How Do Analyst Characteristics Affect Analyst's Disagreement?

Justin Jia and Jinyang Liu

Abstract

We investigate determinants of analyst's disagreement over earnings forecasts, price forecasts, and stock recommendation, and we find that analysts in the same brokerage, in brokerage with similar size, and with equivalent experience are less likely to disagree with each other. Our finding corroborates analyst's information acquisition and integration role on capital markets.

Motivation and Literature Review

Analysts play important roles in acquiring and integrating information on capital markets. They issue stock recommendation, earning forecast and share price forecast based on their private and public information, and consequently their opinions influence stock price and contribute to efficient capital markets (Bradshaw et al., 2017). However, it is common that different analysts hold different opinions over one target firm, and this disagreement across analysts may create excess volatility to capital markets (Lundholm and Rogo, 2016) and lead to price inefficiency (Rees and Thomas, 2010; Lee, 2016). One important question is why analysts disagree with each other, and our study tries to answer this question from the perspective of analyst's information acquisition role and integration role. We use different opinions, disagreement, divergence, and dispersion interchangeably in this proposal.

Most of previous researchers attribute analysts' disagreement to firm's characteristics such as fundamentals (Johnson, 2004) and information environments (Lang and Lundholm, 1996; Ali et al., 2019), but they ignore analysts' characteristics as one important source of analysts' dispersion. Diether et al. (2002) find that analysts' different opinions are unexplained by firm's characteristics, but they do not point out the specific source of dispersion. Li and Natarajan's research (2012) is the closest to our study in the sense that they examine the effect analysts' strategic behavior on analysts' disagreement. They construct firm-level proxies for analysts' herding and self-selection behavior and argue that these behaviors add downward bias to analysts' disagreement. Compared with Li and Natarajan's research (2012), our study uses analyst-level data and focuses on analyst's information acquisition role and integration role. We measure the dispersion between analysts by their differences in earnings and price forecasts and stock recommendation. Then, we employ our measures to test for associations between the disagreement and analysts' characteristics.

Our hypotheses are developed based on Brown et al. (2015) and Blankespoor et al. (2020)'s frameworks. According to these frameworks, we argue that analysts consider costs when preform information acquisition and integration roles. For one given firm, it is likely that analysts with same level of cost acquire and integrate this firm's information in similar way, and thus they share similar opinions. We assume that analysts from the same brokerage or from brokerage with similar size face close level of information acquisition cost because their information sources are similar. We also assume that equally experienced analysts bear close level of information integration cost because they are both well acquainted with industry knowledge.

H1: The disagreement between analysts from the same brokerage or from the brokerage with similar size is small.

H2: The disagreement between equally experienced analysts is small.

Research Design

We start with the full Institutional Broker Estimate System (I/B/E/S) database. We use the I/B/E/S Unadjusted Detail Earnings Estimate History File to obtain analysts' quarterly earnings forecasts and targeted price forecast. We use I/B/E/S Recommendation File to obtain analysts' characteristics and IBES recommendation code (where 1 means strong buy and 5 means strong sell). Applying Compustat North America Fundamentals dataset, the quarterly firms' basic accounting information data are obtained. Our sample period is from 1999 to 2020.

Raw Data Definitions

Name	Definition	Data Source
EPS	Earnings per share forecast	I/B/E/S
SPT	Share price target forecast	I/B/E/S
Recommendation	Indicator variables.	I/B/E/S
Working_Experience	The number of years since the analyst appears in IBES recommendation file	I/B/E/S
Analyze_Experience	The number of years since the analyst provided his/her first recommendation for the given company.	I/B/E/S
Company_Size	Brokerage firm size. It is the number of analysts providing forecast for the given company in a given year.	I/B/E/S
BM	Book-to-market ratio	Compustat
Firm_Size	Natural log of market value	Compustat
Turnover	Turnover is calculated as volume divided by shares outstanding	Compustat
DE	Debt to equity	Compustat
SA	Sales to total assets	Compustat

We clean the 2019-2020 subsample, and we find 160 observations satisfy our setting. So, we are confident that our full-sample data contains enough observations.

Our research question seeks to understand the source of analysts' forecast dispersion. We address this question by regression the analysts' forecast dispersion on their characteristics including whether they belonged to the same broker firm, the difference of their working experience, the difference between their analyst experience and some firm specific controlled variables. We estimate the following model. We are going to estimate OLS model:

$$Dispersion_{i,j} = ICompany_j + IWorking_j + IAnalyst_j + Controlled_{i,j} + e_{i,j}$$

To exemplify our idea, analyst i revises his earnings forecast after analyst j issues a forecast. The dispersion is calculated as the difference between analyst i's and j's earnings forecast over the same firm. We use three measures of dispersion, the difference of their earning per share forecast

(ΔEPS), the difference between their share price forecast (ΔSPT) and the difference between their recommendation code (Bold). Considered that analysts may have similar short-term forecast, we are going to run these regressions for different forecast horizons. For example, we are going to use (ΔEPS) on quarterly difference and yearly difference.

Variables Definitions		
Name	Definition	Data Source
Panel A: Dispersion Variables		
ΔEPS	Difference between two analysts' earnings per share forecast	I/B/E/S
ΔSPT	Difference between two analysts' share price forecast	I/B/E/S
Bold	Bold is the absolute difference between the analyst's recommendation and the average recommendation of all other analysts covering the same company.	I/B/E/S
Panel B: Independent Variables		
Woring_Experience	The number of years since the analyst appears in IBES recommendation file	I/B/E/S
IWork	The difference between two analysts' working experience	I/B/E/S
IAnalyze	The difference between two analysts analyze experience	I/B/E/S
ICompany	Indicator variable that equals 1 if two analysts belong to the same company, and 0 otherwise.	I/B/E/S
ISize	The difference between two analysts' brokerage firm size.	I/B/E/S

Outline

- Week 1 (March 22- March 28). We will meet with professor and discuss our proposal. Then, based on professor's suggestion, we will modify our proposal.
- Week 2 (March 29- April 4). We will collect data and clean our data.
- Week 3 (April 5- April 11). We will run the regressions and analyze the result.
- Week 4-5 (April 12- April 25). We are going to write the body section of our paper.
- Week 6(April 26-May 1). We will modify our paper.

Reference

Ali, A., Liu, M., Xu, D., & Yao, T. (2019). Corporate disclosure, analyst forecast dispersion, and stock returns. *Journal of Accounting, Auditing & Finance*, *34*(1), 54-73.

Blankespoor, E., deHaan, E., & Marinovic, I. (2020). Disclosure processing costs, investors' information choice, and equity market outcomes: A review. *Journal of Accounting and Economics*, *70*(2-3), 101344.

Bradshaw, M. T., Ertimur, Y., & O'Brien, P. C. (2017). Financial analysts and their contribution to well-functioning capital markets.

Brown, L. D., Call, A. C., Clement, M. B., & Sharp, N. Y. (2015). Inside the "black box" of sell-side financial analysts. *Journal of Accounting Research*, *53*(1), 1-47.

Diether, K. B., Malloy, C. J., & Scherbina, A. (2002). Differences of opinion and the cross section of stock returns. *The Journal of Finance*, *57*(5), 2113-2141.

Johnson, T. C. (2004). Forecast dispersion and the cross section of expected returns. *The Journal of Finance*, *59*(5), 1957-1978.

Lang, M. H., & Lundholm, R. J. (1996). Corporate disclosure policy and analyst behavior. *Accounting review*, 467-492.

Lee, C. M. (2016). Commentary On: Do Analyst Forecasts Vary Too Much? *Journal of Financial Reporting*, *1*(1), 127-129.

Liu, X. G., & Natarajan, R. (2012). The effect of financial analysts' strategic behavior on analysts' forecast dispersion. *The Accounting Review*, *87*(6), 2123-2149.

Lundholm, R. J., & Rogo, R. (2016). Do analyst forecasts vary too much? *Journal of Financial Reporting*, *1*(1), 101-123.

Rees, L., & Thomas, W. (2010). The stock price effects of changes in dispersion of investor beliefs during earnings announcements. *Review of Accounting Studies*, *15*(1), 1-31.