Pacific-Basin Finance Journal 21 (2013) 1191–1208

Contents lists available at SciVerse ScienceDirect

Pacific-Basin Finance Journal

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

Weekly momentum by return interval ranking

Li Pan [a], Ya Tang [b], Jianguo Xu [a,*]

[a] China Center for Economic Research, Beijing University, Beijing 100871, China
[b] Guanghua School of Management, Beijing University, Beijing 100871, China

ARTICLE INFO

Article history:
Received 27 October 2011
Accepted 2 June 2012
Available online 15 June 2012

JEL classification:
G10
G12
G14

Keywords:
Weekly momentum
Return interval ranking
Emerging market

ABSTRACT

Existing research does not find significant momentum profits in many emerging markets including China. We propose an alternative momentum strategy which groups stocks into return intervals rather than percentiles. We apply the method to the China A-share market and find economically significant momentum profits in weekly returns, but not in monthly returns. The weekly momentum lasts for about 1 year. More than half of the profit is realized in the first 3 weeks. We apply the method to other Asian equity markets and find significant weekly momentum in Hong Kong, Taiwan, Korea, Thailand, and Indonesia. These findings suggest that momentum may exist in different formats in different markets. Existence of momentum in a closed equity market like China supports momentum is pervasive in short-term stock returns.

1. Introduction

Momentum has received substantial attention in the finance literature since firstly discovered by Jegadeesh and Titman (1993). Many later studies have confirmed the existence and stability of momentum profitability in most developed markets, especially European markets.[1] However, momentum is found to be less pronounced or even nonexistent in a number of emerging markets, most notably Asian markets (see, e.g., Rouwenhorst, 1998; Griffin et al., 2003; Chui et al., 2010).[2]

* Corresponding author. Tel.: +86 10 62759293; fax: +86 10 62751474.
E-mail address: jgxu@ccer.edu.cn (J. Xu)

[1] For the United States, it has been found that momentum extends to later time periods (Jegadeesh and Titman, 2001), exists in industry portfolios (Grinblatt and Moskowitz, 1999), and value and size portfolios (Lewellen, 2002). For Europe, Rouwenhorst (1998) find robust momentum profits for 12 European countries (except Sweden). It has also been found that equity indices exhibit momentum (Richards, 1995, 1997; Chan et al., 2000).

[2] According to existing studies, momentum exists in the United States, United Kingdom, France, Germany, Austria, Belgium, Denmark, Italy, The Netherlands, Norway, Spain, Switzerland, Greece, Chile, Columbia, India, Jordan, and Portugal, but not in Sweden, Japan, Korea, Singapore, Indonesia, Malaysia, Taiwan, Thailand, Philippines, Argentina, Brazil, Mexico, Venezuela, Pakistan, Turkey, and Zimbabwe. Momentum exists in Hong Kong before the Asia financial crisis in 1997–1998 but not after the crisis.

0927-538X/$ – see front matter
doi:10.1016/j.pacfin.2012.06.001

Cross-market variations in momentum profitability provide an important angle to test momentum theories. Risk based theories (see, e.g., Berk et al., 1999; Johnson, 2002) need to explain why such risks do not cause momentum in some large and well-developed markets, such as the Japanese market. Behavior based theories (see, e.g., Barberis et al., 1998; Daniel et al., 1998; Hong and Stein, 1999) need to figure out why such behavior leads to momentum in some markets but not in some other markets.

One way to proceed is to find cross country differences that help explain existing evidence. Chui et al. (2010) find that countries characterized by higher level of individualism exhibit higher level of momentum and reversal. They argue that this is because individualism is associated with overconfidence and self-attribution bias, which jointly lead to momentum profitability (Daniel et al., 1998; Gervais and Odean, 2001).

An alternative way to proceed is to re-examine the markets in which earlier studies do not find momentum. Existing studies usually apply the method of Jegadeesh and Titman (1993) to other markets. However, there exist no presuming reasons why in other markets momentum should take exactly the same format. For example, momentum may exist in returns of different frequencies for a different length of time. Behavioral theories generally do not specify the time for the effect to be observed. Risk theories leave the risk magnitude and risk aversion parameters to be determined in contexts. If investor behavior in different markets can be described by the same theory but with different parameter values, momentum may take different formats.

In this study we proceed along the second line to re-examine existence of momentum. We make two alternations to the traditional momentum strategy. First, we examine returns of different frequencies. Earlier studies rank stocks on returns of 3–12 months. We rank stocks not only on monthly returns, but also on weekly returns. The motivation is that in an emerging market such as China, information quality is lower and prices are less efficient in aggregating information. In addition, investors are usually believed to be speculative, short sighted, and trade frequently (Mei et al., 2009; Xiong and Yu, 2011). Consequently, price changes are highly volatile, which reduce statistical significance of any patterns that may or may not exist. To the extent that speculative trading may lead to fast price changes, if not overshooting, price continuations may exist in a shorter but not in longer time.

Second, motivated by the finding of Morck et al. (2000) that stock prices move more synchronously in many less developed markets, we propose an alternative ranking method. More synchronous price movements imply smaller cross section stock return variations. Because momentum is a cross sectional phenomenon, it will be more difficult to find momentum when cross sectional variations are smaller.[3] A strategy to enlarge the winner–loser difference may help identify momentum. Toward this end, we rank stocks into return intervals rather than percentiles. That is, in each period we calculate the distance between the maximum and minimum returns, split the distance into equal return intervals, and group stocks into these intervals. Because stock returns cluster around the median, this new method picks fewer stocks to construct the hedge portfolio, resulting in larger winner-loser differences.

We apply the new momentum strategy to China stock market. We are primarily interested in China stock market for four reasons. First, China stock market is becoming a major equity market in the world. By the end of 2010, the aggregate market capitalization of China stock market is the second largest in the world, behind only the United States. Second, China still imposes strict capital controls, which makes the equity market largely disintegrated from the rest of the world.[4] To the extent that isolated markets are more independent sample points in world equity markets, examining momentum in an isolated market provides more information about momentum. Third, existing studies do not find stable momentum effect in China stock market (Wang, 2004; Wang and Chin, 2004; Wang and Zhao, 2001; Liu and Pi, 2007), making it qualified for further examination of momentum existence. Finally, investors in China are

[3] Existing research finds that idiosyncratic rather than market wide price changes help produce momentum. Grundy and Martin (2001) find that momentum profit is stronger when stocks are sorted on idiosyncratic past returns than sorted on raw returns. Hou et al. (2005) find that momentum is more pronounced among low R-square stocks, which has larger proportion of idiosyncratic price movements.

[4] Foreigners can invest in China A-share market via Qualified Foreign Institutional Investors (QFII), which is subject to approval. By September 1, 2010, the aggregate quota of QFII approved is 18.97 billion USD, or about 130 billion RMB, which is about 0.4% of total market capitalization.