Pacific-Basin Finance Journal 17 (2009) 41–57

Contents lists available at ScienceDirect

Pacific-Basin Finance Journal

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

Can margin traders predict future stock returns in Japan?[☆]

Takehide Hirose[a], Hideaki Kiyoshi Kato[b], Marc Bremer[c,*]

[a] *Sumitomo Trust and Banking Co. Ltd., Japan*
[b] *Nagoya University, Japan*
[c] *Nanzan University, Japan*

ARTICLE INFO

Article history:
Received 9 November 2006
Accepted 28 January 2008
Available online 4 March 2008

JEL classification:
G12
G14

Keywords:
Behavioral finance
Investor sentiment
Margin trading
Japan

ABSTRACT

A growing body of literature suggests that investor sentiment affects stock prices both at the firm level and at the market level. This study examines the relationship between investor behavior and stock returns focusing on Japanese margin transactions using weekly data from 1994 to 2003. Margin trading is dominated by individual investors in Japan. In analysis at the firm level, we find a significant cross-sectional relationship between margin buying and stock returns. Both market-level and firm-level analyses show that margin buying traders follow herding behavior. They seem to follow positive feedback trading behavior for small-firm stocks and negative feedback trading behavior for large firm stocks. Our results show that information about margin buying helps predict future stock returns, especially for small-firm stocks at short horizons. The predictive power does not diminish even after controlling for firm size and liquidity.

> Why do the mechanisms of borrowing securities and selling them short appear so underdeveloped? Why are some crucial securities that arbitrageurs need missing altogether? (From Ch.7, Open Problems)Andrei Shleifer, Inefficient Markets (2000).

☆ The authors thank an anonymous referee, S. Ghon Rhee, Malcolm Baker, Takato Hiraki, Terry Odean, and participants in the Auckland meeting of the Asian Finance Association for their helpful comments. We also received useful comments on an earlier draft from the participants at the Nippon Finance Association meeting in 2004 and at the Second Behavioral Economics Workshop (2004) in Osaka. This research was partially supported by JSPS KAKENHI (19530404). The views expressed in this paper are those of the individual authors and do not necessarily reflect the position of Sumitomo Trust and Banking.

* Corresponding author. School of Business Administration, Nanzan University, 18 Yamazato-cho, Showa-ku, Nagoya 466-8673, Japan. Tel.: +81 52 832 3111x3849; fax: +81 52 832 2104.
E-mail address: myxen@bf7.so-net.ne.jp (M. Bremer).

0927-538X/$ – see front matter
doi:10.1016/j.pacfin.2008.01.001

1. Introduction

A growing section of the finance literature suggests that investor sentiment affects stock prices both at the firm level and at the market level. This paper extends this literature by linking investor sentiment to margin trades and examines how these quantities predict future stock returns in Japan. De Long et al. (1990) demonstrate that if risk-averse arbitrageurs know that prices may diverge further away from their fundamental values before they converge, they will take smaller positions when betting against mispricing. Therefore, if the sentiments of noise traders are systematically correlated and there are constraints on arbitrage, their investment behavior may predict future market prices. Yet, the direction of causality is not entirely clear because the behavior of noise traders may be influenced by the market.

Fisher and Statman (2000) examine the usefulness of a variety of sentiment variables in predicting short-horizon market returns. Baker and Wurgler (2006) examine how investor sentiment affects the cross-section of stock returns. When sentiment is pessimistic, subsequent returns are relatively high for smaller stocks, high-volatility stocks, unprofitable stocks, non-dividend-paying stocks, extreme-growth stocks, and distressed stocks. When sentiment is optimistic, these patterns attenuate or, in several cases, fully reverse. Brown and Cliff (2004) document that returns cause sentiment rather than vice versa.

In his analysis of volatility, Brown (1999) finds deviations from the mean level of investor sentiment are positively related to volatility during the same period. Wang et al. (2006) examine the relationship between sentiment, returns, and volatility and find that investor sentiment is caused by returns and volatility rather than vice versa. In addition, lagged returns cause volatility.

Odean's (1998) model shows that investor overconfidence will increase trading volume. Gervais and Odean (2001) argue that high past market returns may cause overconfidence in individual investors if they happened to invest in stocks in the same period. Using monthly market data, Statman et al. (2004) show that investor overconfidence is positively related to trading volume. Baker and Stein (2004) propose a model that explains why increases in liquidity are associated with lower subsequent returns at both the firm level and the aggregate level. When short sales are constrained, unusually high liquidity is a symptom of market domination by irrational investors who underreact to the information contained in order flow.

Individual investors have long been considered to be noise traders. They are less informed or trade for non-informational reasons. Nevertheless, if their trades are correlated and arbitrage is limited in some way, their investments will change asset prices. Lee et al. (1991) argue that the discount on closed-end funds can be explained by the irrational behavior of individual investors. Because of leverage, margin transactions are sometimes considered speculative and major players in these transactions tend to be individual investors. Therefore, we argue that margin transactions tend to reflect individual investor sentiment.

This study examines the relationship between investor behavior and stock returns by focusing on margin transactions in Japan. Margin trades are widely thought to be dominated by individual investors in Japan. First, we confirm that margin transactions are indeed dominated by individual investors. Second, we examine how margin transactions are related to stock returns. We look for specific patterns that are consistent with apparently irrational behavior. Our market-level analysis shows that margin buying is dominated by individual investors, but that margin selling is not. In analysis at the firm level, we find a significant cross-sectional relationship between margin buying and stock returns. We do not find significant patterns for margin selling. Both the market-level and firm-level analyses show that margin buying traders follow herding behavior. They seem to follow positive feedback trading behavior for small-firm stocks and negative feedback trading behavior for large firm stocks. As predicted, margin traders heavily impact the stock prices of small firms over a certain period of time. The deviation from previous value exists longer and is more pronounced for small-firm stocks that are mainly owned by individual investors.

Our results show that information about margin buying shares outstanding helps predict future stock returns, especially for small-firm stocks. The predictive power does not diminish even after controlling for liquidity. This is consistent with De Long et al. (1990), who show that stock prices deviate from their fundamental values for a certain period of time due to excess demand by noise traders.

This is the first comprehensive study of Japanese margin trading using weekly data over a long period of time. These weekly data cover most stocks eligible for margin trades. Standardized margin trades have been practiced in Japan for more than fifty years. In contrast to the United States, the Japanese margin trading system is advanced and highly centralized. The Japanese system allows stockbrokers to borrow securities and funds from specialized securities finance companies when there is a shortage of securities and funds.