Financial Blogs and Information Asymmetry between Firm Insiders & Outsiders

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Introduction

Online networks of investors, analysts, and the media have come to play a critical role in capital markets. This study is the first of a larger project that aims to use the latest social network analysis tools from the social sciences to examine how important such “virtual networks” and “new media” are in determining market efficiency and information asymmetry between firm insiders and outsiders. Here I report the results of a study that examines the impact of the information asymmetry between market insiders and outsiders in S&P 500 firms over the first six months of 2008. As in Frankel and Li (2004), I proxy for information asymmetry by measuring the profitability and intensity of insiders trading. My primary hypothesis is that the information provided on the top 150 financial blogs can limit insiders’ capacity to trade on private information.

Background on the “Blogosphere”

A weblog, or blog for short, is a Web site that is regularly updated with new “posts” containing commentaries, digital media, event descriptions, articles, and other content, typically presented in reverse chronological order. Blog-tracking sites such as Technorati and BlogPulse have identified over 85 million active blogs. Range of Topics on blogs runs the gamut: Blogs currently in Technorati’s Top 25 include politics (The Huffington Post), technology start-ups (TechCrunch), company blogs (Official Google Blog), entertainment (Gawker.com), news (CNN Politic Ticker blog), and environmentalism (Treehugger.com). These top blogs have millions of unique visitors per day.

This Study: Top 150 Financial Blogs

This study concentrates on the market effects of the 150 most influential financial blogs. The audience for these blogs is significant, ranging from 9,000 unique visitors per month for GraceCheng.com, to TreeHugger.com (2004), which has in excess of 6 million unique visitors per month. The study is focused on the market effects of the 150 most popular financial blogs determined by Technorati’s “insiders’ networks” and “new media” are in determining market efficiency and tools from the social sciences to examine how important such “virtual networks— for instance, online peer-evaluated “Gurus”—are of “A-listers” in the Blogosphere); and whether various sub-sets of financial blogs are an important component of “new media,”  which is defined as a Web site that is regularly updated with new “posts” containing commentaries, digital media, event descriptions, articles, and other content, typically presented in reverse chronological order.

Sample and Data

Sample: All firms with insider transactions in the S&P 500 as of January. Daily blogging and news data are gathered and aggregated to the week from January 2, 2007, to May 1st, 2008. The unit of analysis is therefore the firm-week.

Data: 2008 stock return data obtained from Yahoo! Finance; 2008 SEC Form 4 insider transactions from moneycentral.msn.com; 2007 financial data from Compustat; 2007 analyst information from IBES/EDS; and 2007 stock return data from CRSP.

Main Hypothesis

Financial blogs are an important component of “new media,” which have collectively led to an incredible democratization of information; one of the most compelling is that “Information Asymmetries everywhere have been mortally wounded by the Internet” (Levitt and Dubner, 2005). Prior research on the effects of new media on capital markets has focused on email spam (Frieder and Zittrain, 2004; Bhmme and Holz, 2006) and online message boards (Wysoczka, 1999; Das and Siakk, 2003; Tumak, 2006; White, 2003; Ren and Chen, 2001; Dewally, 2003; Brown, Davis, and Rajaplop, 2002; Antweiler and Frank, 2004; Clarkson, Joyce, and Tutub, 2005) and examined their impact on stock price and volume. They generally find significant market reactions to email spam and message board postings, often with price reversion subsequent to the initial reaction. Blogs are different: In contrast to email spam and message board postings, bloggers are not anonymous. To enhance their credibility and build an audience, they have a strong incentive to spread accurate, reliable, and useful information.

Financial blogs are thus a key, growing part of firms’ information environment. They collectively offer important information, news, opinion, reports, analyses, and stock recommendations. They have a large and dedicated audience, and blog reports are often picked up by mainstream media. As a first test of this key role in firms’ information environments, I aim to extend Frankel and Li (2004), who found that company-specific news stories and analyst following had a significant impact on the information asymmetry between firm insiders and outsiders. I posit that blogs will have a similar effect, where insider trading profits are negatively associated with blog coverage.

Method: Return-based analysis; only observed insider trades examined—specifically limited to common stock buy and sell transactions by management, as recorded in SEC Form 4 filings.

Observations: 5,754 total firm-week observations; because NPR (net purchase ratio) cannot be calculated for firm-weeks with no management trading activity, 681 firm-week observations are used for the analysis.

Summary of Results

The results in the regressions illustrate that firm-specific blog information played a significant role in reducing information asymmetries in the first and second quarters of 2008. The main coefficient of interest is the interaction between insider trading activity (the net purchased ratio, NPR) and the logged total number of firm-specific blog posts (lnBlog). As expected, I find that the moderated effect of blog posts on raw and market-adjusted returns is negative. That is, the more information in the blogosphere—targeting a particular firm, the lower the level of information asymmetry between firm insiders and the general S&P 500 market. I also find, not surprisingly, that firm attributes are also negatively related to information asymmetry. According to the main variables of interest with the net purchase ratio (NPR) of insider purchases to total insider transactions. The significant, positive coefficient for this variable indicates that insider purchases lead to higher returns than insider selling. The interactions of NPR with logged market value (lnMV), illustrate that higher-valued firms, in the presence of high ratios of insider purchases, are negatively related to information asymmetries. Likewise, a higher market-to-book ratio is positively related to information asymmetry. Surprisingly, the negative interaction between standard returns (S&P 500) and NPR illustrates that the profitability of insider returns is negatively related to return variance. Also contrary to previous work (Frankel and Li, 2004), I find that news coverage and analyst following have a non-significant impact on information asymmetry. These latter two results are largely due to sample properties rather than the inclusion of blog posts in the model.

Next Steps and Extensions

Given that the empirical investigation presented here is the “weakest possible test” of the effects of blogs on information asymmetries, future studies will examine the effects non-S&P 500 firms. In short, firm-specific blog posts should exhibit even stronger effects on returns for smaller firms and firms with more thinly traded stocks.

Further steps in this study will be to conduct additional statistical analyses, including a market model as well as various robustness and sensitivity checks. Future studies will then employ various Social Network Analysis tools to analyze the network structures of firm-specific blogs and other virtual networks, especially the size and density of these networks. Overall, by merging the latest social network analysis tools with the social sciences, I aim to test how important the ever-growing online networks of professional and amateur investors, and journalists, are in determining market efficiency and information asymmetry. In future work, this approach could be extended to a wide variety of topics central to capital markets research in accounting, including bloggers’ effect on “noise trading” non-information-based trading; the effects of blogging on analyst recommendations; investigations of what types of online network activity are value-relevant to the market reaction to the postings of “A-listers” in the Blogosphere); and whether various sub-sets of virtual networks— for instance, online peer-evaluated “Gurus”—are more relevant than analyst, or whether the blogosphere’s “Crowd” (Surowiecki, 2004) is still as effective in predicting market outcomes. Also of interest is the development of cybermetric measures of investor sentiment and investor demand for information.

Additional Information

For comments, a copy of the accompanying paper, and a full list of works cited in the research, I can be contacted via e-mail at gdsaxton@buffalo.edu. Please also visit the nascent project website at www.gregorysaxton.net.