A new approach to predicting analyst forecast errors: Do investors overweight analyst forecasts?

Eric C. So
Massachusetts Institute of Technology, Sloan School of Management, E62-677, 100 Main Street, Cambridge, MA 02142, United States

ABSTRACT

I provide evidence that investors overweight analyst forecasts by demonstrating that prices do not fully reflect predictable components of analyst errors, which conflicts with conclusions in prior research. I highlight estimation bias in traditional approaches and develop a new approach that reduces this bias. I estimate characteristic forecasts that map current firm characteristics into forecasts of future earnings. Contrasting characteristic and analyst forecasts predicts analyst forecast errors and revisions. I find abnormal returns to strategies that sort firms by predicted forecast errors, consistent with investors overweighting analyst forecasts and predictable biases in analyst forecasts influencing the information content of prices.

1. Introduction

Estimating a firm’s future profitability is an essential part of valuation analysis. Analysts can facilitate the valuation process by translating a mixture of public and private information into forecasts of future earnings. However, a substantial literature spanning finance, economics, and accounting raises concerns about the use of these forecasts for investment decisions, commonly citing a significant incentive misalignment between analysts and those of the end users of the earnings forecasts. The collective evidence from this literature suggests that reliance on analyst forecasts can produce biased estimates of firm value.

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E-mail address: ESo@mit.edu

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Recognition of this problem has motivated researchers to develop techniques to identify the predictable component of analyst forecast errors. The development of these techniques also reflects a desire to better understand what information is reflected in price. To the extent that investors overweight analyst forecasts, a firm’s share price is unlikely to fully reflect the earnings news associated with predictable analyst forecast errors. Thus, if overreweighting is systematic, the identification of predictable forecast errors is potentially useful in disciplining prices. The goal of this paper is to determine whether and to what extent investors systematically overweight analysts’ earnings forecasts.

Motivated by a similar goal, Hughes, Liu, and Su (2008) conclude that investors do not overweight analyst forecasts. They find that a strategy of sorting firms by predicted forecast errors fails to generate abnormal returns and attribute this finding to market efficiency with respect to the predictable component of analyst errors. I argue that their findings are unlikely to result from market efficiency and are instead a reflection of their methodology.

The traditional approach to predicting forecast errors, used by Hughes, Liu, and Su (2008) among others, involves regressing realized forecast errors on lagged, publicly observable firm characteristics. The resulting estimated coefficients are applied to current characteristics to create a fitted prediction of future forecast errors. I show that the traditional approach can introduce biases into predicted forecast errors. Biases emerge whenever the observable firm characteristics used to predict forecast errors are correlated with unobservable inputs to analyst forecasts such as analysts’ incentive misalignment or private information. Predicted forecast errors can be consistently above or below the realized forecast error depending on the sign and magnitude of these correlations. Moreover, biases in predicted forecast errors can vary across firms, limiting their ability to meaningfully sort stocks in the cross section. Because tests of overreweighting rely on sorting firms by predicted errors, assessing whether investors overweight analyst forecasts is difficult without first making progress on a methodological front.

In this paper, I develop and implement a new approach to predicting analyst forecast errors that circumvents many of the problems hampering the traditional approach. This new approach also involves the use of historically estimated relations but shifts the focus toward the prediction of future earnings and away from regression-based fitting of past forecast errors. I show that this approach is less sensitive to estimation bias and offers significant predictive power for realized forecast errors and future returns.

The methodology highlighted in this paper is referred to as the characteristic approach to predicting analyst forecast errors. This term reflects the fact that I contrast analysts’ earnings forecasts with characteristic forecasts of earnings, in which both forecasts are measured several months before firms’ annual earnings announcements. I construct characteristic forecasts by fitting current earnings to the firm characteristics used by Fama and French (2000) in the prediction of future profitability: lagged earnings, book values, accruals, asset growth, dividends, and price. I estimate pooled cross-sectional regressions to capture large sample relations between earnings and lagged firm characteristics. I apply historically estimated coefficients to firms’ most recent characteristics to create ex ante forecasts of future earnings. I first show that characteristic forecasts are an unbiased predictor of realized earnings and contrast these forecasts with those issued by sell-side analysts.

When contrasting characteristic and analyst forecasts, several interesting patterns emerge. First, firms with characteristic forecasts exceeding consensus analyst forecasts tend to have realized earnings that exceed the consensus, and vice versa. Second, when discrepancies exist, analysts subsequently revise their forecasts in the direction of characteristic forecasts leading up to earnings announcements. Third, analysts are more likely to raise investment recommendations for a given firm when characteristic forecasts exceed the consensus analyst forecast, and vice versa. These results suggest that analysts are slow to incorporate the information embedded in characteristic forecasts when forecasting future firm performance and that overreliance on analyst forecasts could result in substantial valuation errors.

Given the potential for valuation errors when relying on analyst forecasts, I conduct a series of tests to examine whether investors overweight analyst forecasts. Using a simple two-period framework, I establish how researchers can precisely test for efficient market weights by relating future returns with differences between characteristic and analyst forecasts. To implement this test, I develop a new metric that I refer to as characteristic forecast optimism, defined as the ex ante characteristic forecast minus the prevailing consensus forecast, in which higher values correspond to firms whose characteristics signal future earnings that exceed analyst projections. I find consistent abnormal returns to a strategy that buys firms in the highest quintile of characteristic forecast optimism and sells firms in the lowest quintile, consistent with investors systematically overweighting analyst forecasts and underweighting characteristic forecasts. This simple, unconditional quintile strategy generates average returns of 5.8% per year in out-of-sample tests.

Strategy returns significantly increase through contextual analysis and display a number of intuitive relations with firm characteristics. In conditional tests, returns increase to 9.4% per year among firms whose stock price is highly sensitive to earnings news. Similarly, characteristic forecast optimism is a stronger predictor of returns among small firms, firms with historically disappointing earnings, and firms with low financial transparency. These results are consistent with investors being more likely to overweight analyst forecasts among firms with poor information environments or when investors are uncertain about the mapping between current and future earnings.

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2 Overweighting is defined as investors weighting a signal in excess of the optimal Bayesian weights when forming expectations of future earnings. See Appendix A for details.
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