



# A risk-return explanation of the momentum-reversal “anomaly”



G. Geoffrey Booth <sup>a,1</sup>, Hung-Gay Fung <sup>b,2</sup>, Wai Kin Leung <sup>c,\*</sup>

<sup>a</sup> Eli Broad Graduate School of Management, Michigan State University, 645 West Shaw Lane, East Lansing, MI 48824-1121, USA

<sup>b</sup> College of Business Administration, University of Missouri, St. Louis, One University Blvd., St. Louis, MO 63121, USA

<sup>c</sup> Nottingham University Business School China, University of Nottingham Ningbo, 199 Taikang East Road, Ningbo 315100, China

## ARTICLE INFO

### Article history:

Received 16 July 2015

Received in revised form 4 October 2015

Accepted 6 October 2015

Available online 23 October 2015

### JEL classification:

G12

### Keywords:

Asset pricing

Stock returns

Momentum

Market capitalization

## ABSTRACT

This study investigates the nature of the momentum-reversal phenomenon exhibited by U.S. stock returns from 1962 to 2013. We use cumulative future returns of long–short portfolios, which are formed using prior returns as benchmarks, after portfolio formation to analyze the well-documented momentum-reversal pattern. Contrary to many previous studies our results demonstrate that there is no momentum-reversal anomaly. We show that size (market capitalization), which is often considered a proxy for risk, eventually dominates momentum's initial effect, causing stock prices and, hence, returns to move in the opposite direction. We demonstrate that this latter price movement is likely to be related to institutional trading.

© 2015 Elsevier B.V. All rights reserved.

## 1. Introduction

Investment practitioners and academicians have long searched for time series patterns in stock prices and trading strategies to exploit them. Whether these price patterns actually exist is a hotly debated topic. Many believe that these patterns are an example of a type of apophenia that involves seeing patterns that do not exist in a sequence of random numbers. Others suggest that price patterns exist temporarily but disappear as a result of investors profitably exploiting the observed relationship. Still others accept that a blending of these two notions may account for the observed stock price patterns, but maintain that only a few of the patterns are indeed real and last long enough to allow profits to be earned by strategically constructed investment plans.

One such pattern falling into the last category is price momentum-reversal. Price momentum occurs when a stock's price moves in the same direction for a recognizable period of time. Stocks with a recent history of over-performance are labeled as winners while those with one of underperformance are named losers. Profits are obtained by strategically creating long–short portfolios by simultaneously taking a long position in winner stocks and a short position in loser stocks during the momentum phase and then unwinding the position when this phase ends. A reversal occurs when the long–short portfolio experiences opposite return behavior in the long run; i.e., winners become losers and vice versa. The profitability of this long–short strategy

\* Corresponding author. Tel.: +86 574 88180325.

E-mail addresses: [boothg@msu.edu](mailto:boothg@msu.edu) (G. Geoffrey Booth), [fungh@msx.umsl.edu](mailto:fungh@msx.umsl.edu) (H.-G. Fung), [WK.Leung@nottingham.edu.cn](mailto:WK.Leung@nottingham.edu.cn) (W.K. Leung).

<sup>1</sup> Tel.: +1 517 884 2986.

<sup>2</sup> Tel.: +1 314 516 6374.

**Table 1**  
Summary statistics.

Year	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2013
No. of stocks in sample	2166	2409	5256	5024	6409	6853	8360	8468	6885	6642	6669
Mean value of institutional investor ratio	NA	NA	NA	0.109	0.152	0.196	0.258	0.280	0.370	0.409	0.391
Percentage of stocks with no institutional investors	NA	NA	NA	0.310	0.196	0.119	0.061	0.054	0.065	0.025	0.196
Maximum market capitalization	20,380	28,429	31,025	41,468	75,820	67,527	95,492	524,352	367,495	290,960	401,730
Mean market capitalization	195.5	182.9	152.2	231.4	298.7	458.2	683.7	2059.8	2416.1	2334.4	3547.2
Minimum market capitalization	0.063	0.189	0.008	0.033	0.025	0.035	0.005	0.070	0.280	0.584	0.228
Maximum institutional trading	NA	NA	NA	999.5	1459.2	1797.7	2990.6	229,274.3	9074.7	16,050.4	13,927.6
Mean institutional trading	NA	NA	NA	9.3	17.1	25.6	36.8	239.5	134.7	159.5	201.3
Minimum institutional trading	NA	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
No. of institutional traders	NA	NA	NA	2132	3623	3919	6201	6582	5749	5984	5138

Notes: In each month from January 1963 to December 2013 we find from NYSE, AMEX, NASDAQ, and NYSE Arca stocks the market capitalization of each stock on the last day of each month, the monthly turnover by adding the daily turnover in each month and the monthly return. In each quarter from 1980 onward we retrieve from the WRDS Institutional (13f) Holdings data the institutional investor ratio (shares held by institutional investors/share outstanding at end of quarter) and the institutional trading (value of shares newly bought by institutional investors in that quarter provided they already held shares in the previous quarter). All values except return are in millions of dollars. We report here the June values for each year.

has been documented in numerous studies of U.S. stocks using a variety of techniques to determine which stocks are winners and which are losers (e.g., George and Hwang, 2004; Jegadeesh and Titman, 1993; Novy-Marx, 2012).<sup>3</sup> Price reversals have also been empirically identified (e.g., De Bondt and Thaler, 1987; Jegadeesh and Titman, 2001).

Numerous attempts have been made to explain why momentum exists and why the accompanying long–short strategy may be profitable. Rational actions do not seem to explain momentum adequately nor do various firm characteristics (e.g., Bandarchuk and Hilscher, 2013; Conrad and Kaul, 1998; Johnson, 2002; Sagi and Seasholes, 2007). Transaction costs are also unable to explain adequately the phenomenon (e.g., Korajczyk and Sadka, 2004; Lehmann, 1990; Lesmond et al., 2004). Jegadeesh and Titman (2001), however, show that momentum profits may be the result of delayed overreactions of information that are subsequently reversed. This behavioral explanation is supported by a large number of overreaction/under-reaction studies (e.g., Antoniou et al., 2013; Barberis et al., 1998; Chan et al., 1996; Daniel et al., 1998; De Bondt and Thaler, 1987; Frazzini, 2006; Grinblatt and Han, 2005; Hong and Stein, 1999; Hong et al., 2000; Lu, 2014).

Although it may be possible to obtain important insights into financial phenomena using a behavioral approach, we contend that the well-documented pattern of momentum-reversal may be more simply explained using the traditional risk-return paradigm. We support our conjecture by demonstrating that the observed momentum pattern is strongly related to the pervasive influence of firm size as measured by market capitalization, which, as Berk (1995) suggests, is a ubiquitous proxy for risk. Our supposition rests on the notion that large institutional traders tend to take significant positions in the stocks of large companies instead of small ones, because the stocks of smaller firms are often less attractive purchases as a result of various attributes of these stocks such as short-selling restrictions, lack of market depth, and information asymmetry, all of which contribute to some aspect of risk.

Our analysis is based on the double-sort procedure that is used by many of the studies cited above. This procedure constructs portfolios of stocks that are identified by returns and other characteristics. Portfolios are used to minimize or possibly even eliminate the idiosyncratic effects of individual stocks. The stocks are then sorted by returns or other characteristic. After sorting, the stocks are divided into quantiles, with quintiles and deciles being the most frequently used segmentation schemes. The stocks in each quantile are then sorted again using a characteristic that is not used in the first sort.

To ensure that our data cover many stock price cycles and represent a deep market, we consider U.S. stocks that are traded on four domestic exchanges for a 52 year period beginning with the first month in 1962. Our data for individual firms consist of stock

<sup>3</sup> Similarly, momentum has been documented in other asset classes in the U.S. as well as in various other markets throughout the world (e.g., Asness et al., 2013; Bhojraj and Swaminathan, 2006; Moskowitz et al., 2012; Rouwenhorst, 1998). Industry momentum has also been reported (e.g., Moskowitz and Grinblatt, 1999).

Download English Version:

<https://daneshyari.com/en/article/958659>

Download Persian Version:

<https://daneshyari.com/article/958659>

[Daneshyari.com](https://daneshyari.com)