Journal of Accounting and Economics 51 (2011) 279–299

Contents lists available at ScienceDirect

Journal of Accounting and Economics

journal homepage: www.elsevier.com/locate/jae

Understanding analysts' use of stock returns and other analysts' revisions when forecasting earnings ☆

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ARTICLE INFO

Article history:
Received 14 August 2007
Received in revised form
11 November 2010
Accepted 11 November 2010
Available online 19 November 2010

JEL classification:
G14
G17
G24

Keywords:
Financial analysts
Earnings forecasts
Market efficiency
Learning

ABSTRACT

We investigate analysts' use of stock returns and other analysts' forecast revisions in revising their own forecasts after an earnings announcement. We find that analysts respond more strongly to these signals when the signals are more informative about future earnings changes. Although analysts underreact to these signals on average, we find that analysts who are most sensitive to signal informativeness achieve superior forecast accuracy relative to their peers and have a greater influence on the market. The results suggest that the ability to extract information from the actions of others serves as one source of analyst expertise.

1. Introduction

Prior research on analyst forecasts has examined whether earnings forecast revisions are associated with fundamental public signals (such as earnings announcements or other corporate information events) and with secondary public signals, defined here as public signals arising in response to a fundamental signal. Two of the most heavily studied types of secondary public signals are stock returns and changes in the consensus analyst forecast. While we now know that analyst revisions are associated with stock returns (e.g., Lys and Sohn, 1990; Baginski and Hassell, 1990; Abarbanell, 1991) and with changes in the consensus forecast (e.g., Bernhardt et al., 2006), it remains unclear whether these associations reflect uninformed behavior, such as price chasing or herding, or whether analysts have the expertise and incentive to decipher the implications that these secondary signals have for future earnings. To address this issue, we ask a simple question: Do analysts take into account changes in the informativeness of these secondary public signals? In answering this question, we hope to better understand the sources of analyst expertise.

☆ For helpful comments, we thank Tom Lys, Larry Brown (referee), Bob Bowen, Shuping Chen, Vicki Dickinson, Robert Freeman, Renee Hall, Ross Jennings, Bill Kinney, S.P. Kothari, Lil Mills, and Terry Shevlin; workshop participants at the University of Florida, George Washington University, the University of Texas at Austin, and the University of Washington; and conference participants at the 2007 University of Texas at Austin Spring Accounting Conference and 2008 Financial Accounting and Reporting Section Midyear Meeting. We also thank Brian Bratten for his excellent research assistance.

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doi:10.1016/j.jacceco.2010.11.001

We begin by examining whether analysts do, in fact, condition their use of stock returns and other analysts' forecast revisions on how informative these signals are likely to be of future earnings changes. In contrast to much of the prior research that examines analysts' responses to these two public signals separately, we study the effect of both signals simultaneously around earnings announcements because it allows us to reduce the likelihood of correlated omitted variables. As Welch (2000) explains, "[l]acking access to the underlying information flow, [one] cannot discern if the influence of recent revisions is either a similar response by multiple analysts to the same underlying information or is caused by direct mutual imitation" (p. 393). Consequently, in addition to studying these signals together, we also control for a number of other factors, such as each analyst's individual surprise in forecasting current period earnings, to further ensure that the analysts are in fact looking to the reactions of investors and other analysts and not simply responding similarly to the event that caused their reactions (i.e., the earnings announcement).

A key innovation in our study is that we develop proxies for the informativeness of each signal. For a measure of the informativeness of returns, we use Baker and Wurgler's (2006, 2007) monthly index of investor sentiment. The sentiment measure is constructed to capture the speculative trading demand for stocks and investors' optimism or pessimism about the market. In other words, investor sentiment can be thought of as investor optimism or pessimism that is not justified by a stock's underlying fundamentals (e.g., earnings, cash flows, or growth rates). When sentiment is extremely high or low, changes in stock prices are not as representative of the underlying fundamentals and are, therefore, likely to be less informative about future earnings. For a measure of the informativeness of the average analyst revision, we use the number of analysts who have contributed to the average revision. Intuitively, as more analyst opinions are added, idiosyncratic noise gets averaged out. We use these two measures of informativeness because they are *ex-ante* knowable to analysts. However, they are only proxies for informativeness, so we also use *ex-post* measures of informativeness as a robustness check. As we explain in more detail below, these proxies play a central role in our study because they enable us to make much stronger inferences about the underlying drivers of analyst behavior.

Our results paint the following picture of analyst behavior. After an earnings announcement, most analysts quickly revise their forecasts of future earnings. These revisions are not only correlated with their own errors in forecasting earnings, but also with announcement period returns and the average revision of the analysts who precede them. Furthermore, we find that the more informative returns and the average revision are about future earnings, the more analysts' own earnings forecast revisions are correlated with these two signals. While we document an underreaction to both returns and the average revision, these underreactions tend to be most pronounced at those times when analysts are responding relatively strongly (not weakly) to the actions of others. This result suggests that the underreactions are driven by a basic tendency to weigh a signal less when one is uncertain how precise it is. While this behavior, on average, appears somewhat conservative, analysts who are most sensitive to a signal's informativeness use this knowledge to obtain superior forecast accuracy relative to their peers and investors respond most strongly to the forecast revisions of analysts who demonstrate this ability. As such, these results are inconsistent with the claim that analysts who respond to secondary public signals are driven primarily by incentives to free ride or an inability to generate private information (e.g., Opdyke and Asinof, 2001; Glassman, 2001).

Our study, therefore, contributes to the literature on analyst forecasts by documenting one of the sources of analyst expertise: the ability to extract information from the publicly observable actions of investors and other analysts, including the ability to recognize and respond to changes in the informativeness of these signals over time. Our study also makes some important methodological contributions by jointly examining how analysts respond to earnings surprises, stock returns, and other analysts' forecast revisions around earnings announcements. Doing so improves our ability to identify what signals analysts are directly responding to. Moreover, by investigating interactive effects (e.g., how the sensitivity of earnings forecasts to returns varies with investor sentiment), rather than looking at main effects alone, we provide additional assurance for the basic premise that analysts are indeed adjusting their earnings forecasts in response to the actions of investors and other analysts.

Lastly, we contribute to a better understanding of why analysts' forecasts seem inefficient with respect to returns by providing strong evidence that movements in price influence analysts' forecasts of earnings, that analysts tend to underreact to the information about earnings contained in returns, and that their tendency to underreact is strongest when returns are most informative about future earnings. The results suggest that analysts are cautious Bayesian updaters who temper their use of public signals when they are uncertain about the informativeness of the signals.

The remainder of the paper is arranged as follows. We develop our hypotheses in Section 2. Section 3 explains our basic research design. In Section 4, we present our empirical results, and Section 5 concludes.

2. Related research and hypotheses development

We study how analysts use the public actions of investors and other analysts to revise their own forecasts of earnings after a quarterly earnings announcement. Although the theory we develop in the following sections is broadly applicable to analyst behavior following any significant information release, focusing on behavior after quarterly earnings announcements provides at least two benefits. First, because revision activity is often concentrated in the period immediately after earnings announcements (Stickel, 1989), we are able to observe many revisions over a relatively short window of time. Not only does this provide us with more statistical power to detect how analysts respond to returns and to other analysts' revisions, it also lets us speak to behavior that is broadly representative. Second, because analysts expressly forecast quarterly earnings,