	0.057	0.072	0.052	1.57*
{+2}	0.110	0.075	0.068	0.052	2.01**

Panel C. Percentage Change in Price Variability (PCHPV)

Purchase (n=37) vs. Pooling (n=37)				
Mean	Median	Mean	Median	Wilcoxon Rank Sum Z
Month{-2} to Month{0}				
0.426	-0.158	0.658	0.512	0.66
Month{-1} to Month{0}				
0.353	-0.340	0.817	2.000	1.51*

[a] Acquisitions in which there are multiple bidders and hostile takeover cases are excluded, and this reduced the size of the purchase sample to thirty-seven firms. All metrics are defined in equations (1) thru (7) and consistent with those used in tables 3-6. Post means the acquisition month (M{0}), and Pre refers to two (M{-2}) or one (M{-1}) month(s) prior to the acquisition date.

There may be a systematic difference between purchase and pooling firms in the size of the acquired firm (target) relative to that of the acquiring firm. The impact of the accounting method on informativeness and convergence of beliefs, not to mention the impact of the transaction itself on informativeness and convergence of beliefs, will certainly be affected by the target firm's relative size. To control for this potential confounding effect, we only use firms with equal relative size of the acquired firm in table 8.

TABLE 8
Comparisons of Absolute Forecast Error, Divergence of Beliefs, and Percentage Change in Price Variability between the Purchase and Pooling Firms Equal Target Size Firms Only[a]

PURCHASE			POOLING			COMPARISON
Purchase (n=27) vs. Pooling (n=27)						
Panel A. Absolute Forecast Error (AFE)q						
Mean	Median (t-value)	Std.	Mean	Median (t-value)	Std.	Wilcoxon Rank Sum Z
a. Unadjusted Absolute Forecast Error						
3.250	1.080 (1.91*)	8.840	1.870	0.170 (1.53)	6.360	1.90**
b. Truncated Absolute Forecast Error						
0.647	1.000 (8.23***)	0.408	0.406	0.175 (5.39***)	0.391	1.97**

Panel B. Divergence of Beliefs (DB)					
Month	Mean	Median	Mean	Median	Wilcoxon Rank Sum Z
{-2}	0.118	0.076	0.086	0.051	0.75
{-1}	0.111	0.087	0.087	0.051	1.25
{0}	0.094	0.066	0.070	0.041	1.99**
{+1}	0.090	0.061	0.076	0.047	1.45*
{+2}	0.091	0.075	0.076	0.052	1.89**

Panel C. Percentage Change in Price Variability (PCHPV)				
Purchase (n=37) vs. Pooling (n=37)				
Mean	Median	Mean	Median	Wilcoxon Rank Sum Z
Month{-2} to Month{0}				
0.509	-0.145	0.763	2.000	0.82
Month{-1} to Month{0}				
0.414	0.035	0.741	2.000	0.84

[a] Purchase and pooling firms are matched on the relative size of the acquired firm. Only twenty-seven firms are matched successfully this way. All metrics are defined in equations (1) thru (7) and consistent with those used in tables 3-6. Post means the acquisition month (M{0}), and Pre refers to two (M{-2}) or one (M{-1}) month(s) prior to the acquisition date.

As shown in table 8, the equal relative target size firms (the assets of the target firm divided by the assets of the acquiring firm) behave in a manner consistent with our hypothesized direction at least in absolute forecast error and divergence of beliefs. That is, most of the differences between the two groups are significant at the 5% level. The price

variability analysis, however, fails to support the hypothesis that informativeness decreases with the level of purchase accounting adjustments due to the increase in noise. We attribute this weak price variability result partly to the small sample used because the analysis in table 8 suffers a significant loss of sample firms in both purchase and pooling groups (59% and 34% reduction, respectively).

A single industry (Electric and Electronic Equipment) comprises 19.5% of the pooling sample as shown in panel C of table 1. We examine the analysts' forecast error, the analysts' divergence of belief, and the price variability excluding the industry in order to see if our results are driven by the dominance of such industry. The Wilcoxon rank sum z statistics for unadjusted absolute forecast errors and truncated absolute forecast errors are 2.04 and 2.05, respectively. Also, the Wilcoxon rank sum z statistics for divergence of beliefs at months [-2], [-1], [0], [+1], and [+2] are 1.77, 1.65, 2.53, 2.07, and 2.63, respectively. From the percentage change in price variability comparisons, we get the Wilcoxon rank sum z of 1.90 for the change between month [-2] and month [0] and 1.98 for the change between month [-1] and month [0]. Overall, they are more statistically significant that the pooling sample with the inclusion of the electric and electronic industry. Therefore, we conclude that the results are consistent with the results obtained from the full sample.

Finally, we examine whether the merger is between similar or dissimilar firms in terms of the nature of business of both acquiring and acquired firms may be influencing perceived empirical patterns rather than the accounting method choice per se. About 37% (31%) of the pooling of interests acquisitions (purchase acquisitions) are similar. Since similar patterns of the nature of business appear in both samples, it is not likely that the difference in the nature of business of both acquiring and acquired firms affects our results.

SUMMARY AND CONCLUSION

This paper examines how the acquisition accounting method affects financial analysts' earnings forecasting ability, the analysts' divergence of beliefs, and stock price variance around the acquisition consummation date. We hypothesize that the purchase and pooling-of-interests methods differ in their effect on the stochastic properties of reported earnings, the purchase method being the noisier method.[21]

The test samples consist of 65 purchase firms and 41 pooling firms, and the acquisitions were made over a four-year period. The evidence suggests that the purchase accounting methods' adjustments indeed change the structure of the stochastic process generating future accounting earnings and therefore alter earnings uncertainty (noise). This alteration in turn increases analysts' forecast errors and divergence of beliefs and reduces price variability more than the pooling sample. The results are generally robust to small samples that control for (1) the increased competition due to the existence of multiple bidders and hostile takeovers, (2) the size of the target firm, (3) the dominance of any single industry that comprises more than 10% of the full sample, and (4) the difference in the merger between similar and dissimilar firms.

The results have interesting implications. First, the pooling method adjustments convey more precise information to investors than the noisy purchase adjustments. This suggests that the two acquisition accounting methods have distinctly different information value to the investors and financial analysts. Requiring one acquisition accounting method, as proposed in the FASB Exposure Draft, is likely to improve global financial statement comparability. Second, the results indicate that market value adjustments are supposed to be

informative to investors because market value is more closely aligned with economic value than accounting book value, but their effects on stock price can be obscured or more than offset by the noise associated with the adjustment process. In other words, the superiority of market value adjustments over book value adjustments can be limited to the cases involving assets with less uncertain future recovery of cost. The purchase method of business combination inevitably results in the estimation of considerable amounts of goodwill whose uncertain future recovery brings noise into earnings forecasts made by the financial analysts. Therefore, the usefulness of market value adjustments depends upon the degree of uncertainty in estimating future recovery of asset cost, and here, we provide empirical evidence on the question of such usefulness of fair market adjustments in the context of purchase and pooling accounting. The disclosure changes required for goodwill expense in the proposed accounting rule might reduce the information loss associated with the purchase method to the extent that security analysts ignore special items with net-of-tax treatments in forecasting firms' earnings per share amounts.

ENDNOTES

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1. Also see Biddle and Ricks (1988), Hughes and Ricks (1986), Ricks and Hughes (1985) for such positive correlation between the current year income effect of the change in accounting method and analysts' forecast errors based on reported earnings.

2. The purchase method induced adjustments are complex and affect more than one accounting period. For example, goodwill adjustment may change in future periods depending on whether adjustment for contingent considerations is made. Depreciation adjustment gets more complicated if the subsidiary and the parent use different depreciation methods and/or the acquisition involve a bargain purchase case. Adjustment to cost of goods sold depends on the inventory turnover. Estimating fair market of liability may generate complicated adjustments to bond interest expense when the GAAP required effective interest amortization is used.

3. According to Holthausen and Verrecchia (1988, pp. 84-86), stock price variability will be reduced if earnings uncertainty reflects noise induced by the changes in accounting method (e.g., purchase vs. pooling methods, LIFO vs. FIFO inventory costing methods, etc.).

4. Beaver (1989, p.91) notes that accounting earnings can be viewed as two components: permanent earnings and transitory earnings. He also illustrated the role of current earnings relative to future earnings assuming earnings are generated by an IMA(1,1) stochastic process.

5. Imhoff and Lobo (1992) indicate that a very strong positive relation between I/B/E/S forecast errors and the dispersion of analysts' forecasts (divergence of beliefs or disagreement) exists. (See footnote 2 in p. 429.) The divergence of beliefs among investors is proxied by the standard deviation of financial analysts' earnings forecasts deflated by the mean of the forecasts in this study (see section 4.2).

6. Financial analysts are assumed to differ in the level of education, experience, age, risk reference, and other personal characteristics.

7. As indicated in Boatsman, Griffin, Vickery, and Williams (1994, p. 93), in a business combination accounted for using the purchase method, the differential (difference between purchase price and parent's share of the book values of acquired assets and liabilities) is allocated to individual assets and liabilities. This allocation requires estimates of the fair values of the subsidiary's assets and liabilities. In practice, determining these fair values can be complex. In contrast, the pooling of interests method of accounting ignores fair values of assets as of the date of the business combination.

8. We believe that the asset write-up to fair market value under the purchase method induces more noise because of the difficulty of estimating the unobserved economic value of firms' assets. Lim and Sunder (1991) have provided excellent analytical support. They demonstrated that if the errors in measurement of the unobserved economic value of firms' asset dominate the magnitude of price change, historical cost measures unobserved economic value better than current value. Beaver, Griffin, and Landsman (1982) and McDonald and Morris (1984) provide empirical evidence indicating that historical cost has less noise and therefore provides more accurate prediction of future stock value. In line with this evidence, the Arthur Andersen Company's Guide to Mergers and Acquisitions (1988, p. 84) reported that determining the fair market value of acquired assets is an imprecise art and value of any asset is in the eye of the beholders. The Philadelphia Inquirer on February 15, 1992 reported that 250 Fortune 500 firms do not know the fair market value of their assets, division, subsidiaries and the entire company. These findings are consistent with our predictions that the purchase method has more noise than the pooling method.

9. Evidence from the accounting change literature indicates that accounting adjustments increase earnings uncertainty and therefore reduce the ability of security analysts to predict future earnings. Biddle and Ricks (1988) find that firms adopting LIFO in 1974 have significant forecast errors, which are positively associated with the earnings effect of the accounting change. A similar result is reported in Ricks and Hughes's (1985) examination of the change from the cost to the equity method of accounting for long-term investments. Similarly, Hughes and Ricks (1986) discover significant forecast errors for firms adopting SFAS No. 34, capitalization of interest costs. These results indicate that analysts are confused by the inconsistency in reporting as well as incomparability induced by the accounting changes.

Consistent with these prior studies, Elliott and Philbrick (1990) find that absolute forecast errors and the dispersion of analysts' forecasts are found to be larger in the year of an accounting change than in a non-change year. As such, the purchase method accounting changes (adjustments) may affect forecast errors and divergence of beliefs in a manner consistent with the prior literature in the above, for analysts' interpretation of the purchase signals can be impaired by the purchase accounting adjustments.

10. Imhoff and Lobo (1992) compared two types of uncertainty: (1) uncertainty about the garbling of future accrual earnings and (2) fundamental uncertainty about the future cash flows. Their results imply that the dispersion (disagreement) in analysts' earnings forecasts is more likely to be a proxy for noise in the financial reporting system than a proxy for fundamental uncertainty in a firm's future cash flows.

11. This period was chosen because acquisition taxes law changed significantly after 1986.

12. The IBES tape contains monthly observations of the mean and median earnings forecast for the current fiscal year (current-fiscal-year forecast) and the next year (one-year-ahead forecast). The standard deviation of multiple analysts' forecasts divided by the mean of the forecasts was used as a proxy for divergence of beliefs. This metric is consistent with those reported in Swaminathan (1991) and Ajinka and Gift (1985).

13. To avoid unnecessary loss of sample firms and represent the sample characteristics as faithfully as possible, we decided to use full sample for forecast error and divergence of beliefs tests. We also tried smaller sample (50 purchase and 37 pooling) and found that divergence of beliefs results are qualitatively similar but forecast error results are weaker (significant only at the 10% level).

14. The average span between the initial announcement date of acquisition and the consummation date is 61.8 days for purchase firms and 94.8 days for pooling of interests firms. Obviously, it took more time to close up the merger deal in the pooling of interests method because the Accounting Principles Board's well-known twelve restrictive conditions for a pooling of interests are difficult to satisfy for every pooling acquisition. We examined this period for possible information leak about acquisition accounting methods. We did not find any evidence of the disclosure of the acquisition accounting methods prior to the acquisition consummation date.

15. Specifically, there were other firm-specific announcements of 85 (55) quarterly dividends, 68 (46) quarterly earnings, 24 (17) annual earnings, 18 (7) management changes, 36 (16) contract grants, 9 (2) others for the purchase (pooling) sample in the period from month {-2} to month {+2}. Others include (1) building an office, (2) introducing a new product, (3) expecting an increased profit, (3) offering shares of stock to the public, (4) halting a drug testing, (5) Moody's lowering the company's long-term debt rating, (6) closing a plant, (7) announcing stock dividends, and (8) expecting a rise of sales.

16. Similar ratios are used in table 1 of McNichols and Manegold (1983).

17. Our results on forecast accuracy are consistent with those of Haw et al. (1994, table 4). They find that financial analysts' forecast accuracy decreases sharply after mergers, and these accuracy reductions tend to be more pronounced when the purchase method of accounting is used to record the transaction.

18. O'Brien (1988) reports that the average lag between an analyst's forecast and its disclosure on I/B/E/S is 34 trading days (approximately 7 calendar weeks) with a standard deviation of 44.5 trading days (or about 9 calendar weeks). Her findings imply that the significant difference in DB could start at as late as month +2. Given that financial analysts are expected to ably anticipate the accounting method to be used in any acquisition transaction as firms near the consummation of the acquisition, the DB difference in earlier months cannot be a surprise in our analysis.

19. Price variability (Patell's Uit) medians on months {-2} and {-1} are 0.39 & 0.44 for the purchase sample and 0.42 & 0.19 for the pooling, respectively. The wilcoxon rank sum Z statistics are -0.23 and -1.49 for month {-2} & month {-1}, respectively. Neither comparison is significant at the 10 % level in two-tailed tests (no direction is assumed for these pre months). We also computed the average return variance of month {-6} thru month {+6} except month {0} as a proxy for the pre price variability, and the wilcoxon Z which compares PCHPVs between the purchase and pooling firms was 1.31 that is 10% significant in one-tailed tests (Pooling > Purchase was assumed).

20. Six purchase firms (American STD Inc., K Mart Corp., Nortek Inc., Philip Morris Co., Gannett Inc., and Hecks Inc.) had the corporate news about a(n) hostile/unfriendly/unsolicited takeover bid at least once in the Wall Street Journal Index for the six-month period before acquisition.

21. Section 2 describes these a priori reasons to suspect that the purchase method may be the ecast more noisy method.

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