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Post-Earnings Announcement Drift in Spain and Behavioural Finance Models

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Abstract

Our study examines whether behavioural theories can explain post-earnings announcement drift (i.e. earnings momentum) in the Spanish market. In particular, we test models proposed by Barberis et al. (Journal of Financial Economics, 49, pp. 307–343, 1998), Daniel et al. (Journal of Finance, 53(6), pp. 1839–1885, 1998) and Hong and Stein (Journal of Finance, 54(6), pp. 2143–2184, 1999). Each of these behavioural models draws on two premises – cognitive biases and limits to arbitrage – that we assume [illegible] Therefore, we must [illegible] ed in the US market t[illegible] support of the h[illegible] arnings mome[illegible] s of the Spanish [illegible] vels of investor[illegible] results differ from those obtained in the USA.

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Notes

For the UK market, Liu et al. (2003) detect the presence of PAD, even after controlling for risk and microstructure market effects. Dische (2002) observes the same phenomenon in the German market.

Our study uses the same nomenclature criteria as that used in Chan et al. (1996), Hong et al. (2003) and Chordia and Shivakumar (2006). We do differentiate ‘earnings momentum or PAD’ from Jegadeesh and Titman's ‘price momentum’. We use ‘momentum’ to refer to both anomalies, that is, earnings and price momentum.

The greater the reduction of uncertainty after an earnings announcement, the more reliable t

Therefor the relation betwe ertainty’ as a pro ation with moment biguity and predicts

The above notwithstanding, Nagel (2001) argues that the important role in predicting the long-term reversion of momentum returns that Lee and Swaminathan (2000) attribute to trading volume is widely subsumed by the BTM ratio.

Zhang (2006) and Doukas and McKnight (2005) made opposite predictions in the relation between analyst dispersion and momentum. The decomposition of analyst dispersion as a function of disagreement and uncertainty made by Liang (2003) can explain why these two studies detected contradicting evidence regarding the analyst dispersion.

The Hofstede (2001) Individualism Index, used by Chui et al. (2010) to proxy for differences in psychological biases, shows important differences across European countries.

Some previous studies on the Spanish market analyse how the earnings announcement affects prices in the days surrounding the announcement date (Arcas and Rees, 1999; Sanabria, 2005). Similar to the previous literature, these studies find that stock prices do react on the days surrounding the earnings announcement date, which suggests that the content of the earnings announcement is informative.

PAD is the most studied post-event drift anomaly. The announcement of earnings is the most important piece of public information that companies disclose. For example, Graham et al. (2005) show that CFOs of US corporations see earnings numbers, especially EPS, as the key metric on which stock market players (i.e. analysts, institutional investors and individuals) focus, which highlights the relevance of this piece of public information over other kinds of public news. At the same time, however, the fact that CFOs know the importance the stock market grants to the earnings numbers can explain the well-known earnings management. In regard to this, Macintosh (2009) suggests that 'the widespread practice of managing and manipul empiricist researc ple, Íñiguez and Pov

The in the public sector, ence of percepti

As proxies of market integrity, Chui et al. (2010) analyse, among other things, the 'prevalence of insider trading' and 'investor protection' variables, which were considered previously by La Porta et al. (2006), as well as transaction costs. Although they do not observe a significant relation between the first two variables and price momentum, they do find a significant positive relation between price momentum and transaction costs, which is consistent with the idea that limits to arbitrage need to omit the actuation of arbitrage to offset the price deviations caused by irrational traders. However, this characteristic cannot explain our results for the Spanish market, because Spanish trading costs are similar to those observed in Occidental countries (Chan et al., 2005).

Rangan and Sloan (1998) and Narayanamoorthy (2003) use unexpected earnings based on a model of time-series data scaled by their market capitalisation. We have checked our results using other alternatives as the denominator of equation (1): total assets, market capitalisation, the absolute value of earnings reported in the same quarter in the previous year and the standard deviation of unexpected earnings, instead of the book value. The results remain comparable.

Foster et al. (1984) find that the random walk model performs as well as other more complex models.

Hennessey (1995) and Doukas and McKnight (2005) use the same measure. Chan et al. (1996) scale the revisions in the analyst consensus forecast according to the stock's book value. Our results using this alternative denominator remain comparable.

We have also used a third measure based on the prices immediately surrounding earnings announcements. Specifically, we have used the buy-and-hold market-adjusted return in the four-day period surrounding the announcement. This expression provides an indirect measure of earnings surprise, since it captures the earnings news reflected in stock [illegible] however, the returns [illegible]nt with that of Foster [illegible]nings (SUE) help [illegible]nouncement do no[illegible]u et al. (2003). [illegible]

Given th[illegible]rtfolios according to the previous month's surprise will result in very low diversified portfolios in

some formation dates.

Two alternative procedures exist for calculating a portfolio return over an investment period: the additive and the rebalancing. The former does not exactly measure the portfolio whole return throughout the analysed period, but its average monthly return. The second one implicitly involves an investment strategy that changes the composition of the portfolio month by month in order to keep the portfolio equally weighted throughout the holding period. In any case, for various reasons, it is the buy-and-hold procedure that has been mainly used in the financial literature. Of these reasons, the price spread bias seems to have less impact on the buy-and-hold procedure and the rebalancing procedure looks less attractive in terms of transaction costs and, perhaps, less fitted for a medium/long investment horizon (Blume and Stambaugh, 1983; Barber and Lyon, 1997; Lyon et al., 1999; Liu and Strong, 2008).

In order to check the robustness to the possible effect of the bid–ask bounce and lead–lag effects, we replicated the analysis with a month skip between the ranking period and the holding period. The results are quite similar and are available to any interested parties.

That is, returns are calculated as in equation (3), but this time with a 36-month holding period:

Moreover, as Forner et al. (2009) demonstrate, Spanish PAD returns are robust to a large number of adjustments: unconditional and conditional versions of the CAPM and the Fama and French three-factor model, control portfolios and price momentum.

This reversion in profits yielded by the PAD strategy observed in the Spanish market is consistent with the results Forner and Marhuenda (2003) obtain. They demonstrate that the cont year time horizons

Daniel a momentum and folios (3 price mo verage portfolio nd McKnight (2005) u ntum portfolios and 10 size portfolios), 9 and 25 price momentum–analyst coverage portfolios

(3 and 5 price momentum portfolios and 3 and 5 analyst coverage portfolios, respectively), and 9 and 25 earnings revision–analyst dispersion portfolios (3 and 5 earnings revision portfolios and 3 and 5 analyst dispersion portfolios, respectively). Zhang (2006) uses 30 earnings revision–uncertainty proxy portfolios (3 earnings revision and 10 uncertainty proxy portfolios) and 25 price momentum–uncertainty proxy portfolios (5 price momentum and 5 uncertainty proxy portfolios). Considering the number of portfolios used in previous studies and given the size of the cross section of the Spanish market, we have decided to use 9 portfolios to guarantee a reasonable level of diversification.

We conduct a regression for the cross section of each calendar month. We also include the log(BTM) as an explanatory variable in equation (8) and find that the results are comparable.

We check the robustness of this analysis to two aspects that could be affecting the results. First, the firm size of the BTM partitions markedly decreases with the BTM level: the low BTM partition has markedly bigger firm size than the high BTM partition. Therefore, the significant negative relation between PAD and size could be driving the positive relation observed between PAD and BTM. To test for this possibility, rather than rank the stocks according to the BTM ratio, we rank them according to the residual BTM ratio calculated with the following regression residuals: . Second, the SUE equation uses book value in the denominator (see equation (1)) and this could impact the relation between PAD and the BTM ratio. We have repeated our analysis using the absolute value of the earnings reported in the same quarter of the previous year in the denominator. In both cases the positive relation between PAD and BTM holds. These results are available for interested readers.