North American Journal of Economics and Finance 38 (2016) 39–53

Contents lists available at ScienceDirect

North American Journal of Economics and Finance

journal homepage: www.elsevier.com/locate/ecofin

# Individual stock crowded trades, individual stock investor sentiment and excess returns ☆

Chunpeng Yang, Liyun Zhou *

*School of Economics and Commerce, Finance and Security Center, South China University of Technology, Guangzhou 510006, China*

ARTICLE INFO

*Article history:*
Received 25 February 2016
Received in revised form 28 June 2016
Accepted 28 June 2016

*JEL classification:*
G1
G10
G12

*Keywords:*
Individual stock crowded trades
Individual stock investor sentiment
Excess returns
Asset pricing

ABSTRACT

Recent behavioral asset pricing models and the popular press suggest that investors may follow similar strategies resulting in crowded equity positions to push prices further away from fundamentals. This paper develops a new approach to measure individual stock crowded trades, and further investigates the joint effects of individual stock crowded trades and individual stock investor sentiment on excess returns. Specifically, our results show that the combined effect of individual stock crowded trades and individual stock investor sentiment on excess returns is positive and significant, which reveals the importance of "anomaly factors" in asset pricing. Furthermore, our results suggest that increasing individual stock buyer-initiated crowded trades will increase excess returns simultaneously; however, increasing individual stock seller-initiated crowded trades will decrease excess returns simultaneously. Collectively, our results highlight the importance of individual stock crowded trades and individual stock investor sentiment on the formation of stock prices.



## 1. Introduction

One of the fundamental goals of asset pricing theory is to understand the source of stock prices. Recent studies in behavioral finance indicate that both investor sentiment and investor behavior have significant impacts on stock returns. Typically, Shiller (2011, 2014) highlights that researches in light of actual human behavior should take account of how people really think and act. In this paper, we use individual stock investor sentiment to describe how people think of a particular stock, and use individual stock crowded trades to portray how people really act on a particular stock in stock market, and entertain the consequence of both individual stock investor sentiment and individual stock crowded trades on excess returns.

On the one hand, an extensive theoretical literature implies that investor sentiment has a significant impact on stock prices. For example, Baker and Wurgler (2006) demonstrate that investor sentiment has larger effects for small stocks, young stocks, high-volatility stocks, unprofitable stocks, non-dividend-paying stocks, extreme growth stocks, and distressed stocks. Kumar and Lee (2006) find that retail investor sentiment explains return comovements for stocks with high retail concentration. On the other hand, a large number of literatures reveal how crowded-trade problem affects stock prices. For example, Stein (2009) analyzes the consequences of both crowding and leverage in a setting to reveal the importance of crowded-trade problems on

☆ We are very grateful to the editor (Hamid Beladi) and two anonymous referees for detailed comments and suggestions that significantly improved the paper.

* Corresponding author.
*E-mail addresses:* chpyang@scut.edu.cn (C. Yang), ycpgroup1@hotmail.com (L. Zhou).

http://dx.doi.org/10.1016/j.najef.2016.06.001
1062-9408/

stock prices. Although there are several recent studies those deal with the relation between investor sentiment (crowded trades) and stock prices, however, these papers never incorporate the two factors into one model to reveal their combined effects on stock prices.

Where this paper differs from much of the previous literatures is in analyzing the consequences of both individual stock crowded trades and individual stock investor sentiment. Specifically, we first verify the individual stock investor sentiment effect, and we further separate the individual stock crowded trades into individual stock buyer-initiated crowded trades and individual stock seller-initiated crowded trades to certify the individual stock crowded-trade effect, individual stock buyer-initiated crowded-trade effect, and individual stock seller-initiated crowded-trade effect.

In this paper, we select the 183 current components of the CSI 300 Index to study the relation among investor sentiment, investor behavior and asset prices, where we can obtain the generalizable results for the average returns of 183 stocks co-move with market returns. In our tests, panel data regressive analysis reveals that individual stock crowded trades and individual stock investor sentiment are important determinants of excess returns. In particular, both individual stock crowded trades and individual stock investor sentiment have positive and prominent impacts on excess returns with or without the Fama-French three factors of China Stock Markets. In subsequent tests, we find that individual stock buyer-initiated crowded trades, individual stock seller-initiated crowded trades, and individual stock investor sentiment have significant effects on excess returns including or excluding the Fama-French three factors of China Stock Markets. Specifically, increasing individual stock buyer-initiated crowded trades (individual stock investor sentiment) will increase excess return simultaneously; however, increasing individual stock seller-initiated crowded trades will decrease excess return simultaneously. Furthermore, we conduct a number of additional robustness tests to verify the sensitivity of our results.

Our main contributions relative to the related empirical papers reflect in the following aspects. First, this paper measures the stock-level crowded trades, and further divides it into individual stock buyer-initiated crowded trades and individual stock seller-initiated crowded trades to measure the buyer-seller power of individual stocks. Second, this paper centers on the combined effect of individual stock investor sentiment and individual stock crowded trades on excess returns, which reveals that the combined effect of individual stock investor sentiment and individual stock crowded trades has a significant impact on stock returns. Finally, we separate individual stock crowded trades into individual stock buyer-initiated crowded trades and individual stock seller-initiated crowded trades, and further demonstrate the joint effect of individual stock buyer-initiated crowded trades, individual stock seller-initiated crowded trades, and individual stock investor sentiment on excess returns is significant and important.

The rest of the paper is organized as follows. Section 2 reviews the literature in this area to highlight our contributions. Section 3 presents our definitions of individual stock investor sentiment index and individual stock crowded-trade indexes, and further describes the data that we use in our empirical analysis. Section 4 presents the joint effects of individual stock crowded trades and individual stock investor sentiment on excess returns. Section 5 outlines the combined effect of individual stock buyer-initiated crowded trades, individual stock seller-initiated crowded trades, and individual stock investor sentiment on excess returns. Section 6 conducts a number of additional robustness tests to verify the sensitivity of our results. Finally, Section 7 concludes.

## 2. Literature review

With respect to the literature on this topic and its pertinence to the purpose of this study, the relevant research can be broadly classified into two strands. Behavioral finance explains stock returns from two perspectives: investor sentiment and crowded trades.

One possible explanation for stock returns is that investor sentiment affects asset prices (see, e.g., Antoniou, Doukas, & Subrahmanyam, 2015; Baker & Wurgler, 2006, 2007; Berger & Turtle, 2012; Fong & Toh, 2014; Greenwood & Shleifer, 2014; Kim, Ryu, & Seo, 2014; Lee, Jiang, & Indro, 2002; Qian, 2014). Baker and Wurgler (2006, 2007) use the closed-end fund discount, NYSE share turnover, the number and average first day returns on IPOs, the equity share in new issues, and the dividend premium to form market-wide investor sentiment, and further certify its importance on the cross-section of stock returns. Later work shows that market-wide sentiment can explain a series of anomalies in financial market. As Stambaugh, Yu, and Yuan (2012, 2014, 2015) investigate the role of market-wide sentiment in a set of anomalies in cross sectional stock returns. Moreover, Stambaugh and Yuan (2015) combine two new mispricing factors based on anomalies with market and size factors to produce a four-factor model, and demonstrate that this four-factor model's ability to accommodate a wide range of anomalies exceeds that of the five-factor model of Fama and French (2015). However, these literatures mainly analyze the role of market-wide investor sentiment on asset prices. Besides the market-wide sentiment, Kumar and Lee (2006) use buy and sell imbalance to capture retail investor sentiment, and further reveal that changes in portfolio-level retail sentiment may induce comovement in stock returns. However, the above literature ignores the roles of individual stock investor sentiment.

Furthermore, some papers propose the dynamics of stock-level sentiment theoretically (Cen, Lu, & Yang, 2013), and some papers prove the significant effect of individual stock investor sentiment empirically (see, e.g., Frazzini & Lamont, 2008; Lee, 2013). Frazzini and Lamont (2008) use mutual fund flows to measure individual investor sentiment for different stocks, and demonstrate that stocks that are overweighed by retail investors due to fund flows tend to have lower subsequent returns. And Lee (2013) uses turnover and mutual fund flows to measure individual stock investor sentiment, and further explains a