Do Analysts Add Value after Management Forecast Revision?

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Abstract

This paper analyzes analyst behavior in revising forecasts following the release of management forecasts and the usefulness of analyst forecasts. The analysis shows that there is immediate herding of analysts once management forecasts are released. It also shows that new information is subsequently generated starting with large companies. Furthermore, the equity markets recognize these peculiarities pertaining to analyst forecasts and refer to management forecasts immediately after they are revised with subsequent reference to analyst forecasts beginning from large companies.

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1. Analyst forecast revisions following release of management forecasts

Analysts provide new information to the equity markets by releasing their earnings forecasts for the companies they cover on the basis of information disclosed by such companies and also independently collected materials. However, according to Hassell et al. [1988] and Noma [2008], analysts change their own forecasts to conform to management forecasts once they are released, i.e., there is a tendency for herding[1]. Consequently, if analyst forecasts following the release of management forecasts mirror such management forecasts, it is doubtful whether analyst forecasts provide any unique information.

On the other hand, according to Hassell and Jennings [1986], analyst forecasts become increasingly more accurate than management forecasts after the passage of time following the release of management forecasts. This is because analysts appropriately reflect new information based on management forecasts and also independently collected materials in their own forecasts following the release of management forecasts. It is thought that the usefulness of analyst forecasts increases as time passes following the release of management forecasts. Therefore, if equity markets understand such characteristics of analyst forecasts, management forecasts would be reflected immediately after being announced and we would expect a gradual shift in reference towards analyst forecasts.

This paper analyzes the extent of herding in analyst forecasts following the release of management forecasts and the usefulness of analyst forecasts. Furthermore, according to Nara and Noma [2012a], the impact of management forecasts on analyst forecast revisions differs depending on the size of the company; therefore, a similar analysis is made on the basis of company size.

2. Past research on analyst behavior in revising forecasts and the usefulness of forecasts

According to past research, analyst forecasts are influenced by management forecasts. Hassell et al. [1988] and Baginski and Hassell [1990] analyze the change in analyst forecasts following the release of management forecasts and identify that analyst forecasts are revised once management forecasts are released. In addition, according to Williams [1996], analyst reaction to the release of management forecasts is bigger when there is greater confidence in past management forecasts.

Similar trends are evident in Japan. Ota and Kondo [2011] conducted similar analysis to Hassell et al. [1988] using I/B/E/S consensus estimates[2] for analyst forecasts and confirmed the impact of

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[1] In previous research on the U.S. markets, the behavior of analysts in following influential analysts has generally been referred to as herding (Graham [1999], etc.), but Noma [2008] and this paper use the term herding to refer to the behavior of analysts to conform to management forecasts.

[2] Refers to the consensus data for analyst forecasts provided by Thomson Reuters Corporation.

management forecasts on analyst forecasts. Furthermore, Noma [2008] employed the QUICK Consensus to study the impact of the release of management forecasts on analyst forecasts; specifically, he did so after a time lag of 30 days (from the day of management forecast release), and he noted that upon the release of management forecasts analysts amended their own forecasts to be close to them.

However, there are studies that verify the usefulness of analyst and management forecasts that focus on value relevance. These studies clarify the relation between accounting information and shareholder value[3]. Confirmation of a value relevance means the information is utilized in the equity market. Ohlson [2001] notes that the value relevance of analyst and management forecasts can be represented by the following three variables: book value of equity, net income, and forecast earnings. In the U.S., Dechow et al. [1999] conducted a survey on the value relevance of analyst forecasts using a model similar to the one used by Ohlson [2001].

In Japan, Ota [2005] created two types of models—one using management forecasts and the other using analyst forecasts (I/B/E/S forecasts)—based on Ohlson's [2001] model. While indicating value relevance for both forecasts, the analysis highlights higher value relevance for management forecasts at the beginning of the fiscal year. In addition, Nara and Noma [2012b] analyzed value relevance for analyst forecasts and management forecasts on the basis of company size. The conclusion is that analyst forecasts have high value relevance for large companies and management forecasts have high value relevance for small ones.

The studies referred to herein, conducted by Ota [2005] and Nara and Noma [2012b], focused on one point in time at the beginning of the fiscal year. On the other hand, Hasssell and Jennings [1986] compared the accuracy of management and analyst forecasts on a weekly basis and found that management forecasts had higher forecast accuracy than analyst forecasts up to the fourth week following release of management forecasts. The accuracy of analyst forecasts surpasses that of management forecasts from week five following the release of management forecasts. This is because analyst forecasts appropriately reflect new information such as management forecasts and also independently obtained information. Consequently, the forecast accuracy of analyst forecasts increases as time passes and becomes more useful for the equity markets. It would then follow that if equity markets recognize such analyst forecast features, they will focus on management forecasts immediately following release and then gradually shift focus to analyst forecasts.

This paper clarifies the extent of analyst herding following the release of management forecasts and value relevance of analyst forecasts. Furthermore, Nara and Noma [2012a] noted that the impact on change in analyst forecasts due to release or change in management forecasts is large for large companies and limited for small ones. Consequently, analysis results are also presented according to company size.

3. Verification method and sample definition

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[3] Market capitalization and stock price, etc.

(1) Verification method

First, the study considers the extent of herding in analyst forecasts following the release of management forecasts. The analysis calculates the difference between management forecasts and analyst forecasts for each week from the week of release of management forecasts (week 0) to week 4 (hereinafter, referred to as differential information in analyst forecasts), and shows average and median values. Differential information in analyst forecasts is the figure after deducting management forecasts from analyst forecasts divided by market capitalization of the stock (hereinafter, market capitalization).

$$diffAF_{i,t,p}=(AF_{i,t,p} - MF_{i,t})/MVE_{i,t} \qquad (1)$$

diffAF represents differential information in analyst forecasts, AF_t is analyst forecasts of net income, MF_t is management forecasts of net income, MVE is market capitalization at the end of the previous fiscal period (end of March), i is company, t is accounting period, and p is week following the release of management forecasts and changes from 0 to 1, 2, 3, and 4. In order to clarify the difference attributable to company size, we divided the sample into 10 quantiles by market capitalization and show average and median values for diffAF indicated for each quantile. The analysis uses 10 quantiles so that the number of samples in each quantile is roughly the same for each fiscal year based on market capitalization at the end of the previous year. Therefore, samples of similar size are grouped together in their respective quantiles, with smaller quantiles representing small companies and larger quantiles representing large ones.

Thereafter, a survey is conducted on the value relevance of analyst forecasts using Ohlson's [2001] value relevance model. Dechow et al. [1999] and Ota [2005] confirm value relevance of analyst forecasts in their regression analysis of stock price values using three variables: book value of equity, net income, and earnings forecast (analyst forecasts). However, analyst forecasts—immediately following the release of management forecasts—are thought to imitate management forecasts owing to herding, and there are concerns about the value relevance of analyst forecasts when they have conformed to management forecasts even though value relevance is attributable to management forecasts. Therefore, the following model is used to verify[4] the value relevance of the aforementioned variables by inserting the aforementioned differential information in analyst forecasts into the model.

$$MVE_{i,p} = \alpha_0 + \alpha_1 B_{i,t-1} + \alpha_2 E_{i,t-1} + \alpha_3 MF_{i,t} + \alpha_4(AF_{i,t,p} - MF_{i,t})$$

$$+ \sum_{j=2}^{J} \delta_j ID_j + \sum_{k=2}^{K} \gamma_k YD_k + \varepsilon_{i,t} \qquad (2)$$

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[4] Accounting information is updated quarterly, so there are not many analyses investigating value relevance on a weekly basis. However, clarification of the relationship between 'the information that analyst forecasts follow management forecasts' and 'stock prices' cannot be obtained by event studies and analysis of the difference between analyst forecasts and management forecasts, so this paper uses this type of method.

MVE is market capitalization[5], B_{t-1} is book value of equity in the previous period, E_{t-1} is net income in the previous period, AF_t is analyst forecast for net income in the current period, MF_t is management forecast for net income in the current period, and AF_t-MF_t is differential information between management forecasts and analyst forecasts (differential information in analyst forecasts). These variables are normalized by dividing them by market capitalization at the end of the previous period (end of March). Furthermore, i is company, ID is dummy for the industry[6], YD is dummy indicating the fiscal year, t is accounting period, and p is number of weeks elapsed since the release of management forecast and changes from 0 to 1, 2, 3, and 4.

The analysis assumes equation (2) for the week in which the management forecast was released (week 0, p=0). In order to eliminate any impact of outliers on the results, the sample excludes the results above the 99.5 percentile and below the 0.5 percentile for management forecasts, book value of equity, net income, market capitalization, and differential information in analyst forecasts. In addition, in order to clarify the differences due to company size, market capitalization is divided into 10 quantiles in the same way as in the first analysis, with the results of equation (2) estimated for each quantile.

Lastly, equation (2) is estimated for weeks 1–4 (p=1-4) following the release of management forecasts[7]. In order to eliminate any impact of outliers on the results, a process, similar to the one used in the analysis for week 0, was performed. Furthermore, to clarify the difference caused by company size, analysis by company size is conducted in a similar way as that in the aforementioned analysis.

diffAF is expected to contract following the release of management forecasts because analysts quickly revise their own forecasts to be more in line with them immediately after release (Hassell et al. [1988] and Noma [2008]). In addition, the diffAF coefficient for equation (2) would temporarily lose significance if the equity market recognizes a loss of value added from analyst forecasts due to herding. Furthermore, the diffAF coefficient in equation (2) is expected to become significant once again if analyst forecasts are again priced into stock values because of analyst activities to generate information following the release of management forecasts. According to Nara and Noma [2012a], the impact of management forecasts on analyst forecasts differs depending on company size. According to Hassell and Jennings [1986], the forecasts for companies covered by many analysts are quick to become accurate. On the basis of such past studies, there is an expectation that new information will be generated for large companies covered by many analysts and the recognition of the value relevance of diffAF will begin from large companies.

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[5] Using the closing price on the last business day of the relevant week.

[6] Using TSE's 33 industry sector classification.

[7] Figures for market capitalization for the previous period, shareholders' equity, net income, and management forecasts used in the denominator do not change with the week, but an updated figure is used each week for differential information in analyst forecasts and market capitalization (numerator), which is the explained variable.

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(2) Sample definition

The sample comprises listed companies other than financials (banks, securities, insurance) with fiscal years ending in March and that are covered by more than one analyst and for which the acquisition of the data needed for the analysis is assured. Management forecasts are obtained weekly, and if released between Monday and Friday, the analyst forecast on Saturday is considered as one sample[8]. The management forecast includes the forecast at the beginning of the period as well as quarterly and mid-term revisions, but it excludes revisions to forecasts that are made within one month of the release of an earlier management forecast. Analysis is also limited to samples where earnings have been revised within the fiscal year (up until the end of March). It excludes samples where earnings have been amended from April up until immediately prior to the release of earnings. The verification period is FY2003 to FY2010, with 14,710 samples. The data is obtained from QUICK's Astra Manager.

Descriptive statistics and correlation coefficients for the samples are illustrated in Table 1. The analysis eliminated outliers for each week thus the sample number differs each week, but the chart shows descriptive statistics and correlation coefficients for the week in which management forecasts were released. Descriptive statistics in Panel A indicate that diffAF is positive for both the average and the median, and shows how analyst forecasts tend to be more optimistic than management forecasts at the time management forecasts are released. Correlation coefficients shown in Panel B indicate a slightly high value of 0.380 for the correlation coefficient between management forecasts and net income. This is possibly because management forecasts are prepared with consideration given to actual performance in the previous period and a certain degree of sustainability of profits.

4. **Empirical results of analyst herding following the release of management forecasts and the usefulness of analyst forecasts**

(1) Analysis of analyst herding following the release of management forecasts

Table 2 indicates the average and the median for weekly changes in diffAF. Focusing on the entire sample, diffAF tends to contract each week following the release of management forecasts. In this analysis, companies that revisited their forecasts within one month following the release of

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[8] Effectively, the forecast given on a Friday. Furthermore, management forecasts are usually released at the beginning of the new fiscal year when the results for the previous fiscal year are announced, with appropriate revisions made during the course of the fiscal year. In the case of companies with March fiscal year ends that are targeted for analysis in this paper, many announce their beginning of fiscal year forecasts when they announce their results for the previous fiscal year in April to May. While revisions during the fiscal year occur from time to time and differ for each company, there is a tendency for such revisions to occur following the release of interim results (from October to November) and at the end of the fiscal year (March).

management forecasts are excluded from the sample; therefore, the contraction in diffAF is due to changes in analyst forecasts. This suggests there is herding with analysts revising their own forecasts to be in line with management forecasts following their release.

In past research, Noma [2008] indicated that the difference between management and analyst forecasts gradually approaches zero by the 30th business day following release of management forecasts. His research notes that analysts tend to revise their own forecasts so as to be more closely in line with management forecasts after they are released. The research also notes a substantial contraction in the difference between both forecasts from day 1 to 3 following the release of management forecasts indicating that analysts immediately revise their forecasts to be in line with management forecasts following their release. The result of this analysis is that change is greatest for week 0–1 immediately following the release of management forecasts, with a subsequent tendency for diffAF to contract. The results are consistent with the results of Noma [2008].

Analyzing this with respect to company size, the level of contraction in diffAF increases with each week for small companies and the extent of herding is more pronounced. According to Ota [2005] and Nara and Noma [2012b], the difference in management and analyst forecasts tends to be larger for smaller companies suggesting that large revisions in forecasts lead to substantial herding.

For the 1st and 2nd quantiles, which indicate small companies, the contraction in diffAF continues throughout the four week verification period. Hassell and Jennings [1986] note that forecasts for companies covered by many analysts quickly become accurate, but herding tends to be protracted for small companies because of the small number of analysts and delay in information dissemination. On the other hand, for the 9th and 10th quantiles, which indicate large companies, there is limited contraction in diffAF after week 1, with a trend for diffAF to shift from contraction to widening in weeks 2 and 3. This is because analysts have finished conforming their forecasts to management forecasts in weeks 2 and 3 and entered a period when they can start adding new information, such as information obtained by covering companies concerned.

(2) Value relevance of differential information in analyst forecasts in the week management forecasts are released

Table 3 illustrates the results of equation (2) for the week in which management forecasts were released. Panel A represents the analytical results of the total sample for analysis (1), whereas Panel B represents the analytical results by company size. First, considering the results of the total sample in Panel A, the coefficients for management forecasts, book value of equity, and net income are all significant. This indicates that there is value relevance with regard to management forecasts, book value of equity, and net income, which is also consistent with the results of Dechow et al. [1999] and Ota [2005]. In addition, diffAF is also significant. This can be attributed

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to revisions in analyst forecasts due to the release of management forecasts with the revised analyst forecasts priced into the stock price.

Thereafter, consideration is given to the results on the basis of company size presented in Panel B. If the diffAF is assumed to have 1% significance, the coefficients are significant for the 2nd to 4th quantiles. This is attributable to large revisions in analyst forecasts due to significant differences between management and analyst forecasts, which is then reflected in the stock price. On the other hand, diffAF is not significant for quantile 1, which is the quantile for the smallest companies. Considering there was a substantial contraction in diffAF for quantile 1 in Table 2, it is possible that the equity markets have completely ignored analyst forecasts regarding the group of smallest companies in quantile 1. Nara and Noma [2012b] note that management forecasts have higher value relevance than analyst forecasts because of the low accuracy of analyst forecasts for small companies. Consequently, it is possible that analyst forecasts are not widely used for the smallest companies in the lowest quantile.

diffAF for quantiles 5 and 6, which correspond to medium-sized companies, have 10% significance. But, diffAF for large companies in quantiles 7–10 evidences no significance nor is there verification of value relevance. However, the reason for this observation is different from quantile 1. The accuracy of both forecasts is high for large companies; therefore, the revisions are small. In addition, analysts conduct detailed review on a regular basis, thus there is little difference between management and analyst forecasts.

Furthermore, for groups with comparatively small companies, there is a tendency for diffAF to have negative significance. This is because analyst forecasts are more optimistic than management forecasts, which is interpreted negatively by the equity markets. Analyst forecasts being more optimistic than management forecasts is one reason why there is a risk of stock prices falling until forecasts are revised to appropriate levels.

(3) Value relevance of differential information in analyst forecasts in weeks 1–4 following release of management forecasts

Table 4 illustrates the results of equation (2) for weeks 1–4 following the release of management forecasts. In week 1, only quantiles 7 and 8 had a diffAF coefficient with 1% significance. This is attributable to the contraction in the difference between analyst forecasts and management forecasts due to analyst herding, and because the markets did not recognize any usefulness from independent information provided by analysts.

Next, focusing on the results for week 2, diffAF was significant for large companies in quantiles 6, 7, 8, and 10. Table 2 illustrates a shift from contraction to widening of diffAF for large companies in the second week following the release of management forecasts, as evident in the median for quantile 10 and averages for quantiles 9 and 10, suggesting that there was a period in which analysts shifted from simply imitating management forecasts to generating new information.

Value relevance for diffAF in week 2 is a reflection of these factors. This highlights how the equity markets are appropriately recognizing the information value of analyst forecasts.

As was the case for week 2, diffAF was significant in week 3 for quantiles 6, 7, 8, and 10. In Table 2, diffAF started to widen in week 3 for the averages in quantiles 7 and 8, indicating progress in the generation of information by analysts for medium-sized companies as well. On the other hand, there was no value relevance in the diffAF for small companies in quantiles below quantile 4.

In week 4, even quantile 9 had 1% significance, and all quantiles from 6 and above indicated value relevance for diffAF. Table 2 indicates there was a widening of medians in the diffAF for large companies in quantile 9 as well as for medium-sized companies in quantiles 5 and 6. By week 4, the generation of information by analysts has spread to medium-sized companies. Incidentally, the diffAF for quantile 9 did not become significant until week 4 because it was smaller than that for other quantiles.

Furthermore, in terms of other variables, the sign for E is significantly negative. This is intuitively difficult to understand, but the coefficient of net income is negative according to Ohlson [2001] and Ishikawa [2007], who conducted empirical analyses in Japan using Ohlson's model [2001], and the same empirical results were obtained in this paper as well.

5.   Summary and implications

This paper has clarified the extent of analyst herding following the release of management forecasts and the value relevance of analyst forecasts by company size. Our analyses have identified the following three observations.

 First, there is herding with analysts quickly revising their own forecasts so as to be in line with management forecasts soon after release. But while there is extensive herding in relation to small companies, the level of herding is small in relation to large ones. Previous studies have noted the low accuracy of forecasts for small companies, and therefore extensive herding can be attributed to large-scale revisions to their forecasts.

Second, since revisions to analyst forecasts in the process of analyst herding are reflected in stock price, the presence of value relevance for analyst forecasts has been identified. In terms of company size, while value relevance was confirmed for analyst forecasts in relation to small companies where there is substantial herding, it is clear that there is no value relevance for analyst forecasts in relation to large companies where there is little herding.

Third, the value relevance of analyst forecasts is temporarily lost because of herding, but is reaffirmed 3–4 weeks later when analysts start to generate new information. In terms of company size, while value relevance in analyst forecasts for large companies can be quickly confirmed, it is clear that there is no value relevance for small companies even after 4 weeks have elapsed

following the release of management forecasts. This is because analysts' priority in investigating small companies is low. Consequently, revisions to analyst forecasts are delayed and the amount of new information generated is low.

Our analyses indicate that analyst forecasts following the release of management forecasts do not have more information value than management forecasts due to analyst herding, but analysts start to generate new information commencing with large companies after a period of time has elapsed following the release of management forecasts. Furthermore, the equity markets appropriately recognize the peculiarities pertaining to analyst forecasts and refer to management forecasts immediately after they are revised with subsequent reference to analyst forecasts starting with information generated on large companies, which is then reflected in their stock prices. The contribution of this paper is that the activities for generating information by analysts differ by company size, which relates to the usefulness of analyst forecasts. The paper notes that this is also appropriately recognized by the equity markets.

In addition, the analyses in this paper also show that despite the large difference between management forecasts released for small companies and analyst forecasts (consensus gap), there is a tendency to delay analyst forecast revisions, and new forecast generation can take time. This suggests there is a need for greater analyst coverage of small companies and improved ways of facilitating the dissemination of a company's own information to the equity markets. Revisions to analyst forecasts for small companies tend to be delayed, so users of these forecasts need to be particularly careful when using information after management forecasts have been revised.

References

Baginski, S. P., and J. M. Hassell［1990］"The Market Interpretation of Management Earnings Forecasts as a Predictor of Subsequent Financial Analyst Forecast Revision," *The Accounting Review* 65 (1), pp.175-190.

Dechow, P., A. Hutton and R. Sloan［1999］"An Empirical Assessment of the Residual Income Valuation Model," *Journal of Accounting and Economics* 26 (1-3), pp.1- 34.

Graham, J. R.［1999］"Herding among Investment Newsletters: Theory and Evidence," *Journal of Finance* 54 (1), pp.237-268.

Hassell, J. M. and R. H. Jennings［1986］"Relative Forecast Accuracy and the Timing of Earnings Forecast Announcements," *The Accounting Review* 61 (1), pp.58-75.

Hassell, J. M., R. H. Jennings and D. J. Lasser［1988］"Management Earnings Forecasts: Their Usefulness as a Source of Firm-Specific Information to Security Analysis," *Journal of Financial Research* 11 (4), pp.303-320.

Ishikawa, Hiroyuki [2007] *Dividend Policy – An Empirical Analysis*, First edition, Chuo Keizai-sha (in Japanese).

Nara, Saori and Noma, Mikiharu [2012a] "The Impact of Revisions in Management Forecasts on Revisions to Analyst Forecasts with Considerations to Company Size," Proceedings of the 20th Annual Conference of the Nippon Finance Association (in Japanese).

Nara, Saori and Noma, Mikiharu [2012b] "The Accuracy and Value Relevance of Earnings Forecasts According to Company Size – A Comparison of Management Forecasts and Analyst Forecasts," International Corporate Strategy, Hitotsubashi University Working Paper (FS-2013-J-00) (in Japanese).

Noma, Mikiharu [2008] "Management Forecasts and Analyst Forecasts – Management Expectations and Herding," *Corporate Accounting* 60 (5), pp.756-762 (in Japanese).

Ohlson, J.［2001］"Earnings, Book Values and Dividends in Equity Valuation: An Empirical Perspective," *Contemporary Accounting Research* 18 (1), pp.107-120.

Ota, Koji [2005] "Accuracy of Earnings Forecast and Value Relevance – I/B/E/S, Shikiho, Comparison with Management Forecasts," *Gendai Finance*, 18, pp.141-159 (in Japanese).

Ota, Koji and Kondo, Emi [2011] "Accuracy and Bias of Management Forecasts and Analyst Forecasts," *MTEC Journal* 23, pp.33-58 (in Japanese).

Williams, P. A. [1996] "The Relation between a Prior Earnings Forecast by Management and Analyst Response to a Current Management Forecast," *The Accounting Review* 71 (1), pp.103-113.

Table 1 Descriptive statistics and correlation coefficients of the samples

Panel A: Descriptive statistics

	MVE0	MF	diffAF0	B	E	Number of samples
Min.	0.322	-0.392	-0.091	0.064	-0.705	14,710
1st quartile	0.885	0.034	-0.002	0.509	0.028	14,710
Median	0.996	0.052	0.001	0.758	0.047	14,710
Mean	1.035	0.053	0.003	0.854	0.040	14,710
3rd quartile	1.135	0.073	0.007	1.095	0.069	14,710
Max.	2.771	0.274	0.145	3.370	0.208	14,710

Panel B: Correlation coefficients

	MVE0	MF	diffAF0	B	E
MVE0	1.000				
MF	0.284	1.000			
diffAF0	-0.143	-0.235	1.000		
B	0.180	0.026	0.019	1.000	
E	-0.046	0.380	0.072	-0.079	1.000

Note: Table 1 shows descriptive statistics and correlation coefficients for the sample in the week when management forecasts were released (week 0). MVE0 indicates market capitalization for the week in which management forecasts were released, MF is management forecast, diffAF0 is differential information in analyst forecasts (AF-MF) for the week in which the management forecast was released, B is book value of equity, and E is net income. All variables are normalized by dividing them by market capitalization at the end of the previous period (end of March).

Table 2 Differential information shifts in analyst forecasts (diffAF)

| | mean | | | | | median | | | | (%) |
Quantiles	Week 0	Week 1	Week 2	Week 3	Week 4	Week 0	Week 1	Week 2	Week 3	Week 4
All	0.333	0.257	0.243	0.224	0.213	0.142	0.117	0.112	0.106	0.104
Q1 (small)	0.845	0.629	0.583	0.513	0.483	0.374	0.204	0.181	0.159	0.094
2	0.623	0.473	0.428	0.388	0.334	0.278	0.183	0.166	0.138	0.110
3	0.489	0.446	0.450	0.450	0.454	0.192	0.143	0.112	0.122	0.085
4	0.407	0.323	0.296	0.247	0.229	0.169	0.139	0.128	0.110	0.093
5	0.238	0.159	0.157	0.146	0.142	0.118	0.085	0.085	0.080	0.088
6	0.305	0.216	0.179	0.167	0.161	0.133	0.110	0.098	0.098	0.106
7	0.130	0.106	0.098	0.099	0.086	0.081	0.075	0.079	0.079	0.091
8	0.168	0.122	0.118	0.122	0.118	0.124	0.117	0.116	0.112	0.106
9	0.026	0.007	0.015	0.001	0.013	0.118	0.117	0.114	0.106	0.113
Q10 (large)	0.108	0.096	0.108	0.113	0.112	0.110	0.110	0.116	0.107	0.132

Note: The differential information in analyst forecasts, diffAF ((analyst forecasts – management forecasts)/market capitalization at the end of the previous period), is shown weekly for the total sample and by company size.

Table 3 Results from the model (Week 0 following the release of forecasts)

Panel A: Total Sample

		Estimate	t value		adj.R2
All	(Intercept)	0.820	20.525	***	0.300
	MF	1.916	39.212	***	
	diffAF	-0.379	-3.178	***	
	B	0.058	11.475	***	
	E	-0.477	-14.355	***	

Panel B: By Company Size

		Estimate	t value		adj.R2
Quantile 1	(Intercept)	0.706	6.863	***	0.301
	MF	1.693	11.238	***	
	diffAF	-0.239	-0.756		
	B	0.027	1.706	*	
	E	-0.462	-4.817	***	
Quantile 2	(Intercept)	0.846	12.964	***	0.317
	MF	1.872	11.258	***	
	diffAF	-1.230	-3.576	***	
	B	0.044	2.740	***	
	E	-0.523	-4.747	***	
Quantile 3	(Intercept)	0.927	13.338	***	0.328
	MF	1.744	11.086	***	
	diffAF	-1.049	-2.950	***	
	B	0.027	1.543		
	E	-0.606	-5.088	***	
Quantile 4	(Intercept)	0.630	2.528	**	0.319
	MF	2.159	12.587	***	
	diffAF	-1.092	-2.976	***	
	B	0.080	4.830	***	
	E	-0.481	-4.407	***	

Panel B: By Company Size (continued)

		Estimate	t value		adj.R2
Quantile 5	(Intercept)	0.694	4.639	***	0.320
	MF	2.156	12.244	***	
	diffAF	-0.820	-1.952	*	
	B	0.079	4.257	***	
	E	-0.433	-3.854	***	
Quantile 6	(Intercept)	0.718	10.263	***	0.285
	MF	2.111	12.910	***	
	diffAF	0.844	1.821	*	
	B	0.070	3.506	***	
	E	-0.413	-3.453	***	
Quantile 7	(Intercept)	0.750	17.192	***	0.318
	MF	1.896	11.851	***	
	diffAF	0.608	1.253		
	B	0.072	3.741	***	
	E	-0.723	-6.304	***	
Quantile 8	(Intercept)	0.693	10.690	***	0.348
	MF	1.926	11.743	***	
	diffAF	0.642	1.404		
	B	0.117	5.283	***	
	E	-0.487	-5.079	***	
Quantile 9	(Intercept)	0.848	7.403	***	0.314
	MF	1.824	10.764	***	
	diffAF	-0.505	-1.006		
	B	0.022	0.807		
	E	-0.214	-2.194	**	
Quantile 10	(Intercept)	0.803	13.534	***	0.303
	MF	2.087	11.559	***	
	diffAF	0.232	0.455		
	B	0.156	5.591	***	
	E	-0.588	-4.151	***	

Note: Table 3 shows the results of equation (2) for the week when there was a management forecast (week 0). Panel A shows results for the total sample, whereas Panel B shows results by company size. Furthermore, MF is management forecast and diffAF is differential information in analyst forecasts ((analyst forecasts – management forecasts)/market capitalization at the end of the previous period), B is book value of equity, and E is net income. All variables are normalized by dividing them by market capitalization at the end of the previous period. *, **, and *** represent significance at 10%, 5%, and 1%, respectively. The analysis also includes fiscal year and industry sector dummies, but these are abridged in the table.

Table 4 Results from the model (Weeks 1–4 following the release of forecasts)

Panel A: Total Sample

		Week 1 Estimate	t value		adj.R2	Week 2 Estimate	t value		adj.R2	Week 3 Estimate	t value		adj.R2	Week 4 Estimate	t value		adj.R2
All	(Intercept)	0.782	19.330	***	0.317	0.787	19.266	***	0.324	0.783	18.755	***	0.332	0.767	18.085	***	0.343
	MF	2.097	43.727	***		2.155	44.835	***		2.240	45.939	***		2.267	46.004	***	
	diffAF	-0.176	-1.268			0.183	1.201			0.574	3.484	***		0.767	4.391	***	
	B	0.059	11.418	***		0.064	12.354	***		0.071	13.261	***		0.073	13.483	***	
	E	-0.525	-15.566	***		-0.548	-16.149	***		-0.587	-16.985	***		-0.590	-16.819	***	

Panel B: By Company Size

		Week 1 Estimate	t value		adj.R2	Week 2 Estimate	t value		adj.R2	Week 3 Estimate	t value		adj.R2	Week 4 Estimate	t value		adj.R2
Quantile 1	(Intercept)	0.629	6.039	***	0.331	0.589	5.687	***	0.350	0.564	5.260	***	0.358	0.556	5.162	***	0.375
	MF	1.949	12.903	***		2.067	14.056	***		2.263	14.995	***		2.318	15.753	***	
	diffAF	-0.542	-1.491			-0.363	-0.935			0.148	0.356			-0.020	-0.047		
	B	0.030	1.870	*		0.038	2.354	**		0.043	2.615	***		0.042	2.511	**	
	E	-0.469	-4.774	***		-0.493	-5.138	***		-0.646	-6.532	***		-0.543	-5.473	***	
Quantile 2	(Intercept)	0.785	12.161	***	0.341	0.768	11.688	***	0.347	0.744	10.763	***	0.348	0.724	10.112	***	0.347
	MF	2.334	14.524	***		2.458	15.326	***		2.618	15.554	***		2.605	15.142	***	
	diffAF	-0.762	-1.972	**		-0.552	-1.283			-0.601	-1.240			-0.230	-0.436		
	B	0.045	2.788	***		0.043	2.636	***		0.046	2.647	***		0.052	2.912	***	
	E	-0.681	-6.054	***		-0.718	-6.240	***		-0.869	-7.195	***		-0.889	-7.118	***	
Quantile 3	(Intercept)	0.892	12.775	***	0.346	0.862	12.067	***	0.354	0.854	11.715	***	0.353	0.851	11.440	***	0.362
	MF	2.046	12.950	***		2.121	13.573	***		1.974	12.654	***		1.965	12.357	***	
	diffAF	-0.772	-1.917	*		-0.519	-1.213			-0.308	-0.669			-0.166	-0.337		
	B	0.035	1.997	**		0.040	2.277	**		0.049	2.697	***		0.043	2.346	**	
	E	-0.794	-6.456	***		-0.901	-7.190	***		-0.797	-6.277	***		-0.947	-7.311	***	
Quantile 4	(Intercept)	0.607	2.316	**	0.322	0.621	2.338	**	0.323	0.704	2.603	***	0.316	0.618	2.282	**	0.333
	MF	2.276	13.749	***		2.273	13.469	***		2.174	12.987	***		2.113	12.565	***	
	diffAF	-1.112	-2.542	**		-0.316	-0.660			-0.723	-1.389			-0.977	-1.828	*	
	B	0.091	5.194	***		0.103	5.820	***		0.101	5.635	***		0.099	5.464	***	
	E	-0.508	-4.565	***		-0.550	-4.853	***		-0.552	-4.706	***		-0.496	-4.260	***	
Quantile 5	(Intercept)	0.632	4.275	***	0.348	0.594	3.927	***	0.337	0.617	3.921	***	0.347	0.623	3.914	***	0.354
	MF	2.308	14.403	***		2.347	14.318	***		2.454	14.467	***		2.470	14.362	***	
	diffAF	-0.507	-1.031			-0.142	-0.254			0.689	1.103			1.178	1.783	*	
	B	0.092	5.012	***		0.096	5.131	***		0.104	5.312	***		0.111	5.640	***	
	E	-0.431	-3.932	***		-0.479	-4.272	***		-0.449	-3.768	***		-0.558	-4.523	***	
Quantile 6	(Intercept)	0.676	9.398	***	0.294	0.675	9.376	***	0.307	0.631	8.844	***	0.345	0.610	8.366	***	0.354
	MF	2.163	13.306	***		2.149	13.435	***		2.521	15.989	***		2.527	15.760	***	
	diffAF	1.150	1.947	*		1.945	2.985	***		3.195	4.600	***		3.067	4.225	***	
	B	0.080	3.859	***		0.084	4.041	***		0.107	5.206	***		0.112	5.337	***	
	E	-0.454	-3.598	***		-0.474	-3.783	***		-0.525	-4.491	***		-0.535	-4.547	***	
Quantile 7	(Intercept)	0.747	16.570	***	0.325	0.754	16.726	***	0.331	0.777	17.109	***	0.330	0.742	16.257	***	0.345
	MF	1.929	12.952	***		1.976	12.697	***		1.997	12.668	***		2.083	13.122	***	
	diffAF	1.640	2.681	***		2.553	3.933	***		2.735	3.853	***		3.350	4.553	***	
	B	0.050	2.496	**		0.049	2.438	**		0.032	1.582			0.062	3.046	***	
	E	-0.755	-6.500	***		-0.746	-6.412	***		-0.756	-6.477	***		-0.782	-6.625	***	
Quantile 8	(Intercept)	0.618	9.255	***	0.360	0.621	9.100	***	0.347	0.612	8.981	***	0.366	0.583	8.538	***	0.388
	MF	2.236	13.208	***		2.147	12.990	***		2.202	13.421	***		2.271	13.885	***	
	diffAF	2.052	3.709	***		2.109	3.434	***		3.143	4.891	***		3.565	5.207	***	
	B	0.137	6.032	***		0.149	6.354	***		0.152	6.505	***		0.156	6.677	***	
	E	-0.507	-5.176	***		-0.474	-4.792	***		-0.431	-4.353	***		-0.399	-4.035	***	
Quantile 9	(Intercept)	0.797	6.895	***	0.325	0.818	6.985	***	0.342	0.821	6.889	***	0.351	0.814	6.695	***	0.364
	MF	1.911	11.573	***		2.031	12.208	***		2.108	12.507	***		2.131	12.388	***	
	diffAF	0.013	0.023			0.340	0.530			1.026	1.467			2.026	2.734	***	
	B	0.033	1.192			0.029	1.047			0.033	1.174			0.033	1.157		
	E	-0.256	-2.604	***		-0.293	-2.935	***		-0.310	-3.044	***		-0.392	-3.779	***	
Quantile 10	(Intercept)	0.780	13.145	***	0.316	0.794	13.318	***	0.325	0.780	13.019	***	0.334	0.756	12.429	***	0.347
	MF	2.058	11.705	***		2.144	12.134	***		2.197	12.486	***		2.252	12.575	***	
	diffAF	0.852	1.532			1.742	2.858	***		2.606	4.037	***		3.517	4.904	***	
	B	0.150	5.377	***		0.153	5.464	***		0.150	5.374	***		0.158	5.561	***	
	E	-0.590	-4.175	***		-0.554	-3.892	***		-0.552	-3.929	***		-0.654	-4.560	***	

Note: Table 4 shows the results of equation (2) for weeks 1–4 following the release of management forecasts. Panel A shows results for the total sample, while Panel B shows results by company size. Furthermore, MF is the management forecast and diffAF is differential information in analyst forecasts ((analyst forecasts – management forecasts)/market capitalization at the end of the previous period), B is book value of equity, and E is net income. All variables are normalized by dividing them by market capitalization at the end of the previous period. *, **, and *** represent significance at 10%, 5% and 1%, respectively. The analysis also includes fiscal year and industry sector dummies, but these are abridged in the table.