International Review of Financial Analysis 28 (2013) 86–92

Contents lists available at SciVerse ScienceDirect

International Review of Financial Analysis

Do broker/analyst conflicts matter? Detecting evidence from internet trading platforms☆

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ARTICLE INFO

Article history:
Received 2 January 2013
Accepted 27 February 2013
Available online 14 March 2013

JEL classification:
G14
G15
P34

Keywords:
Conflict of interest
Dealers' market
Emerging markets
Informed trading
Investment recommendations
Trading systems

ABSTRACT

We analyze the potential conflict of interest between analysts and brokers associated with each other. In contrast to the existing literature, we do not analyze prediction accuracy and/or biases in analyst recommendations. Instead, we focus our analysis on brokers and examine whether their behavior systematically differs before and after investment recommendations are released. The evolution and dynamics of brokers' quotes and trades are used to test for systematic trading patterns around the release of one's own investment recommendation. In the model we control for brokers' responses to other investment advices and employ a SUR estimation framework. Data from the Prague Stock Exchange are used to demonstrate our methodology. Finding significant and systematic differences in brokers' behavior, we conclude that misuse of investment recommendations is widespread.

1. Introduction

The integration of brokerage and analytical services on a stock market creates conditions for a particular type of conflict of interest. This conflict of interest can manifest itself in two ways: First, analysts may have an incentive to issue biased recommendations. Second, even if investment advice is unbiased, associated brokers may possess this information well before the other market participants and use it to their advantage.[2] While the vast majority of theoretical and empirical research on investment recommendations focuses primarily on the analyst behavior and accuracy of their predictions, in this study we explore the behavior of brokers using publicly available high-frequency trading data.

We treat the recommendation of a particular analyst as new information that affects the decision-making of all market participants. Associated brokers, however, may have access to this information before it is

☆ The authors would like to thank Štěpán Jurajda, Evžen Kočenda and Peter Zemčík for helpful comments. Earlier versions of this paper were presented at CERGE-EI, UPENN, and various conferences including MME and CES; we acknowledge comments by presentation participants. The research for this study was supported by a GAČR grant (403/11/0020). The views expressed are those of the authors and do not necessarily reflect the position of any of the affiliated institutions.

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[2] An increasing number of studies suggest that investors respond to investment recommendations and therefore imply the need for regulatory protection to avoid price manipulation and market abuse; see for example Womack (1996), Barber et al. (2007), Irvine et al. (2007), Asquith, Mibail, and Au (2005), and Li (2005). According to Morgan and Stocken (2003) , analysts use upward-biased recommendations to increase the trading volume and therefore the trading fees. Agrawal and Chen (2008) use stock inventories and their results indicate that dealers facing a conflict of interest tend to issue more optimistic recommendations. The significance of these problems is supported also by several steps taken by legal and supervisory bodies on developed markets, e.g., the well-known investigation initiated by New York State Attorney General Eliot Spitzer that resulted in a settlement with ten Wall Street firms in December 2002 (SEC, 2002).

1057-5219/$ – see front matter
http://dx.doi.org/10.1016/j.irfa.2013.02.015

released to the public and may thus possess an informational advantage over the rest of the market. The primary goal of our paper is to detect the misuse of this advantage by analyzing brokers' trading behavior prior to and after the investment recommendation is issued, with a particular emphasis on their responses to their own recommendations. If there is no conflict of interest, we should not see any *systematic* trading patterns a few trading days before or after an associated analyst issues a recommendation.

Contrary to the existing literature, we do not perform our analysis on restricted-access regulatory data, but use instead publicly available high-frequency data from trading platforms. This way, we do not only introduce a new approach to the analysis of investment recommendations but also we believe it overcomes the problem of missing data, as the evolution of quotes and trades should very well replace the (often missing) regulatory information on stock inventories, portfolio structure, proprietary trading profits, etc.

Moreover, publicly available data contain information that is available to the retail sector investor when he decides to enter a particular capital market, reflecting a wide range of expectations about future development including expert opinions and investment recommendations. Therefore, one can expect some reaction of the market participants to distributed market analyses. Less informed retail sector investors could be especially sensitive and could follow these recommendations more frequently. Further, our high-frequency data consist of trades and quotes that capture most of the interaction of large brokerage firms with the retail sector. Thus, we argue that our study can better capture the misuse of the informational advantage of large participants in the market through transactions with the retail market.

We demonstrate our approach on data from the Prague Stock Exchange trading platform for the period 2003–2008, which we match with a set of related investment recommendations. To the best of our knowledge, this is the only study analyzing the conflict of interest stemming from brokers' investment recommendation that does not use regulatory data and the first such study in the context of Central European emerging markets.

The paper is organized as follows. The next section will provide a short overview of investment recommendations in the context of an emerging market, with a particular emphasis on the market structure of the Prague Stock Exchange. Section 3 will introduce the methodology and a description of the data is provided in Section 4. The results are presented in Section 5 and Section 6 concludes.

2. Effect of investment recommendations and emerging markets

Interestingly, most of the papers analyzing the effects of investment recommendations have been conducted on data from developed capital markets such as that in the U.S., where regulation is quite strict and requires a separation of brokerage and investment banking activities.[3] Therefore, it is not surprising that the results of these studies generally do not support the hypothesis that investors are systematically misled by investment recommendations. It would be a mistake, however, to extend these findings to emerging markets for several reasons, including: (1) Emerging capital markets are typically not subject to a high level of regulation.[4] (2) Due to the smaller size of emerging markets, brokers have strong market power and substantial latitude for price manipulation. (3) Small investors are inexperienced and unaware of a possible conflict of interest. In addition, Girard and Biswas (2007) show that compared to developed markets, emerging markets exhibit greater sensitivity to the unusual volumes associated with the release of new information such as investment recommendations. Moreover, control over large market participants is usually limited, as the regulatory authority often does not collect data on proprietary trading, broker inventories, etc. Overall, the problem of the misuse of investment recommendations and price manipulation could be more severe in emerging markets.

Unfortunately, the existing literature studying the effect of investment recommendations in the context of emerging markets is very limited. Moreover, the existing studies, likely due to the lack of regulatory data, analyze interactions between analyst recommendations and price change. For example, Moshirian, Ng, and Wu (2009) in their sample of 13 emerging countries show that stock prices react strongly to stock analyst recommendations. They also report a stronger positive bias in analyst recommendations and revisions in emerging markets compared with that in developed markets. Similarly, Kiymaz (2002) analyzed the effects of stock market rumors related to information release at the Istanbul Stock Exchange. He found that positive and significant abnormal returns are observed in the days prior to the publication date and negative yet insignificant returns are observed in the post-publication period. This supports our view of emerging markets, especially the possible existence of information leak and/or strategic trading around the time when recommendations are released.

Even in developed markets, interaction between institutional trading and released recommendations is observed. For example, Irvine, Lipson, and Puckett (2007) analyzed the behavior of institutional traders immediately before the release of analysts' initial buy recommendations. They show a very high institutional trading volume and buying beginning five days before buy recommendations are publicly released and typically before the trading based on such recommendations earns an abnormal profit. Therefore, in our analysis we consider five- and ten-day windows around the release of each recommendation.

It is interesting that higher analytical coverage in emerging markets does not necessarily produce additional information. On the contrary, Chan and Hameed (2006), in their analysis of 25 emerging countries, show that securities that are covered by more analysts incorporate less firm-specific information.

From a regulatory perspective, even on regulated markets a relationship persists between associated analysts' recommendations. In particular, Kadan, Madureira, Wang, and Zach (2009) demonstrated that affiliated analysts are still reluctant to issue pessimistic recommendations. In general a vast range of literature shows that analysts tend to over-recommend buying the stocks of firms with which they are affiliated (Barber, Lehavy, & Trueman, 2007; Lin & McNichols, 1998; Michaely & Womack, 1999). This can be explained by the desire of analysts to generate trading commissions. This explanation is also supported by the findings of Ertimur, Sunder, and Sunder (2007) who show a correlation between the type of recommendation, profitability, the accuracy of forecasts, and conflict of interest (arising from banking activity).

In this study we use data from the Prague Stock Exchange in the Czech Republic to demonstrate our methodology. The Prague Stock Exchange represents a typical electronic dealers market, in which market makers play a dominant role in affecting the price for a short time interval as well as for a longer period (e.g., Hanousek & Kopřiva, 2011). Although capital market regulation has been improved in line with EU legislation, the differences between the regulation of the Czech capital market and the regulation of a developed market such as the NYSE or the LSE are still significant.[5] Brokers on the Czech capital

[3] Several U.S. studies, however, do not support further regulation of investment recommendations as they argue that investors are aware of the possible conflict of interest and discount biased investment recommendations (see Agrawal & Chen, 2008; Fisch, 2006). Recently the unbiased and information value given in these recommendations has been discussed (e.g., Bhattacharya, Hackethal, Kaesler, Loos, & Meyer, 2012) as well as its overall influence (e.g., Loh & Stulz, 2011). In addition, some of the existing U.S. capital market regulations are questioned and criticized for being too restrictive and likely to reduce the quality and quantity of information available to retail investors (Fisch, 2006).

[4] See e.g., Hanousek and Filer (2002) or Torre, Gozzi, and Schmukler (2007).

[5] While the Prague Stock Exchange started operation in 1993, the Czech Securities Commission commenced operation in April 1998. The role of the Czech Securities Commission was to strengthen the investor and investment instruments issuer trust in the capital market. Since April 2006 the Czech National Bank took over the activities of the Czech Securities Commissions, which at that point ceased to exist.