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Echo effects and the returns from 52-week high strategies

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ABSTRACT

Echo effects have been shown by the existing literature to influence the performance of conventional return-based momentum portfolios. This effect has yet to be confirmed for 52-week high momentum strategies. Our results show that the 52-week high strategy also manifests an echo effect. Increasing the skip period between the date of portfolio formation and the date of portfolio purchase 3–6 months significantly improves performance in nearly all cases analyzed. The results are robust to both in-sample and out-of-sample analyses. They are also robust to controlling for the effects on the risk of the portfolio from its return exposure to commonly used empirical return factors.

1. Introduction

For conventional Jegadeesh and Titman (1993) (JT henceforth) momentum portfolios, market states have been shown to be able to influence their performance (Cooper et al., 2004; Asem and Tian, 2010). The effects of business cycles on JT momentum returns have also been examined (Chordia and Shivakumarm, 2002; Griffin et al., 2003; Arshanapalli et al., 2006). Novy-Marx (2012) finds the presence of an echo effect in the conventional JT momentum portfolios; namely, increasing the length of the skip-period between

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the time of the momentum portfolio formation computations and the time of the actual purchase of the portfolio to 6 months significantly increases the profitability of the conventional JT momentum strategies.

The echo effect is an important factor of the performance momentum strategies. However, the previous literature does not address how it affects the 52-week high strategy. An important objective of this study is to investigate if the 52-week high momentum strategy, as another cross-sectional momentum strategy, is distinct from the JT momentum strategy. Will changing the skip period also influence anchoring based momentum strategies such as the George and Hwang (2004) (GH henceforth) 52-week high momentum strategy? Exhaustive survey of the literature shows that none of the existing studies on the 52-week high momentum strategy has addressed this issue.

This study finds that the 52-week high strategy also manifests the Novy-Marx style echo effect; increasing the skip period 3–6 months dramatically improves performance in nearly all cases analyzed. Additional robustness checks show that the performance improvements from adjusting the skip period are also robust to controlling for commonly used return risk factors. For investors, the results of this study suggest that waiting up 3–6 months before purchasing (short selling) stocks identified by the 52-week high strategy can significantly improve performance in the holding period.

2. Data and method

The data cover the sample period from July 1963 through December 2013 and include all stocks in the Center for Research in Securities Prices (CRSP) universe. The benchmark 52-week high momentum strategy is implemented in this study using the following modification of method described in GH to allow for skip-period. At the end of each month, we rank stocks based on the ratio of the current price to the past 52-week high. We then identify the top 30 percentile (winners) and the bottom 30 percentile (losers) stocks, wait (skip) s months before establishing a zero-investment (self-financing) portfolio consisting of long positions in the top 30 percentile and short positions in the bottom 30 percentile stocks identified s months ago. Specifically, stocks are ranked based on $\frac{P_{i,t-s}}{high_{i,t-s}}$, where $P_{i,t-s}$ is the price of stock i at the end of month $t-s$ and $high_{i,t-s}$ is the highest price of stock i during the 12-month period that ends on the last day of month $t-s$. We then hold the winner and loser portfolios for h months. The momentum profits are calculated as the difference between the equally weighted average returns of the winner and loser portfolios established h months ago. When s is equal to 1, the implementation becomes the standard GH 52-week high momentum strategy discussed in the literature. For this study, we analyze the effects of varying the skip-period s, from 0, 1, 2, to 9 months. We also analyze holding periods h of 1, 3, and 6 months. For clarity of exposition, in the remainder of this paper, we will denote the various 52-week high momentum strategies analyzed in this study using the (12, s, h) notation. The "twelve" refers to the fact that 52-weeks are approximately equal to 12 months, s denotes the number of months in the skip period, and h denotes the number of months in the holding period. The standard one month skip period GH 52-week high momentum strategy with a holding period of six months, for example, is denoted as (12, 1, 6) using this notation.

In the analyses, the dataset is divided into two parts. The first two-thirds of the dataset from July 1963 to December 1996 is denoted as in-sample. The remaining one-third of the dataset from January 1997 through December 2013 is denoted as the reserved out-of-sample. This 2/3 and 1/3 split is widely used in the forecasting literature and allows us to check whether skip-period s that gives the best performance in the in-sample period will continue to give the best performance in the reserved out-of-sample period. Evidence that s does not change dramatically from in-sample to out-of-sample will give us additional confidence as to the robustness of our findings with respect to s and to its generalizability to future data that is not part of our dataset.

3. Results

3.1. Profits from momentum strategies

Table 1 reports the average monthly returns of winner, loser, and self-financing portfolios for the in-sample period from July 1963 through December 1996 for various 52-week high momentum investing

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