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The effects of regulation on industry structure and trade generation in the US securities industry

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ABSTRACT

This study investigates the effects of Regulation FD and the Global Research Analyst Settlement on market share within the US securities industry as well as the determinants of market share during 1996–2004. We find that these regulations did not cause top brokers to lose market share in spite of their reduction of information asymmetries existing within the brokerage industry. They did, however, significantly reduce the quarterly variability in market share changes. We find that Regulation FD and the Global Research Analyst Settlement reduce the importance of an all-star analyst, issuer affiliation, and analyst optimism for gaining brokerage market share. We further discover that the Global Research Analyst Settlement increases the importance of coverage as a market share determinant while reducing the value of analyst experience for non-top brokers. We find that our results remain robust even when we limit our analysis to a set of pure brokerage firms.

1. Introduction

One of the most important functions of sell-side security analysts is to generate trades for their brokerage houses. The amount of revenue generated from these activities is staggering and far exceeds the revenue generated from investment banking activities. For example, Agrawal and Chen (2007) report that over the period, 1994–2003, the average brokerage firm generated $154 million in revenue from brokerage activities. This is 58% larger than the $97.28 million generated, on average, from investment banking activities. Despite this important role that analysts play in generating trading revenue, relatively little research has been done in understanding the role sell-side analysts play in establishing and expanding a brokerage house's market share.

The most recent studies examining analysts and their generation of brokerage revenues are those by Irvine (2000, 2004) and Jackson (2005). Using data on Toronto Stock Exchange listed equities, Irvine (2000) finds that brokerage firms increase their market share in stocks covered by their analysts by 3.8% relative to issues not followed by their analysts. Irvine (2004) finds that bold forecasts, which deviate significantly from the consensus, generate significant trading volume for the brokerage house over the 2-week period following the forecast's release. Additionally, he finds that buy recommendations generate more trade for the analyst's brokerage firm than sell recommendations. Jackson (2005) examines the Australian market and finds that optimistic and high reputation analysts are able to generate more trade for their brokerage firms.

These studies are unlikely to generalize to the US because of two important recent regulatory developments. The adoption of Regulation Fair Disclosure (henceforth, Reg FD) materially changes how information is shared with investors and eliminates the preferential access to corporate disclosures that high reputation analysts enjoyed. The Global Research Analyst Settlement of 2002 is a response to the widespread practice of research analysts issuing biased recommendations in support of related investment banking transactions. The erection of new administrative walls between the investment banking and brokerage divisions within a brokerage house along with Reg FD's requirement for the universal sharing of information has the potential to affect the importance of the various determinants of brokerage market share, especially those associated with analysts.

While previous research shows that both regulations significantly impact the earnings forecasts and recommendations of security analysts, there is no examination of their effect on brokerage market share.[1] We undertake such an examination in

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[1] For example, see Kadan et al. (forthcoming).

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our empirical analysis presented in Sections 5 through 7. This analysis helps us to evaluate the usefulness of these regulatory changes and to assess whether these regulations are achieving their desired goals.

We examine the effects of regulation using the set of analyst recommendations available from the I/B/E/S database along with brokerage market share data from Thompson Financial's AutEx database. Our sample period extends from 1996 through 2004. In our empirical tests, we distinguish between high and low reputation brokers. High reputation or top brokers are defined as those ranked in the top 10 in a given year based on aggregate number of shares traded. All others are classified as non-top or low reputation brokers.

The intended purpose of Regulation FD and the Global Research Analyst Settlement's Global Research Analyst Settlement is to increase market transparency and to eliminate biased recommendations. Yet these efforts at improving the information quality available in the marketplace have not shifted market share away from top to non-top brokers. The relative stability in market share by the top brokers is surprising in light of Reg FD's elimination of the information advantage enjoyed by high reputation analysts who are disproportionately employed by top brokerages or the Global Research Analyst Settlement's recognition of fraudulent behavior by the largest brokerage houses. We do discover, however, that these regulations are successful in reducing the variability of monthly market share changes. This reduction might be due to less asymmetry in the information environment resulting from Reg FD's requirement for the wider sharing of corporate disclosures and the Global Research Analyst Settlement's prohibition against biased recommendations in support of potential investment banking underwriting business.

We further find that prior to Reg FD, the market share for both top and non-top brokers is positively and significantly related to the optimism of the analyst covering the stock, the presence of an all-star analyst, broker size, and whether the brokerage house is affiliated with the issuing firm. These factors are similar to those documented by Irvine (2000, 2004) and Jackson (2005) for the Canadian and Australian markets. For example, an affiliation adds approximately 6–9.5% to a broker's market share in a stock, while the presence of an all-star analyst adds 1–2%.

The introduction of regulatory reform through the adoption of Reg FD and the signing of the Global Research Analyst Settlement has changed the magnitude of the relation between these analyst characteristics and brokerage market share. We find that Reg FD and the Global Research Analyst Settlement reduce the importance of an all-star analyst, issuer affiliation, and analyst optimism for gaining brokerage market share. We further determine that the Global Research Analyst Settlement increases the importance of recommendation quantity as a market share determinant while reducing the value of analyst experience for non-top brokerages. These results remain robust even when we limit our analysis to a set of pure brokerage firms.

The remainder of this paper proceeds as follows. The next section describes the new regulatory environment facing the securities industry, emphasizing the changes resulting from Reg FD and the Global Research Analysts Settlement. Section 3 discusses our hypotheses as they relate to the determinants of brokerage market share and the separate effects of Reg FD and the Global Research Analysts Settlement on the distribution of market share across brokerage houses. Section 4 contains a description of our data and methodological approach. Section 5 examines the structure of the securities industry and how it has evolved in the period surrounding the adoption of both Reg FD and the Global Research Analysts Settlement. Section 6 contains our initial analysis of the determinants of brokerage market share while Section 7 investigates the effect of recent regulation changes on these determinants. Section 8 presents a brief summary and our concluding comments.

2. The regulatory environment

Regulation FD was adopted by the SEC in August 2000 and became effective in October 2000. The rule is intended to prevent the restrictive disclosure of "material" information to select analysts and investors. A number of academic researchers over the last several years examine the implications of Reg FD on factors such as returns volatility, trading volume, information efficiency, and analyst-focused measures like forecast dispersion and accuracy.[2] Mohanram and Sunder (2006) find that analysts who had preferential connections with the firms they covered tend to have a greater forecast accuracy pre-Reg FD, but are unable to sustain their performance during the post-Reg FD period. Mohanram and Sunder interpret their results as consistent with Reg FD democratizing the information environment among analysts by forcing a more universal sharing of materially relevant company information. If Reg FD reduces the informational advantage of affiliated analysts, then we should see a reduction in the market share of affiliated analysts over the post-Reg FD period.

The second regulatory event possessing the potential to affect a broker's market share is the Global Research Analyst Settlement of December, 2002. In June 2001 the Attorney General of New York state began investigating Merrill Lynch for possible misconduct by its security analysts. The immediate issue focused on apparent discrepancies between analysts' true opinions and their published recommendations. The investigation ultimately resulted in the "Global Settlement" between the SEC, the NYSE, the NASD, the New York Attorney General, and 10 of the largest US brokerage firms[3]. The most important result of the global settlement was the enforced separation between the investment banking and research departments of these firms. Additionally, the signatories to this settlement agreed to stringent disclosure requirements concerning their analysts' research and the payment of nearly $1.4 billion in fines and penalties. The extensive negative publicity surrounding this settlement and consequent investor loss of confidence in analysts' integrity have the potential to adversely affect the market share of the signatory firms. The subsequent loss in market share might be concentrated in those stocks where an investment banking relationship exists with one of the signatory brokerage firms.

3. Hypothesis development

3.1. Determinants of brokerage market share

We hypothesize that a number of factors explain the level of a broker's market share in a given stock. These factors serve as the primary independent variables in our regression analysis of brokerage market share.

Previous research suggests that a variety of recommendation characteristics can influence brokerage market share. Irvine (2000), for example, examines a sample of Canadian firms and shows that providing any type of research coverage generates 3.8% of additional market share. Based on Irvine's findings, we anticipate that the number of recommendations issued by a brokerage house on a particular stock is positively related to its market share since trades are often based on analyst recommendations. Therefore, we specify our first hypothesis as:

[2] A partial list of research papers include Heflin et al. (2003), Eleswarapu et al. (2004), de Jong and Apilado (2009), and Agrawal et al. (2006).

[3] Eight out of the 10 brokerage firms involved in the Global Research Settlement are classified as top brokers in our sample.