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ACCURACY OF ANALYSTS' EARNINGS FORECASTS: EVIDENCE FROM MERGERS AND ACQUISITIONS IN AUSTRALIA

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ABSTRACT

As the incidence of mergers and acquisitions (M&As) continues to escalate, understanding the factors that systematically affect earnings predictability becomes increasingly important. This paper examines how changes in business characteristics and forecasting environment of merging firms affect the accuracy of consensus analysts' earnings forecasts in Australia. Based on a sample of 99 M&As from 1998 to 2000, the results show that the forecast error increases after an M&A. The increase in the forecast error appears to persist for at least the first three years after the merger, suggesting that analysts take time to adjust to changes in the firm brought about by an M&A. The change in analysts' forecast errors is related to variables proxying the change in the complexity of the merging firms.

Keywords: mergers and acquisitions, analysts, consensus forecast error

INTRODUCTION

Financial analysts play an important role in the allocation of scarce resources in the capital markets through the information they provide. The information that is of interest to this study is the forecast of corporate earnings. How accurate and thus useful the forecast is depends very much on the analysts' forecasting ability and access to relevant and timely data.

The significant increase in the volume of mergers and acquisitions (M&As) due in part to globalization, deregulation, and technological

advancement means that understanding the factors that systematically affect earnings predictions is becoming increasingly important (Katz, Zarzeski & Hall, 2000). Canina and Sinha (2002) note that the ability of financial analysts to forecast earnings accurately is critical to estimating the value of firms involved in M&A transactions. This reflects the stance taken by Brown and Rozeff (1978) who argue that understanding those factors contributing to earnings predictions is the key to understanding the firm's future valuation, cost of capital, and the relationship between earnings and stock prices.

Recent studies attempt to address the accuracy of analysts' earnings forecasts in the context of M&As in the U.S. Christian and Jones (2002) propose that when two firms merge, the earnings stream is altered as it now reflects the new entity that is created, thus making the prediction of future earnings more challenging. That is, M&As can have a significant impact on a firm's earnings predictability. This is witnessed in Haw, Jung and Ruland (1994), who find analysts' absolute earnings forecast errors and overprediction bias increase significantly in the year after the merger. Additional analysis shows that the increase in the forecast error and forecast bias is only temporary in that the forecast accuracy and biasness return to the pre-merger level within four years of the merger. Similarly, Dunn and Nathan (1998) document that analysts' earnings forecast errors increase as the firm becomes more diversified. Erwin and Perry (2000) find that the forecast error is significantly higher in the 5-year post-acquisition period for firms involved in focus-decreasing (FD) than in focus-preserving (FP) foreign M&As.[1]

Canina and Sinha (2002) find that the accuracy of consensus analysts' earnings forecasts does not always decline after a merger. For their sample firms, earnings predictability remains constant in mergers of the same industry and with increased analyst following. However, earnings predictability declines for mergers involving firms from different industries and/or when there is no increase in analyst following. The accuracy of analysts' earnings forecasts is found to revert to the pre-merger level within two years after the merger.

This study contributes to the literature on the accuracy of analysts' earnings forecasts in the context of M&As using Australian data. We ask two questions relating to changes in the underlying fundamentals of the merged firms. First, we ask whether M&As affect analysts' ability to accurately forecast earnings in Australia, and if so, how? Second, we ask whether cross-sectional differences in changes in the accuracy of analysts' earnings forecasts are related

[1] FP firms are defined as those firms looking for foreign opportunities in their core business area and FD firms consider diversification strategies in foreign economies.

to changes in firm-specific characteristics and forecasting environment of merging firms, controlling for other factors.

Based on a sample of 99 M&As from 1998 to 2000, we find that the average earnings forecast error increases subsequent to a merger, in line with the bulk of U.S. evidence. Cross-sectional analysis shows that changes in analysts' earnings forecast error around mergers are positively related to changes in earnings volatility, capital intensity, financial leverage, earnings correlation, and forecast dispersion. They are negatively related to changes in firm size. Changes in analysts' following and industry classification are only partially associated with changes in analysts' forecast error. We find that the increase in analysts' forecast error persists for up to three years after the merger, suggesting that the full adjustment of analysts' forecasting ability due to the merger takes time.

The rest of this paper is organized as follow. The next section develops the hypotheses. This is followed by a discussion of our data and research methods, the empirical results and a conclusion.

HYPOTHESES

In this section, we propose a number of hypotheses on the accuracy of consensus analysts' earnings forecasts for firms after a merger. Intuitively, we expect M&A transactions to result in fundamental changes in the merged entities.[2] In particular, M&As are likely to cause a shift in the size and capital structure of both the acquiring and target firms. Consequently, the ability of analysts to forecast the earnings of the merged firms is reduced vis-a-vis the pre-merger entities. This has support in Kinney (1971), who argues that differences in the rates of growth and profitability, and risk among the segments of a company operating in different industries make the consolidated earnings of the diversified company more difficult to predict. It is further compounded by the fact that M&As often lead to more aggregated data so that less information is now available about the individual firms. As a result, analysts will have more difficulty in forecasting the earnings of the merged entities. Therefore, we predict that analysts' earnings forecast errors, on average, increase after a takeover.

[2] Merging firms (or merged firms) refer to acquiring firms. This is because once the target and the acquirer are merged, the target firm will cease to exist as a separate entity after the merger. Consequently, our empirical tests focus on changes in the accuracy of earnings forecasts for acquiring firms.

On the other hand, mergers may provide diversification so that the reduction in earnings variability arising from this should increase forecast accuracy. Increased interest by analysts in merged firms could also contribute to forecast accuracy (Haw et al., 1994). Therefore, whether analysts' forecast errors increase or decrease after a merger is an empirical question. To test this, we compare the analysts' earnings forecast error in the year prior to the takeover (t – 1) with the forecast errors in the first (t + 1), second (t + 2), and third (t + 3) year after the event.

Next, we develop hypotheses on changes in analysts' earnings forecast errors surrounding an M&A. We predict that these changes are related to a number of factors, which we group as changes in firm-specific characteristics and changes in the information environment.[3] These are discussed in the following subsections below. We compute the change in these factors by deducting the post-merger value from the pre-merger value.

Changes in Firm-Specific Characteristics

We hypothesize that M&As that increase the earnings volatility of merging firms make future earnings less predictable so that consensus analysts' forecast error will increase after the merger. We expect the earnings volatility of target firms to be higher than that of acquiring firms since target firms are typically smaller than acquiring firms and the earnings of smaller firms are harder to predict than the earnings of larger firms (Spiess & Affleck-Graves, 1995). The poorer information environment of smaller firms vis-a-vis larger firms (Brown et al., 2002) may also contribute to the greater earnings volatility. The integration of the high earnings variance of the target firm with the low earnings variance of the acquiring firm may result in an overall increase (or decrease, to the extent that the earnings variances of target and bidder firms are not positively correlated) in the earnings variance of the merged firms, making it more (less) difficult for analysts to forecast.

This proposition has support in Haw et al. (1994) and Canina and Sinha (2002). They argue that M&As interrupt the time-series of earnings as they cause a real change in the earnings of the newly combined firms. In support of this argument, they present evidence that the accuracy of consensus analysts' earnings forecasts deteriorates in times when firms have unexpected events, such as M&As, which affect the firms' profits. In particular, Haw et al. (1994) note that

[3] We acknowledge that our proxies encompass both aspects so that variables that proxy changes in firm-specific characteristics may also proxy changes in the information environment. Although this discrimination in the proxies is made in the discussions leading to the hypotheses, it is not in the empirical tests that follow.

"…mergers often lead to real changes in the earnings streams of the newly merged firms; and mergers are often associated with changes in leverage, which magnify fluctuations in earnings…" (p. 466). We therefore hypothesize that analysts' earnings forecast errors, on average, increase for merging firms that experience an increase in earnings volatility after the merger.

Two measures of earnings volatility are used in this study. The first measure is the standard deviation of earnings based on at least three years of earnings per share data. The notion that past variability is a good surrogate for unpredictability is deeply rooted in economic thoughts (Givoly & Lakonishok, 1984). Nevertheless, this measure is not without its limit since past variability is only partially related to uncertainty surrounding earnings expectations. The change in standard deviation in earnings is denoted by ΔEVOL.

The second proxy of uncertainty in earnings is analysts' disagreement. Daley, Senkow and Vigeland (1988) show that analysts' disagreement about their earnings forecasts, measured this way, is a useful ex ante proxy for market uncertainty. Elton et al. (1984) propose that a plausible reason analysts disagree about the level of future earnings of a firm is that the earnings are difficult to forecast. Analysts' consensus earnings forecasts have in fact been found to be less accurate when analysts disagree more about their forecasts (Lobo, 1992). The change in forecast dispersion due to the merger is denoted by ΔDISP.

The change in the fundamentals of merging firms is not limited to earnings volatility. We examine two other structural changes in both target and acquiring firms, brought about by an M&A, and they are changes in capital intensity and financial leverage. In particular, we conjecture that analysts have more difficulty in forecasting the earnings of merging firms that experience an increase in capital intensity and financial leverage after the merger. Our rationale is that these structural changes due to M&As increase the complexity of the merging firms, which in turn reduces analysts' ability to assimilate information about the merging firms. Plumlee (2003) shows that analysts assimilate less complex information to a greater extent than more complex information and that complexity reduces analysts' use of information. Thus, we predict that analysts' earnings forecast errors increase for firms whose capital intensity and financial leverage have increased after the merger. This has support in Erwin and Perry (2000). Capital intensity (CAP) is measured as the sum of depreciation and interest expenses normalized by sales. Financial leverage (LEV) is the ratio of total liabilities to total shareholders' equity.

Industry diversification may also be related to forecast accuracy of merging firms. We contend that analysts have greater difficulty in forecasting the earnings of a diversified firm than of a non-diversified firm for the following

reasons. First, analysts tend to specialize by industries (O'Brien, 1990). Therefore, when a firm diversifies into a new industry (industries) that the analyst does not have a specialization in, we would expect the analyst to devote time and resources into learning the new industry (industries) if he wants to continue following the firm. Until the learning process is completed, we would expect analysts' earnings forecast errors to be higher for diversified firms than for non-diversified firms, all else equal. In addition, firms with diverse product lines are often associated with more earnings streams, thus making their earnings less predictable. Therefore, if the merger results in greater industry diversification for the merging firms, a higher earnings forecast error will be expected after the merger. This is in line with the evidence in Dunn and Nathan (1998) and Erwin and Perry (2000).

Following Haw et al. (1994), the extent of industry diversification is based on industry classifications of the target and bidder firms. ICLASS is a dummy that takes a value of one if the acquiring and the target firms are in the same industry (implying low diversification), based on the Australian Stock Exchange (ASX) two-digit industry codes, and zero otherwise (implying high diversification).[4]

Changes in the Information Environment

Changes in the underlying fundamentals of firms due to a merger can also affect the firms' information environment. Bhushan & Cho (1996) argue that M&As result in an increase in information acquisition costs for analysts. This in turn affects the accuracy of their forecasts.

Lang and Lundholm (1996) and Gleason and Lee (2003) propose that the greater the amount of information available in the market about the firm, the more accurate analysts' earnings forecasts will be. In the same vein, we propose that if the M&A increases the richness of the information environment of the merging firms, this should enhance the ability of analysts to forecast more accurately. Consequently, analyst forecast errors are expected to decline after the merger. The amount of information available about merging firms is proxied by analyst following and firm size.

Analyst following is frequently used to proxy for the informativeness of a firm's information environment (Lang & Lundholm, 1996; Brown et al., 2002).

[4] We also proxy diversification using the correlation between the target firm's earnings and the acquiring firm's earnings before the merger. Therefore, a high (low) correlation in their earnings would imply low (high) diversification. Due to data limitations, we could compute this variable for only 28 pairs of target/bidder firms. Although not reported, using this alternative measure does not change the results qualitatively.

As the number of analysts following the firm increases (decreases) after the merger, the richness of the information environment of the merging firms also increases (decreases). Therefore, an analysts' forecast error is expected to be reduced after the merger (Haw et al., 1994). The change in analyst following (ΔFOLL) is measured as the change in the number of analysts following the merging firms before and after the merger.

Firm size is another common proxy for a firm's information environment (Bhushan, 1989; Brown et al., 2002). Larger firms have greater incentives to release more information in order to enhance their corporate image (Chow & Wong-Boren, 1987). Larger firms are also subject to greater scrutiny by financial press and financial analysts' community so that knowledge of larger firms is often available earlier to the market than that of smaller firms (Brown et al., 1987a). All these reasons suggest that there is more information available in the market about larger firms than about smaller firms.

Prior literature reveals that firms could grow significantly in size after the M&A transaction (e.g. Canina & Sinha, 2002). We purport that the greater the growth in size after the merger, the greater the information availability of the merging firms. Therefore, the lower is the consensus analysts' earnings forecast error. We measure firm size (SIZE) by the market value of ordinary shares (measured as the product of the number of shares outstanding and share price).

DATA AND SAMPLE PROFILE

From the Securities Data Corporation (SDC) Platinum database, we identify 2,915 Australian companies (both public and private companies) that announced an M&A between January 1998 and December 2000. To be included in the final sample, we require the acquiring firms to (i) have sought at least 51% ownership of the target firm at the time of the announcement and that target firms cease to exist as a separate entity after the merger; (ii) be listed on the Australian Stock Exchange (ASX); and (iii) have analyst forecasts and financial data for the year before and the three years after the merger. All banks and financial institutions are excluded due to their unique reporting standards and the regulations governing mergers in this sector. Data on analysts' earnings forecasts, including the number of analyst following, analysts' earnings forecast dispersion, actual earnings per share (EPS), and mean and median forecasts of EPS, were retrieved from the *Institutional Brokers Estimate System (I/B/E/S)* database. All financial and accounting data such as share prices, number of shares, debt, equity, depreciation expense, interest expense, and sales revenue were extracted from *Datastream* and *Aspect's FinAnalysis* databases.

The above selection criteria result in a final sample of 99 M&As, with 32 of them occurring in 1998, 28 in 1999, and 39 in 2000. The retail and media sectors have the highest number of firms (17 and 12 firms, respectively) whilst the chemicals and the telecommunications have the lowest number of firms (1 firm each).

Following prior studies (Brown et al., 1987b; Lang & Lundholm, 1996; Brown et al., 2002), we measure forecast error as the absolute value of the difference between actual annual EPS and mean forecast annual EPS, deflated by share price at the beginning of the fiscal year. The forecast error is scaled for heteroscedasticity reasons (O'Brien, 1988) and share price is used as a deflator to control for spurious findings resulting from cross-sectional scale differences in EPS (Richardson et al., 2001).[5] Changes in analysts' forecast errors are computed by deducting the percentage absolute forecast error in pre-merger year from the percentage absolute forecast error in the each of the three years in the post-merger period, i.e. for years (t + 1), (t + 2), and (t + 3) where (t + 0) is the merger year. The year of the merger (t + 0) is not included for analyses, as in past studies (e.g. Haw et al., 1994; Canina & Sinha, 2002).

We use the consensus analysts' earnings forecasts because they are reflective of a consensus rather than of the idiosyncrasies of single analysts. In supporting this notion, O'Brien (1988) claims that consensus forecasts result in a purging of idiosyncratic error associated with individual analysts. Forecast errors exceeding 10% are truncated at 100% to minimize small denominator problems.[6]

Table 1 summarizes the descriptive statistics for sample firms for the year prior to and for each of the three years after the merger. On average, earnings volatility (EVOL) grows steadily and significantly from 5% to 11% in the four years surrounding the merger. The average capital intensity (CAP) and analysts' forecast dispersion (DISP) remain relatively constant throughout the three years after the merger. In contrast, the average leverage (LEV) increases in the first two years after the merger (t + 1 and t + 2) before declining to 1.31, which is lower than the pre-merger level. Similar trend is noticed for analyst following (FOLL). The average number of analysts following a firm increases

[5] Brown et al. (2002) argue that EPS forecast error should be deflated by share price (or market value of equity) and not actual or forecast EPS because there are cases where companies were expected to report or did report a loss. They use this measure despite the fact that deflating earnings forecast error by the actual or forecast EPS has advantage of removing the effect of price variability from the time-series of deflated forecast errors. In the context of forecast revision, Christie (1987) discusses the theoretical and empirical merits of normalizing forecast revision by share price. See also Pound (1988) who provides a thorough discussion of using share price as a deflator.

[6] Only three out of the 396 data points required truncation. The 396 data points is the sum of 99 observations over four time periods, i.e. t – 1, t + 1, t + 2 and t + 3.

from 9.97 in (t – 1) to 11.29 in (t + 1). In the third year of the merger, the average analyst following falls to 9.36. As expected, merging firms grow in size after the M&A. The market value of equity (SIZE) of an average acquiring firm grows from $3.056 billion in the year before the merger to $3.427 billion in the third year after the merger. The median SIZE shows a monotonic increase in market capitalization from $830 million to $1.471 billion over the four years surrounding the merger.

TABLE 1
DESCRIPTIVE STATISTICS OF FIRM-SPECIFIC CHARACTERISTICS FOR 99 AUSTRALIAN FIRMS INVOLVED IN AN M&A, 1998–2000

Time		EVOL	CAP	DISP	LEV	FOLL	SIZE ($M)
(t – 1)[b]	Mean	0.05	0.05	0.02	1.41	9.97	3056
	Median	0.02	0.04	0.01	1.19	10.00	829
	Std. Dev.	0.13	0.06	0.05	0.81	4.89	11148
	Min	0.00	0.00	0.00	0.15	2.00	22
	Max	1.27	0.38	0.51	3.71	21.00	109366
(t + 1)	Mean	0.05	0.06	0.02	1.61	11.29	3364
	Median	0.02	0.04	0.01	1.30	12.00	1294
	Std. Dev.	0.13	0.07	0.02	1.09	4.87	9016
	Min	0.00	0.00	0.00	0.11	2.00	23
	Max	1.27	0.42	0.11	7.10	20.00	85176
	t-statistic	0.24	0.40	0.69	1.45	1.91*	0.81
	MW z-score	0.16	0.58	1.89*	1.33	1.87*	0.85
(t + 2)	Mean	0.09	0.06	0.03	1.71	10.35	3257
	Median	0.04	0.04	0.02	1.41	10.50	1407
	Std. Dev.	0.16	0.06	0.04	1.21	3.47	7607
	Min	0.00	0.01	0.00	0.08	2.00	17
	Max	1.28	0.38	0.40	8.37	16.00	70123
	t-statistic	1.67*	0.51	0.57	2.17**	0.52	0.15
	MW z-score	4.64***	0.80	2.33**	2.64***	0.52	1.18
(t + 3)	Mean	0.11	0.06	0.03	1.31	9.36	3426
	Median	0.05	0.04	0.02	1.33	10.00	1471
	Std. Dev.	0.15	0.06	0.06	0.88	3.71	6333
	Min	0.00	0.01	0.00	–4.25	2.00	11
	Max	1.09	0.30	0.40	4.45	16.00	53268
	t-statistic	3.64***	0.16	2.40**	0.88	0.67	0.28
	MW z-score	5.88***	0.52	2.84***	0.16	0.57	1.69*

EVOL is earnings volatility; CAP is capital intensity; DISP is analysts' forecast dispersion; LEV is financial leverage; FOLL is the number of analysts following a firm; SIZE is the firm's market capitalization. t – 1 denotes one year before the merger; t + 1, t + 2 and t + 3 denote one, two, and three years after the merger respectively. T-statistics and Mann-Whitney z-scores are for difference between forecast errors in the pre-merger year (t – 1) and each of the post-merger years (t + 1, t + 2 and t + 3).
*, **, and *** denote significance at the 10%, 5%, and 1% level (two-tailed) respectively.

RESULTS

Table 2 reports results from both parametric t-test and non-parametric Mann-Whitney's test for difference between analysts' forecast errors in the pre-merger period (i.e. t – 1) and those in the post-merger period (i.e. t + 1, t + 2 and t + 3). Overall, the results show an increase in the average forecast error subsequent to the merger. Specifically, in the year prior to the merger, the average (median) earnings forecast error is 1.33 (0.73) percent of share price. Analysts' forecasting ability of acquiring firms reduces monotonically each year after the merger so that in the third year of the merger, the average (median) forecast error is 4.31 (0.79) percent. This is at least three times the pre-merger forecast error. The change in the analysts' earnings forecast error is significant at least at the 10% level in the second and third years of merger under the t-test (two-tailed).

TABLE 2
CHANGES IN PERCENTAGE ABSOLUTE FORECAST ERRORS SUBSEQUENT TO AN M&A FOR A SAMPLE OF 99 AUSTRALIAN FIRMS, 1998–2000

	t – 1	**t + 1**	**t + 2**	**t + 3**
Mean	0.0133	0.0141	0.0328	0.0431
Median	0.0073	0.0068	0.0077	0.0079
t-statistic		–0.2770	–1.7720*	–1.9950**
MW z-score		–0.2990	–0.5160	–0.6740

T-statistics and Mann-Whitney z-scores are for difference between forecast errors in the pre-merger year (t – 1) and each of the post-merger years (t + 1, t + 2, and t + 3).
* and ** denote significance at the 10% and 5% level (two-tailed) respectively.

Overall, the data show that analysts' earnings forecast error in the post-merger period increases within the test period. This finding is in contrast to the U.S. evidence in Canina and Sinha (2002) that the increase in analysts' forecast error after the merger is temporary, with the error reverting to the pre-merger level two years after the merger. The inherent persistence in the forecast error in the pre-merger period in our data may be due to the complexity that continues to exist in the firm so that analysts are less able to adapt quickly to the new situation.[7]

To provide further insight into the above findings, we run a multivariate analysis of cross-sectional variations in the change in the accuracy of analysts'

[7] This proposition is in line with Plumlee (2003) who notes that "…analysts' ability to incorporate information into their forecasts correctly is a decreasing function of the complexity of the information, or analysts choose not to assimilate complex information because the cost would exceed the benefit…" (p. 294).

earnings forecasts. This allows us to assess whether the observed change in analysts' forecast errors is due to changes in the firm-specific characteristics and/or changes in the forecasting environment of merging firms. Although not reported, the correlation matrix shows that multicollinearity is not a major problem in the analysis.

We report the results of three multiple OLS regressions in Table 3, which has the change in forecast error as the dependent variable. To adjust for the observed heteroskedasticity, we report t-statistics using White's (1980) correction method. The model we test increases in explanatory power over time, with the adjusted R^2 (56.10%) peaking in the second year of the merger. This suggests that the full adjustment of analysts' forecast errors to changes in the underlying firm-specific characteristic and forecasting environment takes time.

TABLE 3
MULTIPLE OLS REGRESSIONS OF CHANGES IN PERCENTAGE ABSOLUTE ANALYSTS' FORECAST ERRORS ON INDEPENDENT VARIABLES

		Regression 1 (t – 1 to t + 1)		**Regression 2 (t – 1 to t + 2)**		**Regression 3 (t – 1 to t + 3)**	
Explanatory variable	**Predicted sign**	**Coeffi-cient**	**t-statistic**	**Coeffi-cient**	**t-statistic**	**Coeffi-cient**	**t-statistic**
Intercept		0.002	0.458	0.010	0.925	0.080	2.231**
ΔEVOL	+	0.036	1.665**	0.324	2.027**	0.260	1.759**
ΔCAP	+	0.025	0.626	0.408	1.553*	0.978	1.437*
ΔLEV	+	0.002	0.789	0.026	1.730**	–0.035	–1.398
ICLASS	+	0.002	0.364	–0.009	–0.739	–0.064	–2.027
ΔFOLL	–	–0.001	–0.762	0.002	0.782	0.010	1.732
ΔDISP	+	0.106	2.318**	–0.310	–0.463	–0.147	–0.464
ΔLn(SIZE)	–	–0.010	–2.260**	–0.019	–1.816**	–0.055	–2.589**
N		99		98		91	
Adjusted R^2		0.129		0.561		0.481	
F-statistic		3.064		18.71		12.92	
(p-value)		(0.006)		(0.000)		(0.000)	

ΔEVOL is the change in the standard deviation of earnings of acquiring firm before and after the merger; ΔCAP is the change in the sum of depreciation and interest expenses normalized by sales before and after the merger; ΔLEV is the change in the ratio of the total liabilities to the total shareholders' equity before and after the merger; ICLASS is a dummy that takes a value of one if the industry classification is the same for the acquiring and target firms, and zero otherwise; ΔFOLL is the change in the number of analyst following a firm before and after the merger; ΔDISP is the change in the standard deviation of consensus analysts' earnings forecasts before and after the merger; ΔLn(SIZE) is the change in firm size before and after the merger, where size is measured as the natural logarithm of market capitalization. Reported t-statistics are based on White's (1980) heteroskedasticity-consistent covariance matrix.
*, **, and ** denote significance at the 10%, 5%, and 1% level (one-tailed t-test) respectively.

Across all years, we observe a positive and significant relation between ΔEVOL and the change in analysts' forecast errors. This supports our conjecture that merging firms with an increase in earnings variability after the merger have a

greater change in analysts' earnings forecast error. Also consistent with our prediction is the result for ΔCAP, which indicates that firms with a greater change in capital intensity have a higher forecast error. This association is marginally significant (at the 10% level) only in the second and third years of the merger. Firms that increase their leverage (ΔLEV) after the M&A have a significantly higher forecast error only in the second year of merger. The expected negative association between the change in firm size (ΔSIZE) and the change in forecast error is significant in every post-merger year.

The change in analyst forecast dispersion (ΔDIS) increases significantly with the change in forecast error only in the year immediately after the merger. It does not appear to impact on the change in forecast errors subsequent to that year. A (marginally) positive relationship between the change in analyst following (ΔFOLL) and the change in forecast error is observed in the third year of the merger contrary to expectations.

The industry diversification variable (ICLASS) has a negative coefficient that is significant in the third year of the merger. This contradicts the hypothesis that the more diversified the firms, the greater the post-merger analysts' earnings forecast error. One plausible explanation for this outcome is that analysts in the third year of the merger (in this case) have fully deciphered the "situation" of the merging firms, thereby making their earnings prediction more accurate. This proposition is consistent with Mikhail, Walther and Willis (1997) who find that analysts improve their forecast accuracy with experience.

SUMMARY AND CONCLUSION

This study examines how M&As affect the earnings forecasting ability of analysts in Australia. Based on a sample of 99 observations from 1998 to 2000, the results show that analysts' earnings forecast accuracy declines subsequent to a merger. Also, this study finds evidence that the increase in analysts' earnings forecast errors in the post-merger period seems to persist for at least the first three years after the merger, leading to the suggestion that complexity arising from the merger continues to dwell in firms' information environment and that analysts are unable to adapt quickly to the new situation. That is, the full adjustment of analysts' earnings forecast error to a change in the underlying firm-specific characteristic or forecasting environment takes a while to take affect. Significant explanatory variables for the change in forecast errors at least in the third year of the merger are changes in earnings volatility, capital intensity, financial leverage, analyst following, firm size, and industry diversification. Changes in the

dispersion in analyst forecasts are significantly and positively related to the forecast error only in the first year of the merger.

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