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Predictable behavior, profits, and attention ☆

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Abstract

Stocks in the Shanghai market that hit upper price limits typically exhibit three characteristics: high returns, high volumes, and news coverage. We show that these price limit events attract investors' attention. Attention-grabbing events lead active individual investors to buy stocks they have not previously owned. Consistent with lowering investor search costs, events that affect a few (many) stocks lead to increased (decreased) buying. Upper price limit events coincide with initial price increases followed by statistically significant price mean reversion over the following week. Rational traders (statistical arbitrageurs) profit in response to attention-based buying. Smart traders accumulate shares on date t, sell shares on date $t+1$, and earn a daily average profit of 1.16%. We show the amount they invest predicts the degree of attention-based buying by individual investors. We end by decomposing individual investor trades in order to estimate losses attributable to behavioral biases.

JEL classification: G14; G15
Keywords: Attention; Statistical arbitrage; Behavioral finance

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1. Introduction

Recent work in financial economics suggests that individual investors have limited attention and processing capabilities.[2] Such traits become particularly apparent when studying the investment choices of active individual investors. When deciding which stock to purchase, individuals face a daunting search problem that is exacerbated by the thousands of stocks to choose from. Behavioral theories predict that attention-grabbing events help to narrow the universe of stocks an individual might research. This narrowed universe of stocks is called the "consideration set". In a world with limited short selling, newly considered stocks (even those stocks with poor prospects) do not induce investors to initiate short positions.[3] Most individual investors hold only three or four stocks in their portfolios, so they have narrow consideration sets when it comes to deciding which stock to sell next. Thus, attention-grabbing events lead to predictable behavior—individual investors become net buyers of stocks that catch their attention.

Barber and Odean (2005) are the first to comprehensively study individual trading behavior in the presence of attention-grabbing events. They argue that abnormal trading volume, extreme returns, and news can all be thought of as attention-grabbing events. Their empirical analysis shows that each of these three types of events is indeed linked to aggregate net buying by individual investors.[4]

In this paper we study trading behavior and stocks that catch individual investors' attention. First, we examine whether attention-grabbing events lead to predictable buying behavior by individual investors. We test whether attention-grabbing events (on date t) are linked with net individual trade imbalances the following trading day (on date $t+1$) by computing a net buy–sell imbalance measure on date $t+1$ for each event. This measure is the same one as that used in Barber and Odean (2005) and our results provide an out-of-sample confirmation of their results.

Second, the link between attention and investor behavior is predicated on substantial search costs faced by individual investors. If few events happen simultaneously, search costs are reduced, and the consideration set is considerably narrowed. We test this hypothesis by measuring individual imbalances on date $t+1$ as a function of the number of contemporaneous events on date t. We expect more positive (less positive) buy–sell imbalances on days following few (many) contemporaneous events.

Third, attention-grabbing events help individual investors narrow the set of stocks under consideration. After an event, an investor's consideration set may contain stocks the investor has not previously owned. If upper price limit events catch the attention of individual investors, there should be more first-time buys of a particular stock the day following an attention-grabbing event compared to other days. Therefore, we test whether price limit events cause investors to consider, and ultimately purchase, stocks they have not previously owned.

[2] For example, Hirshleifer and Teoh (2003) study firm disclosures in a world with limited attention. Peng (2005) and Peng and Xiong (2006) derive implications for stock prices when investors are constrained in their ability to process information. See also Lynch (1996), Mankiw and Reis (2002), Sims (2003), Gabaix et al. (2003), and Corwin and Coughenour (2005).

[3] In the Shanghai market we consider, short selling is prohibited by regulation.

[4] There are a number of papers that do not focus on investor attention per se but document interesting anecdotal evidence: Lee (1992) concludes that "small investor buy decisions are associated with news events which bring the security to small investors' attention." Graham and Kumar (2004) show that certain investors tend to purchase stocks after specific, attention-grabbing events such as dividend initiations. See also Gervais et al. (2001), Huberman and Regev (2001), Grinblatt and Keloharju (2001) and Choe et al. (1999).