

Short-Sale Constraints: Good or Bad News for the Stock Market?*

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I. Recent Developments in Short-Sale Regulation in Three Major Markets

Short sales are transactions in which investors borrow stocks and sell them in the hope that prices will fall when they buy the borrowed shares to repay the original loan. If they are right in their prediction, short sellers gain profits. In the prevailing severe “bear” market conditions, short sales are blamed for exacerbating declining market movements and, as a result, market regulators are under pressure to tighten rules on short selling. Summarized below are on-going controversies related to the regulation of short-sales in the United States, United Kingdom, and Japan.

A. U.S. Securities and Exchange Commission

With SEC Concept Release: Short Sales (Release No. 34-42037) in September 1999, the U.S. Securities and Exchange Commission (SEC) has been seeking public comment on the regulation of short sales of securities. No firm action has been taken in connection with this Release, but it is widely expected that a new set of proposals will be formulated and considered by the U.S. SEC. In the U.S. market, the on-going controversies on short sales focus on two issues: (i) potential abuse of short-selling for downward price manipulation on illiquid stocks; and (ii) application of the up-tick rule to all U.S. markets.

Short-selling-related price manipulation is illustrated by two recent cases in the U.S. market. As of March 2003, a total of 16 companies had requested to leave the Depository Trust Clearing Corporation (DTCC) clearing and settlement system because they claimed that their share prices were driven downward by short-sellers.¹ So far six withdrawals were approved. By withdrawing from the DTCC system and requiring paper-based stock certificates, they believed that improper trades could be avoided while trade of stocks outside the DTCC system would be costlier than before. The

¹ Refer to <http://www.dtcc.com/pressroom/2003/nakedshorts.html>.

second development is a recent U.S. SEC settlement involving Rhino Advisors, an unregistered investment advisory firm based in New York, and Sedona, a Pennsylvania-based technology company.² This settlement presents an example in which the short-selling practice may become illegal when a concerted effort is made to drive down the share prices. The short-selling initiated by Rhino allegedly depressed Sedona's share price, allowing Rhino's client to receive more shares from Sedona when convertible debentures and warrants were exercised.

The majority of small-sized companies trade their shares on the National Association of Securities Dealers, Inc.'s (NASD's) Over-the-Counter Bulletin Board (OTCBB) which is a regulated quotation service displaying real-time quotes, last-sale prices, and volume information in OTC equity securities.³ At present, Rule 10a-1 (short sale rule) of the Securities Exchange Act stipulates that shorting a stock quoted on organized exchanges is prohibited when the price is falling. The NASD also adopted a short sale rule that applies only to Nasdaq National Market System (NMS) securities as of 1994.⁴ However, securities traded in the OTC markets including Nasdaq Small Cap, OTCBB, and OTC Pink Sheets are not subject to short sale restrictions even though most of these securities are illiquid and vulnerable to price manipulations related to short-selling. In fact, it is believed that highly liquid stocks are less vulnerable to manipulation and abuse than securities that are less liquid; hence, one of the policy measures considered under SEC Concept Release (Release No. 34-42037) is to provide an exception for actively traded securities and to suspend the short sale rule

² Securities and Exchange Commission vs. RHINO ADVISORS, INC. and THOMAS BADIAN; U.S. District Court Southern District of New York (February 26, 2003). Refer to <http://www.sec.gov/litigation/complaints/comp18003.htm>.

³ An OTCBB security is any equity that is not listed or traded on the Nasdaq or a national securities exchange. Daily trading value of OTCBB amounted to \$399 million for 4,034 securities with 321 market makers at the end of 2000. OTCBB began its trading in June 1990.

⁴ Refer to NASD Rule 3350.

when the security or market is above a threshold level. Therefore, the application of short-sale rule to all U.S. markets is under serious consideration by the U.S. SEC.

B. U.K. Financial Services Authority

Although short sales were the subject of regulatory review in the United Kingdom as recent as five years ago, the U. K. Financial Services Authority (FSA) released Discussion Paper 17 “Short Selling” in October 2002 for public consultation in view of significant changes in trading mechanisms and speculative trading activities on local and global financial markets. In this Discussion Paper, the FSA expressed its position toward the regulation over short sales activities:

- Short selling is a legitimate investment activity in support of market efficiency by accelerating price corrections in overvalued securities, supporting derivatives trading and hedging activities, and facilitating liquidity an trading opportunities.
- The introduction of specific regulatory constraints would not be warranted because present market and regulatory arrangements are broadly adequate. Restrictive measures used by other jurisdictions are neither necessarily effective nor appropriate for U.K. markets.
- Greater transparency for short selling may benefit market participants and improve market confidence.
- The types of disclosure mechanisms on short sales presented for public comments include: (i) marking and reporting short sale trades in the cash market to appropriate authorities; (ii) full disclosure of short positions in both cash and derivatives markets; (iii) data on securities lending as a proxy for short-selling; (iv) disclosure of short sales beyond a certain threshold to issuers; (v) disclosure

of all “naked” short positions in cash equities; (vi) directors’ dealings in short sales.⁵

C. Japanese Financial Services Agency

Alarmed by the rising level of short selling, the Japanese Financial Services Agency (JFSA) implemented the up-tick rule under which traders can go short only in a rising market beginning in March 2002.⁶ Before this up-tick rule was introduced, the JFSA took disciplinary actions against 12 leading brokerage firms (both foreign and local) for executing short selling of stocks without disclosure to the organized exchanges and for making a short sale at a price lower than the latest published price. Both JFSA and Tokyo Stock Exchange called for stricter internal control system to eliminate short selling activities in breach of the relevant law. In February 2002, the Japanese government announced four anti-deflation policy measures covering five areas: (i) acceleration of the disposal of non-performing loans; (ii) partial removal of the blanket deposits insurance; (iii) strengthening of short-sale regulation; (iv) effective utilization of the Banks' Shareholding Purchase Corporation; and (v) financing for small- and medium-size enterprises.⁷ Although it is unusual to include short-sale regulation as part of the anti-deflation package, Japan’s bank-based financial system may warrant it because stock market performance has a direct impact on Japanese banks’ financial performance.

In addition to the up-tick rule, the following measures were introduced as part of anti-deflation package.

- Review of margin transactions and institutional stock borrowing;

⁵ Refer to Section 5 “Options for Change” in FSA Discussion Paper 17 (2002) for greater details.

⁶ As of February 20, 2002, the volume of short sales and margin sales reached as much as 28 percent of all trading in the Japanese markets.

⁷ Refer to Prompt Countermeasures to Deflation, Press Release by JFSA.

- Increase in the lending rate of individual stocks that were identified for excessive borrowing;
- Further strengthening of the surveillance by the Securities & Exchange Surveillance Commission (SESC) against the violation of short-selling regulations;
- Disclosure of the short-selling data on a regular interval;
- Revision of stock exchange rules for additional collateral for margin transaction; and
- Further review of cost for borrowing stocks in margin transaction with the assistance from stock exchanges and securities finance companies.

The short-selling measures implemented by the JFSA generated big controversies even though they are similar to those adopted in U.S. markets. Market participants believed that the timing of such short-selling measures was suspect because they were implemented just prior to the March 31 fiscal year-end. It could be a coincidence, but the JFSA decided to introduce further short-selling tightening measures in early September last year just before the interim financial reporting period ends when Japanese financial institutions document their portfolio investment losses. In a move that mirrored the measures undertaken in March, the JFSA introduced an up-tick rule on margin short trading by institutional investors and brokerages, to make it difficult for them to borrow stocks in a falling market and to repurchase using borrowed funds.

II. Short Sale Regulation in Early Years of U.S. Market Development

The recent policy measures by the Japanese authorities, however, raised more fundamental questions on short sales: “Are reduced short selling activities good news for the stock market?”

Subsequent to the implementation of the up-tick rule in February, the Tokyo stock market jumped up almost 20 percent in a few weeks. The new rule, which was introduced with just 10 days' notice, forced brokerage houses to scale back their short sale operations to have their computer systems ready. Since the JFSA imposed restrictions on short selling on margin accounts at brokerage houses starting Sept 17, such trades by brokerage dealers had fallen by nearly half. Dealer short-selling that totaled ¥389 billion in the second week of September dropped to ¥200 billion the following week, when the JFSA's restrictions took effect. Since then, short sales have been hovering at around ¥150-170 billion. The stock market, however, did not respond to these new measures as favorably and dramatically as in March. Unfortunately, what the Japanese authorities did create a misleading impression that short-sale rules were used as a short-term tool to lift the sagging market.

What has happened in Japan is a reminiscent of short-sale regulations in the United States in early 1930s. It is amusing that remarkable similarities are observed between the two countries in the sense that short-sale regulations evolved from beliefs that short-sellers may cause stock prices to spiral downward. For example, short sellers were blamed for having caused the stock market crash of October 1929 in the United States and the New York Stock Exchange's (NYSE's) initial response in 1929 was to collect data from members on short interest [Jones (2002)].

There were three short-sale related regulatory changes in the United States in the 1930s:

- On October 6, 1931, the NYSE prohibited short sales at a price lower than the previous sale, thus allowing short sales to take place only at zero or plus ticks.
- On April 1, 1932, the NYSE required all brokers to obtain written authorization from their customers before hypothecating (lending) their shares. This requirement was announced on February 18, 1932.

- On February 8, 1938, the US SEC implemented the so-called uptick rule, Rule 10a-1, which required all short sales to take place at a price strictly higher than the previous sale.⁸ This rule was announced on January 24, 1938.

Since all three of these events made shorting more difficult, Jones (2002) examines returns, volatility, and liquidity around the events. He reports that: (i) average returns associated with the events are significantly positive. This result is consistent with the overpricing hypothesis which indicates that optimists have more influence on stock prices as short selling becomes more difficult or more costly.⁹ Jones further finds that the written authorization requirement increased bid-ask spreads and decreased liquidity.¹⁰

III. The Relation between Short Interest and Abnormal Stock Returns

The overpricing hypothesis has been initially advocated by Miller (1977) as he admits investors with heterogeneous expectations of future returns. Miller suggests that the observed price of a security does not reflect the view of the average investor, but only the views of those optimists who own the stock because they believe it will outperform other investments. Short selling restrictions prevent at least some pessimists from shorting a security they believe to be overvalued. The implication of his argument is that some securities may be overvalued because of short selling restrictions. The overpricing

⁸ This was in reaction to a severe market downturn in the second half of 1937. Up to this point, there was no formal rule even though the prohibition on down ticks has been complied by all organized exchanges except the over-the-counter market.

⁹ Jones and Lamont (2002) provide more formalized tests on the overpricing hypothesis. Based on the costs of short selling equities from 1926 to 1933, they find that stocks that are expensive to short tend to have high valuations and low subsequent returns.

¹⁰ Puzzling evidence compiled by Jones (2002) is that the tick restrictions force had the opposite effect. Even though he argues that the tick restrictions force shorts to supply liquidity rather than demand liquidity, thereby reducing spreads, his interpretation does not appear forceful given the limited amount of data available in the 1930s and the lack of transaction data.

hypothesis also implies a negative relation between short interest and stock returns.¹¹ Earlier empirical findings on the negative relation was mixed [Figlewski (1981), Vu and Caster (1987), Bharracharya and Gallinger (1991), and Woolridge and Dickinson (1994)]. Beginning with Asquith and Meulbroek (1995), however, empirical evidence has been compiled by recent studies in support of the overpricing hypothesis and the bearish signal of short interest [Senchack and Starks (1993), Aitken et al. (1998): Desai, et al. (2000), Jones and Lamont (2002), Ofek and Richardson (2002), Chen, et al. (2002), among others].

Using data on monthly short interest positions for all NYSE and ASE stocks from 1976-1993, Asquith and Meulbroek (1995) document a strong negative relation between short interest and subsequent abnormal stock returns, confirming that short interest does indeed convey negative information. More recently, Desai et al. (2002) support the view that short interest is a bearish signal and that the informativeness of this signal is increasing in the magnitude of short interest. They report that heavily shorted firms (with at least 2.5 percent short interest experience significant negative abnormal returns of 76 basis points per month, while the corresponding abnormal return for firms with short interest of at least 10 percent is negative 113 basis points per month. They also find that these negative returns increase with the level of short interest, indicating that a higher level of short interest is a stronger bearish signal and that the negative abnormal returns are not clustered in certain industries not are they clustered in calendar time.

Aitken et al. (1998) observe that information in short interest is incorporated quickly into prices of Australian stocks. With the information on short positions

¹¹ An opposing hypothesis is what market practitioners believe: Short sellers eventually have to cover their positions and so a rising trend of short interest represents a growing volume of potential buy orders that will keep the stock advancing. They believe that it is a self-fulfilling process. As the stock goes up, shorts become scared and cover pushes the price still higher which in turn scares more shorts who cover, and so on [Biggs (1966)]. However, empirical evidence documented so far provide very little support for the positive relation between short interest and stock returns.

disseminated on the real time basis, they find that the price impact of short trades is negative (-0.20 percent) and that the information in the short trade is impounded into prices quickly (15 to 20 minutes).

IV. Do Short-Sale Restrictions Affect the Efficiency of the Stock Market?

The most critical question is how short-sale restrictions would affect the efficiency of the stock market. This question was theoretically analyzed by Diamond and Verrecchia (1987) in a rational expectations model framework. They predict that informational efficiency will be reduced in the presence of short-sale constraints. Specifically, prohibiting traders from shorting reduces the speed of price adjustment to private information. Diamond and Verrecchia (1987) also point out that options can reduce the cost of establishing a short position. Thus, the existence of tradable options can affect the magnitude of price adjustments to private information.

The role of tradable options on market efficiency is clearly demonstrated by Senchack and Starks (1993). They report that stocks with unexpected increases in short interest tend to exhibit negative abnormal returns for a short period around the announcement date. When the sample firms are divided into stocks with and without tradable options, nonoptioned stocks closely mimic these results but the optioned stocks do not. More importantly, they further report that these short-term negative returns are less negative if the firm has tradable options. This finding is consistent with the Diamond and Verrecchia (1987) prediction since the availability of tradable options substantially mitigates the difficulty associated with short selling. This finding is also consistent with empirical evidence reported by earlier studies by Jennings and Starks (1986) and Skinner (1990). Both find evidence that prices of optionable stocks respond more quickly to earnings announcements. This finding is also closely related to Figlewski and Webb's (1993) evidence that a significantly higher average level of short interest is exhibited by optionable stocks. This evidence implies that options facilitate short selling

and reduce any adverse effect of short sale constraints that cause stock prices to underweight negative information.

Although empirical work on non-U.S. markets is sparse, there are a couple of studies that examine short-sale constraints in other financial markets. According to Biais et al. (1999), Paris Bourse-listed stocks with short-sale constraints reflect good news significantly faster than bad news. Ho (1996) reports that stock return volatility increased when short sales were severely restricted during the Pan Electric crisis in the Singapore market in 1985-1986. Ho's study is one of a few empirical studies that examine the effect of short sale constraints on market volatility and his finding carries special significance. For example, many emerging stock markets have restrictions on short-sales to prevent excessive speculation and volatility.¹² Ho's finding suggests that short-sales restrictions increase volatility. If some investors are constrained from selling short, their unrevealed negative information will not be manifest until the market begins to drop, which further aggravates market declines and leads to a crash [Hong and Stein (2002)].

V. Do Speculative Short Sales Exist?

In the current finance literature, no studies are able to identify who are active participants in the sale selling activities, especially for the purpose of speculation. Individual investors are not in a position to engage in speculative activities because the proceeds of their short sales are held in escrow by their brokerage firms with no interest earned. In addition, they have to pledge collateral which is equal to 50 percent of the value of the shorted securities under Regulation T set by the Federal Reserve. Short

¹² Refer to Appendix *Morgan Stanley Global Network Management Short Selling Details – Equities* (March 2003).

sales are not popular among institutional investors even though they are not prohibited from short selling activities [Figlewski and Webb (1993)].¹³

Brent et al. (1990) report empirical evidence relevant to this question. Based on cross-sectional and time-series observations for about 200 firms, they examine what explains levels and changes in short interest. Specifically, they have examined three potential explanations: (i) tax motivations;¹⁴ (ii) arbitrage and hedging; and (iii) speculation. Their tests on the NYSE's outstanding short interest indicate that arbitrage and hedging emerge as the major explanation for short selling activities, but tax-based and speculation-based motivations exhibit only weak explanatory power.

However, the question of who are the players in speculative short selling is far from resolved. Chen and Singal (2003) report that short sellers affect prices in a significant and systematic manner such that speculative short sales contribute to the weekend effect. Chen and Singal (2003) believe that the inability to trade over the weekend tends to make many short sellers close their speculative positions at the end of the week and reopen them at the beginning of the following week, leading to the weekend effect, where the stock prices rise on Fridays as short sellers cover their positions and fall on Mondays as short sellers reestablish new short positions. They find that stocks with higher short interest (relative to the number of shares outstanding) have a significantly larger weekend effect than stocks with lower relative short interest.¹⁵ With the introduction of individual stock options, speculative short sellers are expected to put options more extensively than short sales. Thus, if speculative short sellers contribute to

¹³ Jones and Lamont (2002) report that about 30% of mutual funds are allowed to sell short but only 2% actually do sell short.

¹⁴ The common reason for shorting against the box is to defer taxable gains. By going short in the same stock held long, an investor can lock in a profit, but delay the recognition of a capital gain [Brent et al. (1990)].

¹⁵ They define the weekend effect as a Friday's return minus the following Monday's return.

the weekend effect, then availability of put options should reduce the weekend effect. Indeed, Chen and Singal (2003) find that the weekend effect has diminished for stocks that have actively traded options but not for other stocks. As the findings of Chen and Singal (2003) strongly indicate the existence of speculative selling activities, a comprehensive study would be needed to examine who are the major speculators and how they affect the price formation on the stock market.

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**APPENDIX: *Morgan Stanley Global Network Management
Short Selling Details – Equities (March 2003)***