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Investor sentiment, order submission, and investment performance on the Taiwan Stock Exchange☆

Pi-Hsia Hung *

Department of Banking and Finance, National Chi Nan University, Taiwan, ROC

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ABSTRACT

We examine investor sentiment, order submission decisions, and investment performance on the Taiwan Stock Exchange. We first specifically investigate whether investor sentiment affects investors' order aggressiveness and/or order size. Second, we empirically analyze the relation between investor sentiment and order submission strategies across various investor classes. Third and finally, we examine the relation between investor sentiment, order submission decisions, and the short- and long-term investment performance. Our analysis yields the following findings: 1) People's order submission behavior is quite different in optimistic versus pessimistic periods. 2) Buy and sell orders demonstrate different patterns and asymmetric effects. 3) The sensitivity of order submission decisions on investor sentiment is significantly different across different trader classes. 4) Mutual funds, compared with other investors, perform better on the Taiwan Stock Exchange.

1. Introduction

How investor sentiment or market sentiment affects financial asset prices is an enduring issue and long-standing interest to economists. The existing research on the influence of investor sentiment on financial markets is particularly focused on asset price drift or anomalies on developed markets. Notably, many studies show that investor sentiment influences security returns.[1] Although a growing body of literature has explored this relation, the link between investor sentiment and original order submission behavior is so far unclear, thus becoming an appealing line of research in microstructure issues. If we can better understand how investor sentiment affects order submission behavior, then we can better understand the markets' most important price formation process.

Our study considers whether investor sentiment affects order submission behavior and sheds light on the relation between investor sentiment, order submission behavior, and investment performance. It fills a gap in the literature by analyzing original

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* Corresponding author at: No. 1, University Rd, Puli, Nantou 545, Taiwan, ROC.
E-mail address: phhung@ncnu.edu.tw.

[1] See, for example, Antoniou et al. (2013), Baker and Wurgler (2006), Cornelli et al. (2006), Hirshleifer (2001), Kumar and Lee (2006), Kurov (2008), Neal and Wheatley (1998), and Stambaugh et al. (2012).

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trading behavior (an important stock market factor), rather than just focusing on the trade outcome (i.e., overall stock price movement). To the best of our knowledge, our study is the first to provide a direct empirical investigation on the link between investor sentiment and order submission behavior across various trader classes. Based upon a unique dataset obtained from the Taiwan Stock Exchange (TWSE), our study presents an especially adequate opportunity to analyze the link between investor sentiment, order submission, and investment performance across different classifications of institutional and individual investors.

Investor sentiment or market sentiment, broadly defined, refers to the overall attitude of investors toward the financial market. For example, an individual may feel excessively optimistic or pessimistic about the current or future environment. As early as Keynes (1936), scholars have considered the possibility that investor sentiment could cause asset prices to depart from fundamental values. Some arguments against sentiment effects show that rational traders will seek to exploit profit and take away mispricing anomalies. If these rational traders cannot completely exploit such opportunities, then sentiment effects exist in financial markets. As Antoniou et al. (2013) note, a growing body of psychology studies shows that people's current sentiment does affect their judgment of future expectations of assets prices. Based on psychology research, people with a positive sentiment make optimistic judgments or decisions, while people with a negative sentiment make pessimistic ones (Arkes et al., 1988; Bower, 1981, 1991; Wright and Bower, 1992). Investor sentiment is the sensation of a market or its crowd psychology, as revealed through the trading behavior and a security's price movement. Obviously, investor sentiment is not always based on a firm's fundamentals, but, instead, encompasses market-wide components with the potential to influence security prices in the same direction at the same time. Conspicuously, how investor sentiment affects financial asset prices is a fascinating issue and has taken on renewed significance in the context of a dramatic function on stock markets in recent years.

Our study uses the original TWSE intraday data to explore the relation between investor sentiment, order submission decisions, and investment performance across different categories of traders. The TWSE is a pure order-driven stock market with a trading architecture different from developed western markets. Since there are no market makers on this pure order-driven market, order submission determines the supply of and the demand for liquidity. Therefore, traders' order submission behavior is extremely important and is specifically the foundation of how the stock market operates. Since the TWSE, compared with well-developed stock markets, is dominated by individuals, this market may be more sensitive to investor sentiment (Yu and Yuan, 2011).

By analyzing order submission behavior of domestic individuals and various institutional investors, our analysis provides information on the following topics. (1) We first investigate whether investor sentiment affects investors' order aggressiveness and/or order size. (2) Second, we empirically analyze the relation between investor sentiment and order submission strategies across various investor classes. (3) Third and finally, we examine the relation between investor sentiment, order submission decisions, and the short- and long-term investment performance. Our investigation deepens the understanding of the sensitivity of stock traders' order submission decisions on investor sentiment. In addition, our study complements prior research dealing with sentiment on order choice in stock markets and Asia-Pacific finance research (Linnenluecke et al., 2016). Our study not only contributes to the academic literature, but also provides a reference value for actual practice. For instance, less wealthy individuals participate actively on the TWSE. This paper communicates practical recommendations, directing that most uninformed individuals should be cautious toward investor sentiment.

The purpose of our study is to provide sample evidence on the influence of investor sentiment on traders' order submission and investment performance. Our results reveal several new findings which are not observed in prior studies. People's trading behavior is quite different in the optimistic versus pessimistic periods. Buy and sell order demonstrate different patterns and asymmetric effects. The sensitivity of order submission decisions on investor sentiment is significantly different across different trader classes. Mutual funds generally submit larger orders; however, foreign investors possibly split their orders to hide their trading information. After controlling other factors, professional institutions submit larger orders in the optimistic period; whereas they place smaller orders in the pessimistic period. Both investor sentiment and order submission decisions are related to short- and long-term investment performance. Mutual funds perform better than do other investors on the TWSE. Up until now, the TWSE uses batch trading rather than continuous trading. The trading system operates in a consolidated limit order book environment in which buy and sell orders can interact to set the clearing price. According to current matching rules, orders are matched approximately every five seconds during the intraday call auction, excluding the last 5 min before closing time. During the period starting from 13:25 until 13:30, orders are progressively collected and then matched at the end of the trading session to determine the closing price. We presume the results are not mainly driven by the difference between the five-second batch trading and continuous trading systems.

The remainder of our study is organized as follows. Section 2 explores a literature review. Section 3 describes the data and analysis approaches. Section 4 shows the empirical results. Given the results from empirical tests, Section 5 summarizes and concludes the paper.

2. Literature review

2.1. Investor sentiment and security returns

Prior studies have set up psychology-based asset-pricing models and examined the relation between investor sentiment and security price drift.[2] For example, Charoenrook (2005), Brown and Cliff (2005), and Lemmon and Portniaguina (2006) use

[2] See, among many, for example, Antoniou et al. (2013), Baker and Wurgler (2006), Cornelli et al. (2006), Hirshleifer (2001), Kumar and Lee (2006), Kurov (2008), Lee et al. (1991), Neal and Wheatley (1998), and Stambaugh et al. (2012).