Profitable mean reversion after large price drops: A story of day and night in the S&P 500, 400 MidCap and 600 SmallCap Indices

Original Article | Published: 12 May 2011

Volume 12, pages 185–202, (2011) Cite this article

Journal of Asset Management

Aims and scope →

Submit manuscript →

Christian L Dunis [1], Jason Laws & Jozef Rudy

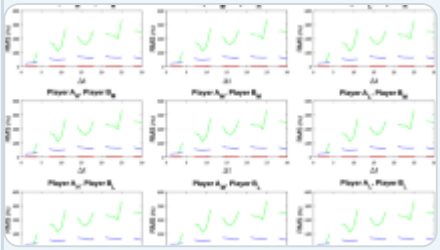
Abstract

The motivation for this article is to show the usefulness of the information contained in the open-to-close (day) and close-to-open (night) periods compared to the more frequently used close-to-close period. To show this we construct two versions of a contrarian strategy, where the worst performing shares during the day (resp. night) are bought and held during the night (resp. day). We show that the strategies presented here generate a significant α and their returns cannot be solely explained by the factors derived from Fama and French (1993) 3-factor model and a modified 5-factor model introduced by Carhart (1997). Even after we account for the bid-ask bounce effect, the returns generated are significant and

consistent. The information ratios of the two strategies mentioned for the entire period 2000–2010 vary between 1.59 and 6.70 depending on the capitalization of stocks. Overall, we show that opening prices contain information that is not generally fully utilized yet. The strategy proposed uses this information to add value and extract a significant α, which cannot be explained by market factors.

Information content of right option tails: Evidence from S&P 500 index options

Article | 10 April 2017



Tradability, closeness to market prices, and expected profit: their measurement for a

Article | 06 August 2019

Are intraday reversal and momentum trading strategies feasible? An analysis for

Article | 19 May 2020

Explore related subjects

Discover the latest articles, books and news in related subjects, suggested using machine learning.

Behavioral Finance | Capital Markets | Market Psychology | Mathematical Finance | Quantitative Finance | Statistical Finance

Notes

1. In this article, the information ratio is calculated as the ratio of annualized return to annualized standard deviation, see Appendix A.

2. For instance, see interactivebrokers.com/en/p.php?f=commission&ib_entity=llc where the fee is USD 0.0035 per share, which amounts to 0.05 per cent if the nominal value of share is USD 7. Note that the fee decreases proportionally as the nominal value of the share increases.

References

Bali, T.G., Demirtas, K.O. and Levy, H. (2008) Nonlinear mean-reversion in stock prices. Journal of Banking and Finance 32 (5): 767–782.

Article Google Scholar

Carhart, M.M. (1997) On persistence in mutual fund performance. The Journal of Finance 52 (1): 57–82.

Article Google Scholar

Choi, H.S. and Jayaraman, N. (2009) Is reversal of large stock-price declines caused by overreaction or information asymmetry: Evidence from stock and option markets. Journal of Futures Markets 29 (4): 348–376.

Article Google Scholar

Cliff, M.T., Cooper, M.J. and Gulen, H. (2008) Return differences between trading and non-trading hours: Like night and day. *SSRN eLibrary*, http://ssrn.com/paper=1004081.

De Gooijer, J.G., Diks, C.G. and Gatarek, L.T. (2009) Information flows around the globe: Predicting opening gaps from overnight foreign stock price patterns. *SSRN eLibrary*, http://ssrn.com/paper=1510069.

Fama, E.F. (1997) Market efficiency, long-term returns, and behavioral finance. *SSRN eLibrary*, http://ssrn.com/paper=15108.

Fama, E.F. and French, K.R. (1992) The cross-section of expected stock returns. The Journal of Finance 47 (2): 427–465.

Article Google Scholar

Fama, E.F. and French, K.R. (1993) Common risk factors in the returns on stocks and bonds. Journal of Financial Economics 33 (1): 3–56.

Article Google Scholar

Forner, C. and Marhuenda, J. (2003) Contrarian and momentum strategies in the Spanish stock market. European Financial Management 9 (1): 67–88.

Article Google Scholar

Gaunt, C. and Nguyen, J. (2008) Stock returns following large one-day declines: Further evidence on the liquidity explanation from a small, developed market. *SSRN eLibrary*, http://ssrn.com/paper=495244.

Hong, H. and Wang, J. (2000) Trading and returns under periodic market closures. The Journal of Finance 55 (1): 297–354.

Article Google Scholar

Khandani, A.E. and Lo, A.W. (2007) What happened to the quants in August 2007? Journal of Investment Management 5 (4): 5–54.

Google Scholar

Kim, M.J., Nelson, C.R. and Startz, R. (1991) Mean reversion in stock prices? A reappraisal of the empirical evidence. The Review of Economic Studies 58 (3): 515–528.

Article Google Scholar

Leung, W.K. (2009) Price Reversal and Firm Size in the U.S. Stock Markets, New Evidence, Proceedings of the World Congress on Engineering; 1–3 July 2009, London, Engineers, I. A. O.

Lo, A.W. and Mackinlay, A.C. (1990) When are contrarian profits due to stock market overreaction? The Review of Financial Studies 3 (2): 175–205.

Article Google Scholar

Mazouz, K., Joseph, N.L. and Joulmer, J. (2009) Stock price reaction following large one-day price changes: UK evidence. Journal of Banking & Finance 33 (8): 1481–1493.

Article Google Scholar

Mcinish, T.H., Ding, D.K., Pyun, C.S. and Wongchoti, U. (2008) Short-horizon contrarian and momentum strategies in asian markets: An integrated analysis. International Review of Financial Analysis 17 (2): 312–329.

Article Google Scholar

Morse, D. and Ushman, N. (1983) The effect of information announcements on the market microstructure. The Accounting Review 58 (2): 247–258.

Google Scholar

Park, J. (1995) A market microstructure explanation for predictable variations in stock returns following large price changes. The Journal of Financial and Quantitative Analysis 30 (2): 241–256.

Article Google Scholar

Serletis, A. and Rosenberg, A.A. (2009) Mean reversion in the U.S. stock market. Chaos, Solitons & Fractals 40 (4): 2007–2015.

Article Google Scholar

Sharpe, W.F. (1964) Capital asset prices: A theory of market equilibrium under conditions of risk. Journal of Finance 19 (3): 425–442.

Google Scholar

Thaler, R. and De Bondt, W.F.M. (1985) Does the stock market overreact? The Journal of Finance 40 (3): 793–805.

Author information

Authors and Affiliations

Liverpool Business School, Liverpool John Moores University, CIBEF – Centre for International Banking, Economics and Finance, JMU, John Foster Building, 98 Mount Pleasant, Liverpool, L3 5UZ, UK

Christian L Dunis

Corresponding author

Correspondence to Christian L Dunis.

Appendices

Appendix A

Table A1

Table A1 Calculation of the trading statistics

Appendix B

Table B1. Version 1 of the strategy applied to the constituent stocks of the S&P 400 MidCap Index. Decision period is from today's close to the next day's open and holding period from the next day's open to the next day's close. The results are divided into deciles. The first decile contains the worst performing shares during the decision period, the tenth decile the best ones.

Table B1 Application of Version 1 of the strategy to constituents of the S&P 400 MidCap

Appendix C

Table C1. Version 2 of the strategy applied to the constituent stocks of the S&P 400 MidCap Index. Decision period is from today's open to today's close and holding period is from today's close to the next day's open. The results are divided into deciles. The first decile contains the worst performing shares during the decision period, the tenth decile the best ones.

Table C1 Application of Version 2 of the strategy to constituents of the S&P 400 MidCap

Appendix D

Table D1. Version 1 of the strategy applied to the constituent stocks of the S&P 500 Index. Decision period is from today's close to the next day's open and holding period from the next day's open to the next day's close. The results are divided into deciles. The first decile contains the worst performing shares during the decision period, the tenth decile the best ones.

Table D1 Application of Version 1 of the strategy to constituents of the S&P 500 Index

Appendix E

Table E1. Version 2 of the strategy applied to the constituent stocks of the S&P 400 MidCap Index. Decision period is from today's open to today's close and holding period is from today's close to the next day's open. The results are divided into deciles. The first decile contains the worst performing shares during the decision period, the tenth decile the best ones.

Table E1 Application of Version 2 of the strategy to constituents of the S&P 500 Index

Appendix F

Table F1

Table F1 Three different factor models applied to the returns generated by the Version 1 of the strategy applied to the constituent stocks of the S&P 400 MidCap Index. The regressions were only applied to the first decile stocks

Appendix G

Table G1

Table G1 Three different factor models applied to the returns generated by the Version 2 of the strategy applied to the constituent stocks of the S&P 400 MidCap Index. The regressions were only applied to the first decile stocks

Appendix H

Table H1

Table H1 Three different factor models applied to the returns generated by the Version 1 of the strategy applied to the constituent stocks of the S&P 500 Index. The regressions were only applied to the first decile stocks

Appendix I

Table I1

Table I1 Three different factor models applied to the returns generated by the Version 2 of the strategy applied to the constituent stocks of the S&P 500 Index. The regressions were only applied to the first decile stocks

Rights and permissions

Reprints and permissions

About this article

Cite this article

Dunis, C., Laws, J. & Rudy, J. Profitable mean reversion after large price drops: A story of day and night in the S&P 500, 400 MidCap and 600 SmallCap Indices. *J Asset Manag* **12**, 185–202 (2011). https://doi.org/10.1057/jam.2011.15

Received	Revised	Published
17 September 2010	17 September 2010	12 May 2011

Issue date
01 August 2011
DOI
https://doi.org/10.1057/jam.2011.15

Keywords

price shock | overreaction | delayed reaction | contrarian profits | multi-factor models

Search

Search by keyword or author

Navigation

Find a journal

Publish with us

Track your research