Momentum strategies in European equity markets: Perspectives on the recent financial and European debt crises

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A B S T R A C T

We investigate the profitability and return patterns of momentum strategies in 10 European countries. Using data from December 2003 to December 2015, we find momentum returns to be lower than those reported in previous research. Our results indicate that the low momentum returns can be attributed to market conditions during the period of 2007–2012. When examining momentum returns generated by small and large stocks in separate time periods, we find momentum returns to be stronger among small stocks and weaker in large stocks.

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1. Introduction

Jegadeesh and Titman (1993) first investigated the well-accepted doctrine of the efficient market hypothesis by examining the profitability of 16 trading strategies. Over intermediate periods of 3 to 12 months, buying winners and selling losers yields on average 1% return per month. Nevertheless, little research has been conducted on the pattern of momentum returns during the recent financial and European debt crises. We use data from Thomson Datastream and provide new evidence on the profitability and return patterns of momentum strategies in 10 European countries from 2003 to 2015.

The rest of the paper proceeds as follows. The next section describes our data and methodology. Section 3 presents the results and discusses our empirical findings. Section 4 concludes.

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2. Data and methodology

2.1. Sample selection

Our sample comprises 10 European countries: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, and Spain. These countries contributed 94.58% to the euro area GDP in 2013. Therefore, we consider our sample to be representative of the entire euro area.

Thomson Datastream is the source of data used in this paper. We use the monthly unadjusted prices and market values from 31 December 2003 to 31 December 2015. We include both traded and dead stocks to mitigate survivorship bias. Following Ince and Porter (2006), who show that errors may occur in the Thomson Datastream database, we exclude from our sample any issue type other than common equity and stocks that are not traded in the country's major exchanges. We also set \( R_t \) and \( R_{t-1} \) to missing if one of them is greater than 300% and \((1 + R_{t-1})(1 + R_t) - 1\) is less than 50%. To account for decimal errors, we follow Annaert et al. (2013) and exclude any returns above 400% or below –85%. A more detailed discussion of right and left decimal errors is found in Annaert et al. (2013). To mitigate the effects of illiquid stocks, we discard from our sample any stock priced below €1 in a given month. This restriction does not introduce a look-ahead bias since the stock is reconsidered in the investment universe once its price is above the €1 threshold. This results in 3764 European companies.

2.2. Construction of momentum portfolios

Following Jegadeesh and Titman (1993), we examine 16 momentum strategies that rank and hold stocks based on their 3-, 6-, 9- and 12-month returns. Momentum portfolios are constructed using a stock universe of 10 European countries. The formation period return of each stock is denoted by \( R_{i,t}^j \) and calculated as the simple multi-period return over the past \( J \) months, which we define as:

\[
R_{i,t}^j = \prod_{t=1}^{J} \left( 1 + R_{i,t-e_{t-1}} \right) - 1, \quad J=3, \ 6, \ 9, \ 12.
\]

The momentum strategy splits stocks into equally weighted deciles. The best performing decile is referred to as the winner portfolio. Similarly, the worst performing decile is referred to as the loser portfolio. To illustrate, the 6-month/6-month strategy forms the winner and loser portfolios at the end of the 6 months, takes a long position in the top performing decile, and a short position in the worst performing decile. The portfolios are held for 6 months. As such, the strategies are considered to be zero-cost investment strategies.

To mitigate the bid-ask spread, price pressure, and lagged reaction effects documented in the literature, we also consider strategies that skip one month between the ranking and holding periods.

3. Results and discussion

3.1. Returns of the momentum strategies

We start our analysis by examining 16 momentum strategies in a stock universe of 10 European countries. Table 1 presents the average monthly returns of the momentum strategies from 2004 to 2015. We report results for the loser, winner, and the winner minus loser portfolios. The portfolios in Panel A are formed immediately after the formation period and those in Panel B are constructed one month after. The 3-month/3-month strategy in Panel A is the only strategy yielding a negative return, which is statistically significant at the 10% level; 15 out of 16 strategies that hold the portfolios immediately without skipping a month are positive, and only 4 of them are statistically significant. The most successful strategy selects stocks based on their previous 6-month returns, and holds the portfolios for 9 months, yielding 0.40% return per month.

As reported in Panel B, the strategies that skip one month between the formation and holding periods exhibit higher returns in most strategy combinations; momentum returns are higher and 10 strategies out of 16 are statistically significant. This indicates that short-term microstructure effects are affecting the momentum returns in our sample.

The remainder of this paper focuses on portfolios formed based on the 6-month/6-month strategy that skips one month between the formation and holding periods. Table 2 presents summary statistics of its 10 decile portfolios. The second column of Table 2 shows that the average return from the fifth decile portfolio is monotonically increasing; higher 6-month returns are on average associated with stronger future 6-month performance. However, this association does not hold for all deciles. The first decile (loser) yields higher returns than the second decile, and the same holds true for the fourth and fifth deciles. Moreover, the standard deviations are somewhat u-shaped: the standard deviations of the loser and winner deciles are higher than those of the portfolios in the middle.

1 The lists used are: FOST, DEADOE (Austria); FRDO, DEADBG (Belgium); FFIN, DEADPN (Finland); FFRA, DEADFR (France); FGER1, FGER2, DEADBD1, DEADBD2 (Germany); FIRL, DEADIR (Ireland); FITA, DEADIT (Italy); FLUX, DEADLX (Luxembourg), FHOL, DEADNL (The Netherlands); FSPN, DEADSP (Spain).
2 Throughout this paper, t-stat is the average return divided by its standard error.

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