The Relationship between the Magnitude of Single-day Stock Price Declines and Subsequent Abnormal Returns

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Abstract:
We investigate the relationship between the magnitude of large single-day stock price declines and their subsequent abnormal returns. We select 444 events in which securities traded on the New York Stock Exchange experienced a decline of greater than 10% on any trading day during the period of July 1, 2017 to June 30, 2018 and calculate their Cumulative Abnormal Returns at 10 trading days, 1 month, 3 months, and 6 months after each event date. Based on our regressions, we find no statistically significant relationship linking larger initial share price declines to greater subsequent abnormal returns. We conclude that investors should not consider the size of initial price decline in NYSE securities when designing a trading strategy centered around “buying the dip.”

Key Terms:
Contrarian Investing: Taking investing positions contrary to prevailing market sentiments
Investor Overreaction Hypothesis: Theory that a portion of price changes are unwarranted and only due to investors overreacting to some form of news
Cumulative Abnormal Return: The difference between a stock’s actual return and predicted return over a given period of time

Presentation Outline:
I. Introduction
   a. My interest in the topic
   b. Contrarian Investing and investor overreaction
   c. Background Research
      i. Mixed conclusions
      ii. Little attention given to magnitude of initial decline
II. Hypothesis:
   a. A statistically significant inverse relationship between the magnitude of initial decline and subsequent abnormal return will be found.
III. Methodology
   a. Sample selection
      i. New York Stock Exchange
      ii. Initial share price greater than $10
   b. Calculate Predicted Return
      i. Capital Asset Pricing Model
   c. Calculate Cumulative Abnormal Return
   d. Run Regressions
IV. Results
   a. Mixed results dependent on time period observed for subsequent returns—statistical significance not found

V. Discussion
   a. Further research using a higher threshold for “large” price drops recommended

Selected References


This article is a comprehensive, international literature review of all studies related to large share prices changes and subsequent performance published prior to 2013. The authors break out research into buckets based on focus area, including a section on Individual US Stocks. They address variations in study methodology, including the definition of a large price change and the time period used to calculate price changes. The article concludes by stating that no definitive consensus can be drawn overall based on past studies and that further research is warranted, including a look into how “large price changes” themselves are defined as I plan to do in my research.


Instead of utilizing a specific threshold to define a large price increase or decrease this study’s authors take the best and worst performing stock in both the New York Stock Exchange and the NASDAQ for each trading day as reported by the Wall Street Journal. While NASDAQ stocks seemed to support the overreaction hypothesis in their study, they did not find any evidence of significant stock reversal for stocks listed on the New York Stock Exchange. Similar to other studies, the authors note that reversal affects only last for a few days after the initial decline. This study also includes a regression model similar to compare event abnormal returns to subsequent reversals as I will be doing in my research.


Bremer and Sweeney’s article is cited by nearly every related study after its publishing, and it is one of the earliest, articles on the subject of large price decreases and subsequent returns. The study looks at stocks over the period from 1962 to 1986, using a threshold of 10% to define a large price drop. To mitigate the effect of the bid-ask bounce in returns, stocks with share prices of less than $10 before the event were omitted as they will be in my research. The article concludes that, for two days following a price drop, stocks did tend to show a positive excess return, but not enough for investors to profit from.