optiver INSIGHTS

MAY | 2020
MARKET STRUCTURE

SHORT-SELLING BANS

OPTIVER EUROPE'S VIEW

In this paper, we look at the impact short-selling bans have on global financial markets and on end-investors.

Short-selling bans come at a cost to the market and to investor, as evidenced by academic and industry research which has consistently shown that short-selling bans:

- *increase the probability of retail investors and pensions overpaying for assets*
- *inhibit market makers' legal responsibility to provide liquidity and dampen volatility*
- *are ineffective in achieving their stated aim of reducing asset price declines*

Instead, it is more important to focus on measures proven to support the healthy functioning of markets (such as liquidity protection and coordinated circuit breakers) while also addressing the underlying economic issues driving market volatility.

In parallel, speculative short-selling attacks on companies – which are of concern to markets and to policy makers, and may be cited as the reason for short-selling bans – should be scrutinized through existing market manipulation surveillance tools.

SHORT-SELLING BANS – THE WHAT AND THE WHY

WHAT IS SHORT-SELLING?

Short-selling is a type of trading that allows professional investors to sell a security that they do not own. This is achieved by borrowing shares of a stock (or other asset) and then selling these borrowed shares. The seller must return these borrowed shares at some point in the future by buying them back in the market. Like any loan, short-sellers pay interest on the value of their borrowed shares from the owner. Short-selling is often done as a way to hedge long positions and occasionally as a way to trade on a view that there will be a future decline in asset prices.

Short-selling is in particular an important tool for market makers in facilitating the investment decisions of others through liquidity provision. Short-selling helps the market markets play their role and legal obligation to provide liquidity by showing two-sided prices to all market participant at all times.

Optiver supports open discussion and debate on all market structure topics that would lead to an improvement of the market.

To discuss this paper – or any other market structure topic – reach out to the Optiver Europe Corporate Strategy team at AMS_CorporateStrategy@Optiver.com

WHAT IS A SHORT-SELLING BAN?

Short-selling bans are restrictions on market participants from selling a share of stock that they don't already own. Such bans are sometimes enacted by governments or regulators during times of market stress in an attempt to reduce declines in stock market prices and volatility in the markets with the reasoning that it is selling transactions which are driving the markets down and/or causing volatility. In short, such bans force any market participant to only effect sell transactions if they already hold a long position in the given stock and want to close that position.

WHY ARE SHORT-SELLING BANS DETRIMENTAL TO THE MARKET?

"We shouldn't be banning short-selling. You need to be able to be on the short-side of the market in order to facilitate ordinary market trading."

SEC Chairman Jay Clayton, March 2020

While regulators' intentions to reduce stock market declines and to diminish volatility at the same time are certainly admirable, short-selling bans have been proven to do just the opposite. In practice, these bans cause issues with many aspects of the financial markets such as increasing the likelihood for asset price bubbles to form and retail investors to over-pay for assets and inhibiting market makers from performing their regulatory duties to provide liquidity.

Worse yet, it has been evidenced by numerous academic[1][2][3], central bank[4] and industry studies[5][6] that short-selling bans are ineffective in achieving the regulators' goals. These bans are even shown to be counter-productive, due to the fact that they reduce liquidity. The reality is that short-sellers are not responsible for the declines in asset prices or increases in volatility; these market moves are caused by underlying external factors such as the systemic banking crisis in 2008 and COVID-19 in 2020.

Not only is the entire financial markets industry in agreement on the value of short-selling, many regulators have explicitly called out the positive role it plays in financial markets. For example, in 2014 the Securities and Exchange Commission identified the following positive effects of short selling[7]:

- Contributes to efficient price discovery
- Mitigates market bubbles and provides a check on upward market manipulations
- Increases market liquidity and thereby dampening volatility
- Facilitates hedging of related positions

When a short-selling ban is implemented, these positive benefits are lost. This comes at a broad cost to the financial industry, ultimately harming end investors including pensions and retail investors.

Unfortunately, despite resounding evidence of the ineffectiveness of short selling bans, some regulators continue[8] to enact bans as emergency measures, harming markets and investors at the exact moment they can least afford it.

---

1 https://faculty.haas.berkeley.edu/hender/Short_JOIM.pdf
2 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2710371
3 http://www.eief.it/files/2013/01/pagano_beber_joff_2013.pdf
4 https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr518.pdf
5 https://www.ifk-cfs.de/fileadmin/downloads/publications/wp/2013/CFS_WP2013_17.pdf
6 https://www.world-exchanges.org/storage/app/media/research/Studies_Reports/WFE%20short-selling%20research%20paper%20FINAL2%2029.04.20.pdf
7 https://www.sec.gov/files/short-sale-position-and-transaction-reporting%2C0.pdf
8 See Appendix 1

"Capitalism without bankruptcy is like Catholicism without hell."

Unknown

OPTIVER'S POSITION AND CONSIDERATIONS

INTERFERENCE WITH ASSET PRICE FORMATION

Imposing short-selling bans results in less parties being able to sell than those that are willing to buy, which interferes with efficient price formation. By artificially removing the chance for some market participants to sell, asset price formation will become less accurate, preventing the financial market from reflecting the real economy. The additional uncertainty that this creates will result in increased volatility, which in turn results in wider spreads and reduced liquidity.

A study by Bank of America on short-selling bans implemented in March 2020 in multiple European markets confirm this. Markets where short-selling restrictions were in place saw persistently lower volumes (20-30% lower) and wider spreads (15-25% wider), and ironically, the same negative asset returns as comparable European markets where no short-selling ban was imposed[9]. These results confirm previous findings on similar bans enforced in both 2008-09 and 2011-12[10]. Ultimately, short-selling bans not only fail to achieve the goal to stabilise asset prices, they also cause a decline in order book quality which results in higher trading costs at the expense of the end investor, which is clearly detrimental to the market.

Hampering efficient price formation, which short-selling bans have been proven to cause, has an additional risk: it **increases the likelihood for an asset price bubble to form**. A fundamental and necessary characteristic of healthy markets is its ability to correct overpriced assets. Theoretically, if short-selling bans were to achieve their goal of increasing the price of affected assets, the increased price would be due to a deficiency in the market and would not reflect truly higher values of the underlying asset. **Short-selling bans increase the probability of investors overpaying for assets,** which especially effects those using automatic contributions to invest, **particularly retail investors and retirement funds**.

A case in point is the historic highs that the Japanese stock market reached in 1989, when its market capitalisation was the highest in the world. This overvaluation was exacerbated because short-selling was long banned in Japan. The emergence of a futures market allowed for some short-selling, and therefore hedgers and short-sellers to contribute to bringing the price levels back to more reasonable levels[11].

At the same time as asset price bubbles are more likely to form, a restriction on short-selling also reduces the likelihood of market identification of fraudulent companies,

[9] Source: BAML Market Commentary Email 23 March 2020
[10] https://www.esrb.europa.eu/pub/pdf/wp/esrb.wp64.en.pdf
[11] *Japan's Bubble, Deflation, and Long-term Stagnation,* edited by Kōichi Hamada, A. K. Kashyap, David E. Weinstein, MIT Press

allowing these frauds to continue. Enron Corp. was famously first identified as a fraud by investors focused on shorting such companies.[12] Without the financial incentive from short-selling to engage in the research needed to identify these frauds, some fraudulent activities would go undetected for longer, harming unwitting investors. Again, retail investors and retirement funds following automatic contributions would bear the brunt of this harm.

INTERFERENCE WITH MARKET MAKING AND HEDGING

A key characteristic of healthy markets is high levels of liquidity. Liquidity is defined as the presence of many parties willing to buy and sell an instrument at any given time and is often associated with robust, "thick" order books with many quotes present in the book. **Market makers are key providers of liquidity and consistently play an important role in the healthy functioning of markets, particularly during periods of volatility.** The presence of market makers has been shown by numerous papers and research to improve liquidity as measured by tighter spreads and increased volumes[13]. This liquidity has a dampening effect on the volatility of a stock, therefore, market makers play an important role during turbulent conditions, in that they provide the liquidity needed to temper volatility. If anything, market makers' ability to be effective should be strengthened during a period of volatility and short-selling bans achieves the opposite by hampering market makers' ability to provide liquidity.

Market makers are, in general, market neutral participants as they do not have an opinion on the direction of share prices nor do they hold large positions for long periods of time. Instead market makers facilitate the investment decisions of others through liquidity provision. Because market makers do not hold positions for a long period of time, they often must sell a security short – with the expectation of repurchasing the security shortly thereafter – if a buyer happens to come along before a seller. **This short-selling does not mean that market makers are of the opinion that the market will decline in value, nor does it indicate that market makers are helping to drive securities prices down**. It is simply a necessary function of market makers' role and legal obligation to provide liquidity by showing

---

[12] https://www.latimes.com/archives/la-xpm-2002-jan-20-fi-petruno20-story.html

[13] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/289034/12-1069-eia8-minimum-obligations-of-market-makers.pdf

"Knowing what we know now, I believe on balance the Securities and Exchange commission would not do it again. The costs of the short-selling ban on financials appear to outweigh the benefits."

Christopher Cox, SEC Chairman, 31 December '08

two-sided (buy and sell) prices to all market participants at all times. Importantly, as the market maker is trading on the opposite side as an investor, short-selling by a market maker indicates the presence of investors purchasing securities and is therefore a positive signal.

While some implementations of short-selling restrictions do exempt market makers from their restrictions, thereby lessening the above negative effects, meaningful liquidity is often also provided to the market by participants who are not registered as market makers. This can for example be in the form of a large order being worked passively by an algorithm or by (foreign) participants who are not (locally) able to register as investment firms. Additionally, it is often not obvious what constitutes sanctioned (and thereby exempted) market making activities. Therefore, the short-sale bans, even when containing a market maker exemption, reduce available liquidity and contribute to unequal access to the markets. At the same time, they contribute toward market participants no longer being able to meet their MiFID II mandated market making obligations.

In summary, short-selling bans harm the ability of market makers to effectively provide liquidity to the market, causing spreads to widen and displayed volumes to diminish, making it more expensive for investors and increasing market-wide volatility.

COSTS OF MARKET COMPLEXITY AND NON-UNIFORM APPLICATION

Short-selling bans are not a feature of a well-functioning market during normal trading conditions. They are deployed in times of stress and are thus an additional complexity to existing exchange mechanisms coming exactly at a moment when markets can least afford to incorporate complexity. Markets should be as simple as possible to guarantee market integrity and ensure they work fairly and orderly. Short-selling bans achieve the opposite.

Short-selling bans are adopted piecemeal[14], so investors become confronted with the need to work under suddenly diverging regulatory regimes. The lack of uniform application of rules can have serious consequences for participants who are active in many markets or active in products – such as benchmark indices – with constituents in many regulatory jurisdictions. Equally, non-uniform application to participants located in different countries opens-up possibilities for regulatory arbitrage. This can drive liquidity away from the markets where short-sale bans are present or incentivise trading in alternate, less regulated OTC products to avoid the regulations.

[14] See appendix 1

CAN SHORT-SELLING BANS SERVE AS A POSITIVE SIGNAL?

Besides the critical considerations, we should also explore if short-selling bans have any positive effects on the market. One potential benefit could be that it sends a strong "signal" to the public, that authorities are acting, which could increase public confidence in the financial markets. Authorities can feel pressured to be seen to act decisively when faced with declining markets and short-selling bans are a decisive move. However, the European Systemic Risk Board found that "bans on short-sales tend to be correlated with higher probability of default, greater return volatility and steeper stock price declines[15]". Academic literature also consistently shows that short-selling restrictions fail to meet their policy objective[16].

In summary, short-selling bans only give an impression of constructive action by authorities without actually achieving a positive outcome, and in fact, frequently causing harm to the markets and the end-investors. Authorities would therefore be better off focusing on measures to address the underlying cause of the stressed markets (e.g. fiscal stimulus and banking sector support in 2008, support for SME and health-care companies in 2020), solving the true problem at hand and at the same helping to calm financial markets.

WHAT COULD EXCHANGES DO IN TIMES OF STRESSED CONDITIONS?

Instead of governments or regulators imposing short-selling bans that will have a negative effect on the markets, Optiver believes that stock exchanges have the tools required to mitigate declines in stock market prices and to curb market volatility in extreme conditions.

In highly stressed markets, liquidity provision (which results in healthy, liquid order books) is key to managing price volatility. To facilitate this, exchanges could introduce **simple liquidity protection mechanisms** that aid market makers in volatile conditions and stimulate further liquidity. Exchanges can also be pro-active in introducing **market making programs that further incentivise liquidity provision**. This is especially true for liquidity provision programmes that provide financial incentives, but can also benefit unofficial liquidity provision if such programmes exempt liquidity provision to from possible restrictions.

Besides measures that add to the health of the order book, exchanges could also have **coordinated circuit breakers or trading limits** in place that trigger in bursts of extreme volatility. These mechanics allow all market participants time to digest the news that might have triggered the sudden move. If well-implemented, these

[15] https://www.esrb.europa.eu/pub/pdf/wp/esrb.wp64.en.pdf
[16] "Short-selling bans around the world: Evidence from the 2007-09 Crisis", by A. Beber and M. Pagano, 2013

mechanisms add to the stability of markets and keep them behaving in a fair and orderly manner, despite extreme conditions.

Often examples of speculative short-selling attacks on companies are cited as the reason for short-selling bans. Such speculative attacks are of course of great concern to the market and to policy makers and we believe that it should be regarded as market manipulation, in the same way as pump-and-dump schemes are. Therefore, **we encourage marketplaces and regulators to use their surveillance and enforcement mechanisms to prevent these practices**. In the end the availability of reliable information that drives investment decisions will bring buyers back at the right price.

Beyond these immediate measures that exchanges could implement, stimulating diverse and active financial markets in general pays dividends in stressed conditions. The more parties active in the financial markets and the healthier they are as a baseline, the more resilient the system will be to stress, reducing the risks of complete collapse. Exchanges and regulators should therefore always be thinking of how to make markets more accessible, fair, liquid, simple and transparent for all types of participants.

CONCLUSION

Optiver supports simple, transparent, and liquid capital markets. While Optiver does not revel in periods of high market volatility and sharp declines, it must be recognised that these periods are part of normally functioning markets and are not caused by – or even exacerbated by – the practice of short-selling.

Optiver is firmly opposed to short-selling bans due to their significant, negative consequences on the markets including interfering with efficient price formation, reducing market makers' ability to provide liquidity and dampen volatility, and introducing technical and regulatory complexities.

This view is overwhelmingly supported by academic and industry research. Short-selling bans are ineffective in achieving their stated aim of reducing asset price declines and instead come at a cost to the market and therefore investors as a whole.

Optiver calls on the financial industry and regulators to reject the adoption of short-selling bans and instead adopt measures that support the healthy functioning of markets while also addressing the underlying issues driving market volatility.

ABOUT OPTIVER

Optiver is a leading global electronic market maker with over 1 000 employees working from offices in Amsterdam, Chicago, Sydney, Shanghai, Hong Kong, Taipei and London.

Through pricing, execution and risk management, we provide liquidity to financial markets using our own capital, at our own risk, trading a wide range of products: listed derivatives, cash equities, ETFs, bonds and foreign currencies. Our independence allows us to objectively improve the markets through pioneering trading strategies and sophisticated technology.

APPENDIX 1

WORLDWIDE SHORT-SELLING BANS ENACTED DURING COVID-19 CRISIS

Country	Original Effective Dates	Extended Dates *
Austria	18 March - 18 April 2020	16 April - 18 May 2020
Belgium	18 March - 17 April 2020	17 April - 18 May 2020
France	18 March - 16 April 2020	17 April - 18 May 2020
Greece	18 March - 24 April 2020	25 April - 18 May 2020
Italy	17 March - 18 June 2020	n/a
Spain	17 March - 17 April 2020	18 April - 18 May 2020
Taiwan	19 March - indefinite	n/a
South Korea	16 March – 15 September 2020	n/a

**(as of 1 May 2020)*