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Analyzing M&A: The Effects of Same Sell-Side Analysts

Nicolas Garcia
University of Pennsylvania

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Abstract

This thesis explores the topic of earnings forecast accuracy within the context of M&A activity and expands upon the findings of Tehranian, Zhao, and Zhu (2014). The paper aims to provide insights into the contributing factors of equity research forecast accuracy by examining the cross-sectional deviation in the relationships that influence analysts' ability to produce accurate earnings forecasts. The research conducted in this paper shows that equity research analysts who have prior experience covering both the target and the acquirer firm are more precise than analysts who covered just one of the two and new coverage analysts. The paper also identifies that among analysts who covered both the acquirer and target companies time spent covering companies in the same industry as the acquirer further improves forecast accuracy. The paper also finds that more forecast history for the target and acquirer companies in general results in slightly less accurate forecasts for analysts who have covered both the target and acquirer in the past.

Keywords

earnings forecast, equity research, EPS

Disciplines

Accounting | Finance and Financial Management

ANALYZING M&A: THE EFFECTS OF SAME SELL-SIDE ANALYSTS

By

Nicolas Garcia

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Faculty Advisor:

Matthew Cedergren

Assistant Professor, Accounting

THE WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

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ABSTRACT

This thesis explores the topic of earnings forecast accuracy within the context of M&A activity and expands upon the findings of Tehranian, Zhao, and Zhu (2014). The paper aims to provide insights into the contributing factors of equity research forecast accuracy by examining the cross-sectional deviation in the relationships that influence analysts' ability to produce accurate earnings forecasts. The research conducted in this paper shows that equity research analysts who have prior experience covering both the target and the acquirer firm are more precise than analysts who covered just one of the two and new coverage analysts. The paper also identifies that among analysts who covered both the acquirer and target companies time spent covering companies in the same industry as the acquirer further improves forecast accuracy. The paper also finds that more forecast history for the target and acquirer companies in general results in slightly less accurate forecasts for analysts who have covered both the target and acquirer in the past.

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1. INTRODUCTION

Sell-side analyst reports are in abundant supply, and each analysis offers its unique forecast of a firm's future performance. Often, analysts disagree on the future outlook of a firm, which results in a wide range of projections and limited consensus. The motivation behind this research is to explore sell-side outcomes and M&A activity further. Mergers and Acquisitions present an exciting context for analysis because they are a period defined by change. An M&A transaction results in an acquirer purchasing a target company and integrating the two businesses. Regardless of whether a company is an acquirer or target, the transaction provides the opportunity to realize changes in the value of the underlying companies for the newly merged firm. Other than a company's financials, M&A transactions also impact equity research analysts and their coverage decisions.

Analyst forecasting within the context of M&A is particularly unique. During M&A activity, analysts may transition on and off coverage assignments. The research focuses on analyzing how this decision impacts their ability to forecast earnings. Understanding the potential benefits of continued coverage after a merger or lack thereof can provide insights into the driving forces of accurate earnings forecasts and the ability of analysts to use previously acquired knowledge to improve their earnings forecast accuracy. More specifically, the research focuses on cross-sectional deviation in the relationships that influence analysts' ability to produce accurate earnings forecasts for post-acquisition acquiring companies and newly merged firms. It addresses whether this ability varies based on analysts' coverage portfolio experience concerning target and acquirer firms or whether this varies based on analysts' ability to accrue industry and firm-specific knowledge over time. The empirical data analysis conducted for this thesis supports the previously proposed idea that analysts can benefit from prior coverage

experience of the target or acquirer but are susceptible to greater forecast errors when they cover many industries. It also provides additional insights into how groups of analysts can benefit from their coverage experience concerning time spent on the target and acquirer companies and companies in the same industry relative to their peers with similar coverage experience. Through the completion of this analysis, the goal is to gain a more refined understanding of accurate earnings forecasts in the setting of M&A. The research expands upon the existing literature and provides insights to academics, investors, and sell-side analysts.

There already exists a body of research that has begun to explore the underlying drivers of accuracy in analyst earnings forecasts during M&A activity. The most closely related paper, Tehranian, Zhao, and Zhu (2014) found that analysts who covered the target and acquirer firms produced more accurate earnings forecasts than their peers. One of their key findings attributed the increase in forecast accuracy to the analyst self-selection process of staying on merged firms due to self-confidence in their skills. The research question arose naturally through identifying gaps in the existing literature and digging deeper into what else could be impacting analyst forecast accuracy. The research published by Kim, Lobo, and Song (2011), and Dunn and Siva (2005) found that analysts' characteristics can help predict the accuracy of future forecasts. More specifically, Kim, Lobo, and Song found that firm-specific experience, career experience, and industry coverage experience all led to improved forecast accuracy. Dunn and Siva found that analysts who spread coverage across multiple business segments were less accurate. This paper extends the research of Tehranian, Zhao, and Zhu by incorporating additional cross-sectional analysis.

The primary research question is as follows: Does accrued knowledge improve an analyst's ability to predict accurate earnings forecasts following an M&A transaction? With this

question, the goal was to provide empirical evidence that there are factors, other than analyst self-confidence, that impact an analyst's ability to predict earnings in the context of M&A more accurately. The research analyzes whether analyst characteristics have the same effects in the context of M&A and whether analysts within each of the defined groups can benefit from accrued knowledge. For this research paper, I define accrued knowledge as prior experience covering both the target and acquirer firms, time spent covering target and acquirer firms, and time spent covering firms within the same industry. I employ ordinary least squares (OLS) linear regression analysis to determine the impacts of the independent variables.

This paper provides a meaningful contribution to three main groups: academics, investors, and sell-side analysts. For academics, this research expands the literature around M&A and earnings forecasts. It helps provoke thought around the importance of cross-sectional areas of investigation concerning the accuracy of earnings forecasts, especially surrounding M&A activity. For investors, this research provides insights into the factors that help determine which sell-side analyst reports should demand the most credibility, and it also adds meaningful analysis into how investors should weigh the opinions of individual analyst reports. This contribution provides another tool to sift through the large quantity of published, and expensive, analyst forecasts and identify the research that will most likely be worth the investment. On a more individual level, this research contributes to analysts by informing them about some factors that could potentially influence the accuracy and quality of their forecasts. This result may affect the self-selection process for analysts deciding whether to cover firms post-M&A activity.

2. OVERVIEW

2.1 Theoretical Discussion

Does accrued knowledge improve an analyst's ability to forecast earnings following an M&A transaction accurately? The first step in answering the research question is confirming that analysts who covered both the target and acquirer before a merger, referred to as "BOTH," are more accurate at predicting post-merger earnings than analysts who covered either the target or acquirer before the merger, referred to as "EITHER," (but not both), as well as new analysts who covered the newly merged company after the acquisition completes. The first hypothesis of this paper is that "BOTH" will have more accurate post-merger earnings forecasts than "EITHER" or new analysts (H1). The second hypothesis will determine whether any superior forecast accuracy within the "BOTH" group post-acquisition results from knowledge synergies. The second hypothesis is that within the BOTH and EITHER analyst groups, analysts with greater accrued knowledge will be more accurate than as compared to analysts who did not cover either the target or the acquirer (H2).

The purpose of H1 is to assess the findings of Tehranian, Zhao, and Zhu (2014) on a larger and more recent data set, and to establish a framework from which H2 can build. H2 proposes that analysts can accrue knowledge over time that grants them an advantage over their peers within the same analyst group. The idea is that when looking at two analysts who have covered both the acquirer and target, the expected outcome will be that the analyst who has been covering both firms longer will produce more accurate earnings forecasts. The same should hold for other analyst groups. I expect that industry-specific experience will also contribute to an analyst's accrued knowledge over time; however, within the context of M&A, too much variety of industry coverage is expected to result in greater analyst forecast error. It is thus an empirical

question as to whether increased industry exposure strengthens or weakens the relationship between post-acquisition analyst forecast accuracy and prior coverage of the acquisition firms.

I based my hypothesis on the simple idea that analysts who practice industry and firm forecasting over longer periods should produce more accurate estimates. I expect that analysts can learn and synthesize a complete understanding of a business by working on the same or similar companies over time and apply that understanding to produce higher-quality forecasts. In the past, researchers have not analyzed analyst experience within the context of specific analyst groups. An investigation of this hypothesis will provide a deeper understanding as to how analysts can benefit from past experiences relative to their most similar peers.

2.2 Literature Review

Sell-side analysts provide a critical service to financial institutions, individual investors, and the companies they cover. The current body of research looking at the importance of earnings forecasts indicates that high-quality predictions are essential drivers of market efficiency and stability. The estimates they provide influence company stock prices and accelerate the incorporation of industry-level and firm-specific information into share prices (Piotroski and Roulstone 2004). On another note, there have been more recent studies suggesting that the value added by research analysts is strictly due to increased demand for stocks and not the improved availability of information (Hansen 2015). Despite this, confidence in equity research is supported by studies that indicate that investors are responsive to analysts' forecast revisions, especially if the analyst has significant experience in the industry (Hillary and Shen 2013). Past research has primarily focused on analyzing the role of sell-side analysts by tracking trading patterns and returns around forecast announcements. The vast majority of sell-side

analyst research uses I/B/E/S and Compustat data to measure the impact of specific variables on analyst forecast error.

A multitude of factors, such as experience, portfolio complexity, and the relationship between the analyst's portfolio companies, impact the quality of an analyst's estimates for a specific company according to the current body of research on the accuracy of sell-side analyst earnings forecasts. Research has shown that an analyst's experience and the number of firms followed by the analyst are useful in predicting the quality of forecasts (Clement 1999). This study found that forecast accuracy is positively associated with analysts' experience and employer size, and negatively associated with the number of firms and industries followed by the analyst. This paper leaves space for further analysis of the impacts of the composition of an analyst's coverage portfolio. Further research on analyst experience reinforces the connection between forecast accuracy, aptitude, and brokerage house (Jacob, Lys, and Neale 1999).

Recently, research has focused on analyzing the impact of specific analyst characteristics on analyst forecast accuracy. Dunn and Siva (2005) found that analysts who covered multiple business segments and industries were less likely to have accurate earnings forecasts. The researchers explored their topic using a similar method to Clement (1999) to measure the absolute value of the analyst forecast error. Kim, Lobo, and Song (2011) conducted a more robust analysis of analyst characteristics. In that study, the researchers layered many additional variables. They analyzed the impact of factors, such as firm experience, industry experience, career experience, and other factors that focused on the size and reputation of the employer firm. They found that analyst characteristics that were positively associated with revision timing, such as experience, more accurate prior-period forecasts, and the size of the employer brokerage firm, were negatively correlated with relative forecast error.

Concerning the relationships within the analyst's coverage portfolio, research has indicated that related portfolio companies result in higher quality earnings forecasts. Mainly, research has found that analysts who cover two companies with a supplier-customer relationship provide improved forecast accuracy for the customer's earnings announcements when compared to other analysts who do not cover both the supplier and customer (Guan, Wong, and Zhang 2014). The paper focused on analyzing the coverage of firms within the context of supply chain relationships, but the methods applied can also be used to analyze the forecasts of analysts within the context of M&A. These findings leave room for further exploration and analysis using their research methods by applying them to the study of forecast accuracy concerning post-merger coverage of firms who have acquired or merged with a counterparty that they previously had a customer-supplier relationship.

Concerning the research on the accuracy of forecasts around M&A activity, the current literature shows that research analysts that follow a target company pre and post-merger produce more accurate earnings forecasts and more positive stock recommendations of merged firms than do remaining acquirer analysts (Tehranian, Zhao, and Zhu 2014). That same paper also found that a greater number of analysts staying on the merged firm is associated with greater long-term stock performance. The article, published in 2014, revealed that a target analyst's behavior post-merger could be useful in determining the merged firm's future performance when looking at data for M&A activity from 1985 to 2005. Supporting research also found evidence that analysts choose to cover firms that they believe will perform favorably following an IPO (Das, Guo and Zhang 2006). The study conducted here hopes to build on this existing literature by looking at more recent transactions and quantifying the impacts of accrued knowledge.

3. REGRESSION AND VARIABLES

I use each of the following regression specifications to assess the corresponding hypotheses, H1 and H2, respectively:

(1) $AFE = \alpha_0 + \alpha_1 * BOTH + \alpha_2 * EITHER + \alpha_3 * IndNum + \alpha_4 * IndExp + \alpha_5 * F\_E + fixed\ effects + \varepsilon$

(2) $AFE\ BOTH, EITHER = \alpha_0 + \alpha_1 * IndNum + \alpha_2 * IndExp + \alpha_3 * F\_E + fixed\ effects + \varepsilon$

The dependent variable will be *AFE*, which represents the analyst forecast error, calculated as the absolute value of the difference between the actual earnings in $k+1$ and the one-year ahead forecasted earnings in the year k scaled by the share price. All regression specifications include industry and year fixed effects. The appendix contains detailed tables with deals characteristics and summary information.

Before the regressions, I had expectations for the resulting coefficients and their significance. In the first equation, I expected that *BOTH*, *EITHER*, *IndExp* and *F_E* would have negative coefficients, with *BOTH* having the most negative. I anticipated a larger negative coefficient on *BOTH* because I expected analysts to be able to benefit from past experiences and those who had covered both the acquirer and target to be able to improve the most from their accrued knowledge. My expectations were in line with H1 discussed earlier in the paper. Additionally, I was uncertain as to whether the variables *IndExp* and *F_E* would be significant because these variables may apply to new coverage analysts who may not have industry experience, and who by definition, did not have firm-specific experience. I expected that the relative sizes of the analyst groups would influence the significance of these variables. Lastly, I expected the variable *IndNum* to be positive because, as previous studies have shown, broad coverage of various industries prevents analysts from developing specialized expertise.

Concerning the second equation, my predictions of the resulting coefficients were the same. I expected *IndExp* and *F_E* to be negative, and *IndNum* to be positive. Also, I expected all variables to be significant for both the analyst groups. I expected the analysts to be able to benefit from accrued knowledge relative to their peers in the group, as I stated in H2. I was expecting that as the analysts spent more time on the firm and the industry, they would develop valuable expertise that would prove helpful in improving their ability to produce accurate earnings forecasts.

4. DATA AND METHODS

My empirical research uses similar research techniques found in Tehranian, Zhao, and Zhu (2014) and Kim, Lobo, and Song (2011), and it focuses on a regression-based analysis. The analysis distinguishes among analysts classified as BOTH and EITHER within the data set and then compares their earnings forecast accuracy for the post-merger company to test H1. I looked at and compared the coefficients for *BOTH* and *EITHER* discussed in the previous section of this paper. To test H2, I used a proxy for acquired knowledge and saw whether that correlates with increased forecast accuracy within each group. The test for acquired knowledge consists of variables *IndNum*, *IndExp*, and *F_E*, discussed above.

This research approach builds off of the methods employed by Tehranian, Zhao, and Zhu (2014). I gathered the archival data required for the analysis by downloading the relevant files from existing Wharton research databases (WRDS) made available through the Penn library. I put together the dataset using SAS code with the help of my thesis adviser. The total data analyzed consists of combined SDC Platinum, I/B/E/S, CRSP, and Compustat data sets to test the hypotheses and analyze analyst forecasting accuracy. The appendix contains descriptive statistics of the types of deals and M&A environment.

The first step in the analysis was to establish a criterion for a unit of observation and create the M&A sample. The unit of observation was each unique combination of M&A deal and research analyst. The M&A sample consisted of deals that occurred between 1983 and 2018 and were limited to completed transactions between firms publicly traded in the United States. I retrieved this data from the Securities Data Company (SDC). Matching with CRSP and Compustat data sets was done to pull the relevant share price and company information, respectively. The data set for the analysts' forecasts comes from Institutional Brokers' Estimate System (I/B/E/S) data beginning in 1983. The actual company earnings from Compustat were matched to the I/B/E/S database to test for accuracy by calculating analyst forecast error.

I used a binary independent variable to distinguish the analysts in the groups *BOTH* and *EITHER*. The purpose of this strategy is to create two mutually exclusive groups and provide two critical functions in the regression analyses. First, separating the analysts into their respective groups allowed me to test whether membership in a group results in increased or decreased analyst forecast accuracy. Secondly, assigning the analysts to mutually exclusive groups allowed me to run the second set of regressions on each group individually to analyze the cross-sectional deviation concerning my other variables. The process of creating these variables was as follows. I used Year *k* to label the year in which a merger occurred, and I determined coverage status by looking at whether or not the analyst issued a one-year-ahead earnings forecast for the respective target or acquirer firm in the year *k*-1. The independent variable for *BOTH* is equal to 1 if the analyst covered both the target and acquirer in year *k*-1; otherwise, the dependent variable equals 0. I used the same method for *EITHER*, except it equals one if the analyst issued a forecast for only one of the two, but not both. With this method, the regression was able to distinguish among the two groups and new analysts.

Analyst forecast error is the dependent variable to determine the accuracy of earnings forecasts for the groups and draw conclusions about H1. Analyst forecast error, *AFE*, was calculated by comparing one-year-ahead forecasted earnings announced in year *k* from I/B/E/S with actual earnings in year *k*+1 from the Compustat data and then scaled by the share price. Furthermore, AFE was winsorized at the 1st and 99th percentile to limit the effects of outliers. The coefficients from the resulting analysis provided detail on which group was most accurate.

Additionally, the second method of study within each group relied on a proxy for accrued knowledge. H2 was tested by seeing if acquired knowledge correlates with reduced analyst forecast error. The acquired knowledge was proxied by three independent variables, firm experience, industry experience, and the number of different industries covered. I calculated the sector and firm-specific experience variables by counting the number of forecasts issued by the corresponding analyst for companies with the same SIC code as the acquirer and the target and acquirer in the years before an M&A transaction, respectively. I calculated the industry number by counting the number of unique two-digit SIC codes covered by each corresponding analyst. I also winsorized the three accrued knowledge variables at the 1st and 99th percentile. I added fixed effects for each industry and year. The regression was run on the cumulative data set and each group to determine whether accumulated knowledge reduces analyst forecast error.

5. RESULTS

5.1 Discussion of Analyst Group Variables

The finalized dataset consisted of 871,272 unique deal-analyst combinations from the year 1983 to 2018, representing 6,673 unique deals. The appendix contains the resulting regression tables. The results in Table 5 support the initial hypothesis, H1, that analysts who covered both the target and acquirer before the M&A activity would produce more accurate

earnings forecasts. The variable *BOTH* had a negative coefficient with a greater magnitude than the *EITHER* variable. My findings suggest that both characteristics result in improved earnings forecasts, but *BOTH* has a more substantial effect. Both of these variables were significant at the 1% level.

The coefficient of *BOTH*, -0.048, should be interpreted to mean that an analyst who has covered both the acquirer and target before a transaction produces 0.05% more accurate earnings forecasts on average when the share price scales the forecast error. This reduction in error may seem small, but for companies with large share prices, this error can reflect significant dollar value discrepancies between actual and forecasted earnings over time. The coefficient of *EITHER*, -0.022, suggests that analysts who only covered one of the two firms participating in the merger produce 0.02% more accurate earnings forecasts on average when the share price scales the forecast error. The r-square in Table 5 regression was 5.5%, with a sample size of 871,272. Note that this sample size is considerably larger than similar empirical research tests and supports the conclusion that analysts have been able to benefit from experience over the period analyzed, 1983 to 2018.

5.2 Discussion of Accrued Knowledge Variables

Furthermore, I tested the cumulative dataset, the dataset that includes all observations, for the impacts of the variables that measured accrued knowledge. Industry experience and firm-specific experience, which refers to the time spent covering the target and acquirer, were not significant when tested on the cumulative dataset, as shown in Table 5. Industry number, or the number of unique two-digit SIC codes covered by an analyst, was significant at the 1% level and resulted in a higher analyst forecast error of about 1.5% when the share price scales the forecast error. The data in the table suggests that prior coverage experience is relevant within the context

of M&A activity and that analysts who cover many different industries may be hurting their potential to specialize in specific sectors to improve their forecasting skills.

In addition to reaffirming the findings of Tehranian, Zhao, and Zhu (2014) on a much more extensive dataset, this research thesis provides insights on the cross-sectional application of the idea of accrued knowledge. The second set of regressions tested the accrued knowledge variables on the analysts marked by the *BOTH* and *EITHER* variable to understand better how accumulated knowledge played a role in influencing the earnings forecast accuracy of each group. The regression analyses of the individual analyst groups resulted in the regressions found in Table 6 of the appendix.

Going through the results in Table 6, the first thing that stands out is that the variables for industry and firm-specific experience were only meaningful within the group of analysts who covered both the target and the acquirer. In the BOTH analysts' group, I got some unexpected results that do not entirely align with my initial predictions. While industry number increased forecast error as shown by the positive coefficient, so did variable *F_E*, the experience of covering the target and acquirer, albeit by a tiny amount of 0.0003% of the analyst forecast error when scaled by the share price. Also, industry experience, defined by the variable *IndExp*, had an effect of only about -0.00005% on the analyst forecast error when scaled by the share price. Although the sign of the coefficient is in line with my initial predictions, the magnitude of the variable is much smaller than I expected. My original predictions were that analysts would be able to benefit from accrued knowledge covering the target and the acquirer firms over time and apply that to produce more accurate earnings. The data does not support that idea or H2, which predicts that analysts benefit from accrued knowledge compared to their peers in both groups. I think it would be interesting to hypothesize why an analyst's firm experience results in more

significant forecast error. My results could potentially be due to analysts becoming too optimistic about a company that they have worked closely with for an extended period. The sample size of the BOTH analyst group was the smallest with 81,528 observations, but the r-square of 6.8% was the highest.

In the EITHER analysts' group, only the number of industries covered was significant, and it had a similar effect as when it was tested on the cumulative data and the BOTH data, as shown by the resulting positive coefficient. The failure of industry and firm experience to produce significant results goes against my initial predictions that analysts within this group would be able to benefit from accrued knowledge. Despite this, analysts marked as EITHER still produced better earnings forecasts than new analysts. I conducted this regression on a sample size of 420,827, with an r-square of 5.2%. My research does not successfully identify accrued knowledge, as defined by my variables, as the driving force in an accuracy improvement. I believe this presents additional opportunities to explore the cross-sectional deviation in analyst forecast accuracy.

6. CONCLUSION

The motivation behind this study was to uncover a deeper understanding of the drivers of accurate earnings forecasts and cross-sectional deviation of analysts' ability to forecast accurately within the context of M&A. In designing and carrying out the research process, I hoped to provide insights into how accrued knowledge impacts the quality of earnings forecasts. The resulting regressions supported my first hypothesis as well as the findings in previous research by testing on a much larger and expansive dataset. The empirical analysis shows that analysts who have covered both the target and acquirer can produce more accurate earnings forecasts than analysts who covered only one of the two and new analysts. Secondly, analysts

who have covered either the target or acquirer, but not both are more accurate than new analysts. As put forth in H2, this paper sought to explain that improved accuracy within each analyst group came as a result of accrued knowledge, as defined by the variables that serve as a proxy for firm experience, industry experience, and industries covered. The results did not support this hypothesis in a meaningful way and suggested that there may be other factors driving the cross-sectional deviation in earnings forecast accuracy. My findings open the door to further research that hopes to fill in the gaps concerning the drivers of analysts' ability to differentiate themselves from their most similar peers in the context of M&A activity.

APPENDIX

Table 1. Description of Variables

Variable	**Description**
BOTH	Analysts who covered the target and acquirer before the transaction
EITHER	Analysts who covered only the target or acquirer before the transaction
IndNum	Number of different industries covered, determined by the number of unique industry codes
IndExp	Time spent covering firms in the same industry as the target/acquirer, calculated as the consecutive number of quarterly forecasts issued before the transaction in the year *k*
F_E	Time spent covering the target or acquirer, calculated as the number of consecutive quarterly forecasts issued before the transaction in the year *k*

Table 2. Summary Deal Characteristics

The sample consists of 6,673 deals that became effective between 1978 and 2019.

			Interquartile Range		
	Mean	**St. Dev.**	**25th Percentile**	**Median**	**75th Percentile**
Acquirer Details					
Acq. Enterprise Value	166.63	238.00	0.00	48.82	255.16
Acq. LTM Sales	1,404.90	7,309.17	47.23	151.82	610.19
Acq. Net Assets	752.48	3,411.95	33.80	98.40	347.15
Acq. Book Value	1,018.77	77,712.37	2.80	6.70	13.30
Acq. LTM EPS	(282.04)	12,442.27	(0.21)	0.34	1.24
Acq. MV	184,631.49	5,999,954.97	603.78	2,448.27	11,447.06
Deal Information					
Analyst Forecast Count	132.85	124.14	31.00	99.00	199.00
Tgt. MV	4,357.10	145,174.40	66.51	209.27	825.82
PCT_CASH	39.34	45.49	0.00	0.00	100.00
PCT_OTHER	7.50	21.78	0.00	0.00	0.00
PCT_STK	38.16	44.96	0.00	0.00	100.00
PCT_UNKNOWN	10.26	30.06	0.00	0.00	0.00
PCTACQ	75.44	38.93	37.52	100.00	100.00
PCTOWN	80.09	36.28	94.00	100.00	100.00
PSOUGHT	73.82	40.27	28.00	100.00	100.00
PSOUGHTOWN	78.47	37.79	70.20	100.00	100.00

Table 3. Deals by Year

Number of Deals	Year (Effective Date)
2	1978
6	1979
3	1980
28	1981
35	1982
59	1983
114	1984
111	1985
142	1986
152	1987
170	1988
149	1989
127	1990
108	1991
119	1992
150	1993
232	1994
286	1995
338	1996
386	1997
485	1998
511	1999
461	2000
332	2001
180	2002
182	2003
205	2004
188	2005
187	2006
221	2007
164	2008
95	2009
109	2010
86	2011
95	2012
107	2013
101	2014
145	2015
78	2016
15	2017
6	2018
3	2019
6,673	

Table 4. Deals by Industry

Number of Deals	2 Digit SIC Code	Industry Description
694	60	Depository Institutions
694	73	Business Services
567	67	Holding & Other Investment Offices
512	28	Chemical & Allied Products
458	36	Electronic & Other Electric Equipment
370	48	Communications
306	35	Industrial Machinery & Equipment
299	38	Instruments & Related Products
257	63	Insurance Carriers
199	13	Oil & Gas Extraction
196	49	Electric, Gas, & Sanitary Services
120	62	Security & Commodity Brokers
116	20	Food & Kindred Products
109	37	Transportation Equipment
106	80	Health Services
91	10	Metal, Mining
90	87	Engineering & Management Services
89	99	Non-Classifiable Establishments
81	27	Printing & Publishing
78	34	Fabricated Metal Products
76	33	Primary Metal Industries
70	50	Wholesale Trade – Durable Goods
66	61	Nondepository Institutions
62	78	Motion Pictures
61	29	Petroleum & Coal Products
54	26	Paper & Allied Products
54	51	Wholesale Trade – Nondurable Goods
54	59	Miscellaneous Retail
50	39	Miscellaneous Manufacturing Industries
47	45	Transportation by Air
44	30	Rubber & Miscellaneous Plastics Products
43	53	General Merchandise Stores
43	65	Real Estate
42	58	Eating & Drinking Places
39	54	Food Stores
38	32	Stone, Clay, & Glass Products
36	70	Hotels & Other Lodging Places
31	40	Railroad Transportation
331		Other industries with < 30 deals in the sample
6,673		

Table 5. Analyst Forecast Error for Complete Dataset

Variables	Dependent Variable = AFE (1)
BOTH	-0.04776485
	-7.33***
EITHER	-0.02226063
	-6.22***
IndNum	0.01497479
	18.30***
IndExp	-0.00000434
	-1.31
F_E	0.00012946
	1.60
Intercept	1.16177762
	53.41***
Industry Fixed Effects	Yes
Year Fixed Effects	Yes
R-Square	5.46%
N	871,272

Note: The data table shows the resulting coefficient and the corresponding T-statistic and significance level below. The original coefficients were multiplied by 100 to reflect a percent of the share price. ∗Significant at 10%; ∗∗significant at 5%; ∗∗∗significant at 1%.

Table 6. Analysts Forecast Error by Analyst Group

	Dependent Variable = AFE	
Variables	(2a) BOTH	(2b) EITHER
BOTH		
EITHER		
IndNum	0.0225983	0.01491362
	10.32***	15.06***
IndExp	-0.00004781	-0.000005
	-6.18***	-1.26
F_E	0.00034889	0.00002598
	2.41**	0.26
Intercept	0.71361059	1.07858361
	14.62***	36.13***
Industry Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
R-Square	6.84%	5.22%
N	81,528	420,827

Note: The data table shows the resulting coefficient and the corresponding T-statistic and significance level below. The original coefficients were multiplied by 100 to reflect a percent of the share price. ∗Significant at 10%; ∗∗significant at 5%; ∗∗∗significant at 1%.

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