Everything Old Is New Again

Rule 201's restrictions on short selling will do little to avoid future crises.

BY CHINMAY JAIN, PANKAJ K. JAIN, AND THOMAS H. MCINISH | *University of Memphis*

In a dramatic reversal on February 24, 2010, the Securities and Exchange Commission voted 3–2 to adopt SEC Rule 201 (the "Alternative Uptick Rule") in response to the Great Recession of 2008. Rule 201 is triggered for any National Market System stock that declines 10 percent on an intraday basis from the previous day's closing price. Once triggered, Rule 201 requires short sellers to place their orders at a price above the National Best Bid price at the time of order placement. This short-selling restriction remains in effect through the end of trading on the trigger day and for all of the next trading day.

By adopting the rule the SEC seeks to:

- prevent short selling, including potentially manipulative or abusive short selling, from exacerbating large price declines,
- put long sellers ahead of short sellers, and
- boost investor confidence in markets generally.

Rule 201, which replaced the previous uptick rule that was repealed in 2007, became fully effective on February 28, 2011.

Three Viewpoints

Rule 201 has been controversial from the start. Below, we briefly consider the views of regulators, industry, and academics on the topic of constraining short selling.

Chinmay Jain is a doctoral candidate in Finance at the University of Memphis. Pankaj K. Jain is the Suzanne D. Palmer Associate Professor of Finance at the University of Memphis. Thomas H. McInish holds the Wunderlich Chair of Finance at the University of Memphis.

Regulatory view | Regulators have mixed opinions about Rule 201. SEC Chair Mary Schapiro, in a February 24, 2010 speech, said the rule "is designed to preserve investor confidence and promote market efficiency, recognizing short selling can potentially have both a beneficial and harmful impact on the market." On the other hand, the two Republican commissioners who voted against Rule 201 expressed negative views. Commissioner Troy Paredes said the rule is "rooted in conjecture and too speculative," and Commissioner Kathleen Casey said the commission found no empirical evidence that short selling contributed to the market crash of 2008.

Larry Harris, SEC chief economist from July 2002 to June 2004, told *Traders Magazine* that Rule 201 will cause a "massive loss of confidence when an investor buys a security that is overpriced." If the fundamental price is truly 20 percent below the previous closing while the rule discourages short selling after a 10 percent drop, buyers at that price may end up losing 10 percent of their investment. That possibility is a huge investor confidence issue.

Industry view | Financial institutions have almost unanimously opposed Rule 201. The leading opinion is that restricting short selling in any form will hurt price discovery and liquidity resulting from short selling.

In comments to the SEC, some have argued that Rule 201 can result in overpricing of stocks and can hurt investor confidence instead of boosting it. The Securities Industry and Financial Markets Association warned that the lack of exemptions for the

ILLUSTRATION BY MORGAN BALLARD

opening and for market markers "could negatively impact orderly markets by causing increased volatility and uncertainty around the opening and close." As per the *Wall Street Journal*, James Chanos, the chairman of the Coalition of Private Investment Companies, said that "the unintended consequence of this rule will be an erosion of confidence at a critical time when the economic recovery is struggling to take hold." Bill Fleckenstein, who ran a short-only hedge fund that closed in 2009, said that "the lack of the uptick rule had nothing to do with the market collapse in 2008—it was bad policies all around that created that disaster."

Many concerns have been raised about the level at which Rule 201 is triggered. Some argue that because a stock already has suffered a significant decline when it triggers, the rule is basically locking the barn door after the horse has left. There are also concerns about the duration of the short-selling restriction, with some participants taking the position that the limitation on trading under Rule 201 should be removed once the stock price recovers instead of letting it continue until the end of the following day. The Managed Funds Association, which represents the hedge fund industry in Washington, has stated that its members are "disappointed that the short-selling restrictions adopted are not supported by empirical data."

Financial institutions are also concerned that most of the stocks that are affected by Rule 201 are low-priced and small-cap. A report by Credit Suisse finds that illiquid stocks frequently trigger the rule and that half of the stocks that trigger it are repeat offenders. But they also find that prices are a bit better with Rule 201 and conclude that because short selling is restricted but not banned outright, the rule can still play an important role in providing liquidity.

Only a few people from the finance industry were in favor of the uptick rule's return. "The uptick rule should come back," wrote Howard Ward, portfolio manager for the Gamco Growth Fund, in a letter to the SEC. As per the *Wall Street Journal*, Mark Johnson from Parallel Partners, a small hedge fund, said that the previous uptick rule's removal and the trading that resulted from its removal "takes an already emotional situation when stocks are dropping and turns it into a highly exaggerated situation."

Academic view | In a seminal 1977 *Journal of Finance* paper, Edward Miller argues that short selling is good for the market and contributes to market efficiency. He explains that in a market without short selling, demand for a security comes from the most optimistic investors, causing stock prices to be overvalued in the presence of short-sale constraints. Subsequent negative abnormal returns reflect this overvaluation. Short sellers trade on pessimist beliefs and help to incorporate this viewpoint into the price. If there are no short sellers, it is possible for optimists to create irrational exuberance. Hence, short selling plays an important price discovery role, keeping the market price closely aligned to fundamental values.

This view was empirically tested in a 2008 *Journal of Finance* paper by Ekkehart Boehmer, Charles Jones, and Xiaowan Zhang. The authors examined proprietary New York Stock Exchange order data on short sales from 2000 to 2004 and concluded that short sellers are important contributors to efficient stock prices. They

found that heavily shorted stocks underperform lightly shorted stocks, indicating that short sellers are well informed. Similarly, a 2007 *Journal of Finance* paper by Arturo Bris, William Goetzmann, and Ning Zhu found that prices incorporate negative information faster in countries where short sales are prevalent.

Also, according to a 2009 *Review of Financial Studies* paper by Karl Diether, Kuan-Hui Lee, and Ingrid Werner, short sellers increase liquidity as a counterparty for buyers when opening a position and as a counterparty for sellers when covering that position. In the year 2005, short sales represented 24 percent of NYSE and 31 percent of Nasdaq share volume.

On the other hand, some academics emphasize the negative aspects of short selling. A 2005 *Journal of Finance* paper by Markus Brunnermeier and Lasse Pederson argues short sellers watch the market for large institutional investors that sell assets because of liquidity needs. The short sellers then exacerbate price declines from the sales, suggesting that short sellers follow manipulative and predatory trading strategies, leading to less informative prices. A 2011 working paper by Andriy Shkilko, Bonnie Van Ness, and Robert Van Ness examined negative price reversals on a no-news day and found that short selling during such reversals is abnormally aggressive and substantially increases the magnitude of price declines. It should be noted that the authors focused their analysis on stock days when the cumulative intraday return decreased by two or more standard deviations and then rebounded by 90–110 percent of the initial decline, whereas Rule 201 becomes applicable only for a 10 percent intraday decline irrespective of the return characteristics of the stock.

Application of Rule 201

A stock's price can decline 10 percent for myriad reasons. Poor earnings announcements can significantly affect the intrinsic value and market value of stocks. For example, when Nike Inc. announced earnings per share of $1.01 as opposed to the estimate of $1.12 on March 18, 2011, its price fell to an intraday low of $76.83 compared to the previous day's close of $85.41. Similarly, on March 8, 2011, Urban Outfitters Inc., a component of the S&P 500, fell 16.7 percent by the end of the day from the previous day's close. As a result of the Japanese earthquake on March 11, 2011, Rule 201 was triggered for many firms operating in the nuclear power industry. On March 14, 2011, the rule was triggered for nuclear energy contractor Shaw Group Inc. and uranium company Cameco Corp., among others. Lawsuits also triggered some large price declines. Enterprise Products Partners LP fell from $41.10 to an intraday low of $36.00 when a lawsuit was filed against its subsidiary, Duncan Energy.

Trigger rate | The stock exchanges are responsible for implementing Rule 201. For example, once an NYSE-listed stock has a trade at or below 90 percent of the previous day's closing price, the NYSE must generate a message to the Consolidated Quotation System and the Consolidated Tape System indicating that the short sale trigger price has been reached. It then must prevent the execution of short sales at or below the current National Best Bid (unless the short sale is exempt because it is part of an arbitrage transaction or involves an odd lot).

In a new paper that we coauthored, we found that, after the compliance date of February 28, 2011, Rule 201 affects about 70 stocks on average every trading day. A majority of these stocks are low-priced and/or small-cap. Figure 1 breaks out this average for low-, medium-, and high-priced stocks.

On October 10, 2008, an extreme day during the Great Recession of 2008, the SEC staff has estimated that Rule 201 would have been triggered for approximately 68.1 percent of stocks. In our paper, we found that if Rule 201 had been in effect during the May 6, 2010 "Flash Crash," the price limit would have been triggered for more than one-third of all listed stocks.

Analyzing stocks that have an intraday decline of 10 percent on two or more consecutive days, we found that, for an average of nine stocks a day, Rule 201 would be triggered yet again the next day. An average of two stocks a day would experience three or more consecutive triggers.

Pertinence and Impact on Target Stocks

Diether, Lee, and Werner found that the typical short seller is a contrarian who increases trading following positive returns and decreases selling following negative returns. In our recent paper, we investigated this notion further by examining a sample of stock that experienced an intraday decline of 10 percent or more. Our sample begins August 3, 2009, and ends April 7, 2011. We used data from the BATS Exchange, the Financial Industry Regulatory Authority, Datastream International, and the Trade and Quote (TAQ) dataset. We restricted our sample to stock-days for which the previous day's closing price was more than $5. For each stock day, we computed relative short selling as short-selling volume of a stock as a proportion of its total trading volume. We compared relative short-selling in each stock on days of a 10 percent decline to the relative short-selling on the previous day.

We found that there was a decline in relative short-selling activity on the days of a 10 percent decline even before the approval of Rule 201. Our interpretation of this finding is that short sellers are generally more active before the 10 percent decline, not after. Price declines give short sellers an opportunity to cover their open positions.

Of course, on specific days, short sellers may deviate from their tendency to reduce their activity after price declines. In a 2010 *Journal of Trading* paper, Benjamin Blau et al. found that on days of extreme market movements, short sellers tend to follow the crowd. Thus, short selling for all stocks increases on large down days and decreases on large up days. We tested this concept using our dataset. We defined days of extreme market movements as days when the market return was two standard deviations away from the mean. We repeated our analysis of short selling activity specifically for stocks that declined 10 percent separately for large down days and large up days. On large down days, we again found that short sellers

were more active before days of a 10 percent decline and less active on days of a 10 percent decline, even before the approval of the rule.

We also performed an intraday analysis of short selling volume for a sample period before the approval of Rule 201. We determined the exact time of a 10 percent decline in a stock using TAQ data. Next, we split the short-selling volume and trading volume during the day into the periods before and after the 10 percent decline. Comparing the before and after periods, we found that short sellers were more active before the 10 percent decline. We also performed this analysis for the minutes surrounding the 10 percent decline and still found that the short-selling activity declined after the 10 percent decline. Using TAQ data, we calculated the time-stamps when a stock declined by 2 percent, then 4 percent, and each additional 2 percent decline thereafter until there was a total decline of 20 percent. Using the time-stamps, we split the day into 11 intervals and examined investor behavior. We found that short selling was not abnormally higher in any of the interval after the initial 10 percent decline.

Using data for the period prior to adoption of Rule 201, we analyzed returns for stocks that would have been affected by the rule. We found that the average closing return for those stocks was –9.19 percent, indicating that on average the stocks' prices rebounded from their daily lows. We repeated this analysis for stocks after the rule became effective, and found that the closing return was –9.34 percent. Again, the prices of the stocks rebounded from their lows, although not quite as much. The closing return for the next day after a 10 percent decline changed from 0.46 percent before approval to –0.46 percent after approval of the rule. Thus, we did not detect any remarkable investor protection effects of Rule 201 in our valuation analysis.

Looking at data from the day of the Flash Crash, we found that more than 1,400 stocks in our sample would have been subject to Rule 201 had it existed. Even on the day of the Flash Crash, we find that short selling declined without the rule for stocks that had an intraday decline of 10 percent.

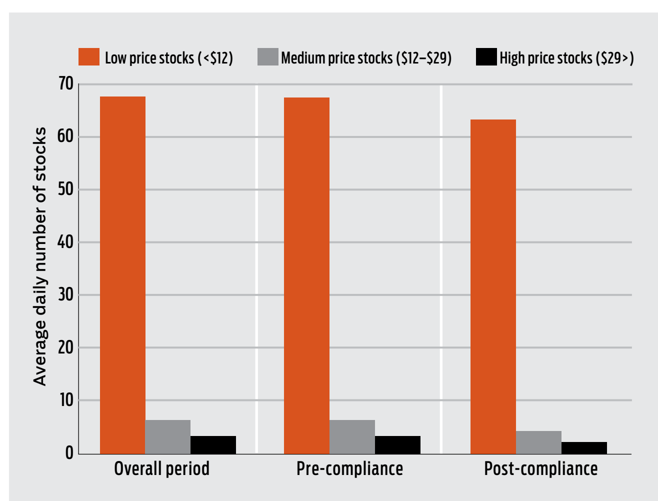
In our paper, we simulated hypothetical short-sell orders that comply with Rule 201 during the financial crisis period of September–October 2008. We found that the execution rate of those orders within the next five-minute period was as high as 82.7 percent. In contrast, the simulation that we ran for orders filed one year after the crisis period had an execution rate within the next five-minute period of just 61.1 percent. Thus, the execution rate was low during a period of lower volatility, but higher during a period of high volatility. Thus, we do not detect any remarkable evidence of the rule's ability to lower order execution rates for short sells in volatile periods.

After a stock experienced a 10 percent price decline on a given day, we found that liquidity improved and turnover increased both before and after February 28, 2011. Thus, Rule 201 did not have a detrimental effect on the liquidity of stocks experiencing a 10 percent price decline.

FIGURE 1

Frequent Triggers

Average daily number of stocks that meet trigger condition of Rule 201



Rule 201 Costs

The SEC recognized that market participants will bear a cost to implement and assure compliance with the requirements of Rule 201. These costs result from changes to computer software, staff time, and technological resources associated with monitoring compliance. The SEC estimated a recurring annual cost of $1 billion in addition to an initial setup cost of $1 billion during the first year. One commenter to the SEC provided a cost estimate of $500,000 per firm, including cost for "development man-hours," for implementation of Rule 201 by broker-dealers. Several commenters expressed general concerns regarding the time and cost that would be imposed on market participants for implementation and ongoing monitoring and surveillance. The industry will also have to establish written policies and procedures and carry out ongoing monitoring.

Rule 201 became effective on May 10, 2010, only 60 days after its publication in the *Federal Register*. The initial compliance date of November 10, 2010 was only six months after the rule's effective date, but the SEC later extended the compliance date to February 28, 2011 because some exchanges needed extra time to modify their procedures for conducting single-priced opening, reopening, and closing transactions for covered securities.

Rule 201 was implemented without a pilot study, unlike the repeal of the previous uptick rule in 2007. In April 2009, the SEC considered a number of approaches to restricting short selling before they approved the final version of Rule 201 in February of 2010. Rule 201 was the least restrictive option among all alternatives available to the SEC because it affects only a few securities each day and remains effective only on the trigger day and the next day.

The Global Short-Selling Landscape

Short selling has been a topic of debate globally after stock markets around the world crashed sharply during the financial

crisis of 2008. As a result, short-selling regulations have been in flux worldwide.

Of the 111 countries surveyed by Anchada Charoenrook and Hazem Daouk in a 2005 working paper, short selling is legal and feasible in 28 countries; legal but infeasible in 19 countries; and illegal in 64 countries. Many of those countries changed the status of short selling during and after the crisis. Below is a brief summary of short selling regulation in G7 countries, including recent changes:

- **United States:** The first rule on short selling in the United States was the downtick rule that went into effect in 1931 and later was changed to the uptick rule in 1938. This rule was in effect for about 70 years and was repealed on July 3, 2007. During the recent financial crisis of 2008, short sellers came under severe criticism and many countries implemented restrictions on short selling. In the United States there was a temporary ban on the naked short selling of 19 financial stocks for the period from July 21, 2008 to August 12, 2008. On September 17, 2008, the SEC adopted a new rule that would penalize market participants for failing to deliver position in any equity security. This was followed by a complete ban on the short selling of 797 financial stocks for a period from September 19, 2008 to October 8, 2008. Finally, Rule 201 went into full effect on February 28, 2011.
- **Japan:** An uptick rule and locate requirement apply on short selling. Also, Japan banned naked short selling on October 30, 2008.
- **United Kingdom:** Short selling has always been legal except for a temporary ban on short selling of specified financial stocks during the period from September 19, 2008 to January 16, 2009.
- **Canada:** When the United Stated banned short selling on financial stocks for the period from September 19, 2008 to October 8, 2008, Canada implemented a similar ban on financial stocks, including those stocks that were inter-listed in the United States. A "tick test" applies on short selling in Canada. The Investment Industry Regulatory Organization of Canada is now considering comments on proposed amendments to the Universal Market Integrity Rules, including an amendment to repeal the tick test.
- **France:** Naked short selling of credit institutions and insurance companies' stocks was banned on September 22, 2008.
- **Germany:** Investment funds, except hedge funds, are prohibited from short selling. Also, Germany implemented a ban on naked short selling of specified financial stocks on September 19, 2008.
- **Italy:** A ban on naked short selling of financial stocks was implemented on September 22, 2008 and extended to all stocks on October 10, 2008. The ban was lifted for non-financial stocks on January 1, 2009 and for financial stocks on May 31, 2009.
- **Others:** Most countries implemented bans on short selling during or immediately after the 2008 financial crisis. Among those countries are Australia, Austria, Belgium, Denmark, Greece, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, South Korea, Switzerland, and Taiwan. On the other hand, China, which never allowed short selling, began a pilot test in September of 2008 by allowing short selling of 11 brokerage firms.

Conclusion

Rule 201 restricts short selling in NMS stocks after a 10 percent price decline. In empirical research, we found that even before the approval of the rule in February of 2010, short-selling declined for stocks that experience a 10 percent intraday decline. In other words, short sellers are more active before price declines than after. This finding held when we analyzed short selling on both a daily and intraday basis. In contrast, we found that short selling increased for stocks that experience positive returns. These results held true for all market conditions, whether the market was up, down, or neutral.

Rule 201 does not have a positive effect on the recovery of the stocks that decline 10 percent. We found that the contemporaneous and future recovery of prices for target stocks and the liquidity of those stocks were not improved by the rule.

Even on an extreme day like the day of the Flash Crash, stocks that would have been subject to Rule 201, had it been in effect, experienced a decline in short selling. Using rule-compliant simulated short-sell orders, we found that the rule is more binding during periods of low volatility and that the execution rates of rule-compliant simulated short-sell orders were very high during the crisis period of 2008. Thus, Rule 201 should not be viewed as a tool to combat a financial crisis. R

READINGS

- "A Study of Market-Wide Short-Selling Restrictions," by Anchada Charoenrook and Hazem Daouk. Working paper, Vanderbilt University and Cornell University, 2005.
- "Aggressive Short Selling and Price Reversals," by Andriy Shkilko, Bonnie Van Ness, and Robert Van Ness. Working paper, Wilfrid Laurier University and University of Mississippi, 2011.
- "Efficiency and the Bear: Short Sales and Markets around the World," by Arturo Bris, William N. Goetzmann, and Ning Zhu. *Journal of Finance*, Vol. 62 (2007).
- "Predatory Trading," by Markus K. Brunnermeier and Lasse Pedersen. *Journal of Finance*, Vol. 60 (2005).
- "Risk, Uncertainty, and Divergence of Opinion" by Edward M. Miller. *Journal of Finance*, Vol. 32 (1977).
- "Short-sale Strategies and Return Predictability," by Karl B. Diether, Kuan-Hui Lee, and Ingrid M. Werner. *Review of Financial Studies*, Vol. 22 (2009).
- "Short-selling Bans around the World: Evidence from the 2007–09 Crisis," by Alessandro Beber and Marco Pagano. Working paper, Center for Studies in Economics and Finance, 2009.
- "Short Selling during Extreme Market Movements," by Benjamin M. Blau, Bonnie Van Ness, Robert A. Van Ness, and Robert A. Wood. *Journal of Trading*, Vol. 54 (2010).
- "Short Selling: The Impact of SEC Rule 201 of 2010," by Chinmay Jain, Pankaj Jain, and Thomas H. McInish. Working paper, University of Memphis, 2011.
- "Which Shorts Are Informed?" by Ekkehart Boehmer, Charles M. Jones, and Xiaoyan Zhang. *Journal of Finance*, Vol. 63 (2008).
- "Worldwide Short Selling: Regulations, Activity, and Implications," by Archana Jain, Pankaj K. Jain, Thomas H. McInish, and Michael McKenzie. Working paper, University of Memphis and University of Sydney, 2011.