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This Economic Commentary discusses the banning of shortselling against the background of the bans that were introduced on many markets in the autumn of 2008. The reasons for introducing such bans and the arguments against them are discussed, as well as whether banning shortselling has any impact on financial crises. The Commentary questions whether the short-term benefits of temporarily bolstering share prices in order to reduce the systemic risk exceed the costs of a reduction in market efficiency.

How does shortselling affect financial markets?

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If financial markets are efficient, then the price of financial assets should reflect all the available information that is relevant to the value of the respective assets. This comprises both negative and positive information. In order for this to work, there must be a free flow of information and the market participants should be able to take positions that reflect their views of the future value of the asset. During the current crisis, however, both the flow of information and the freedom of the market participants to act have been limited by the ban on shortselling that the supervisory authorities in several countries introduced during the autumn of 2008. This Economic Commentary discusses why the ban was introduced and the arguments that can be presented for and against this type of restriction on financial markets. The Commentary concludes by discussing whether there is a relationship between shortselling and financial crises.

What is shortselling?

To short sell (or go short on) a financial asset means that an investor speculates that the price of the asset will fall. In the case of shares, this is done by the investor borrowing shares from a shareholder for a fee. The borrowed shares are then sold on the market. After a certain period of time, the investor needs to buy back the shares in order to return them to the owner. The hope is that the shares will have fallen in price in the intervening period. The investor will then make a profit equivalent to the difference between the price the shares were sold for and the price they were repurchased for, minus the borrowing fee. If the shares instead increase in price, the investor will make a loss.

The risk associated with shortselling is that there is no limit to the potential increase in the price of the asset. On the other hand, the price can not fall below zero. The risk of making a loss is thus not limited in the same way as the possibility to make a profit (see Figure 1). The relationship between profit and loss is the opposite if one owns a share, that is if one has a long position. The cash flow also differs in the case of a long position and a short position. When an investor buys a share, she pays a purchase price to the seller and thus has a negative cash flow initially. In the case of shortselling, the investor sells a borrowed asset and the buyer pays the purchase price to the investor, who thus has a positive initial cash flow until the asset is repurchased. This means that, in the case of shortselling, the investor can enter into the transaction without needing to have capital of her own.

A more controversial form of shortselling is so-called naked shortselling. This entails the investor selling a share without first having borrowed it. Here the investor hopes that she will have time to repurchase the share at a profit before the sold share must

be delivered to the buyer. The regulations governing this type of shortselling differ from market to market, but in many cases, as for example in Sweden[1], there are no regulations that prevent naked shortselling.

What happened in the autumn of 2008?

After Lehman Brothers filed for bankruptcy on 15 September 2008, panic broke out on the financial markets and share prices, especially in financial companies, fell dramatically. On such a turbulent market, asset prices are largely governed by psychology and fear and are not based on an analysis of the fundamental values of the companies. In order to handle the situation, the US supervisory authority, the Securities Exchange Commission, decided on 18 September to temporarily ban the shortselling of shares in 799 financial companies. The supervisory authorities in the UK, Canada and Australia also decided to ban the shortselling of certain shares. Many European countries followed suit. China, however, took a different route and decided in the autumn of 2008 to permit shortselling. The scope and duration of these bans differed from country to country (see Table 1). Some supervisory authorities chose to only ban naked shortselling; others banned the shortselling of certain types of share, while a few introduced a total ban on shortselling. In the USA, the ban was lifted already in October 2008, while the ban is still in place on other markets. Countries that chose not to ban shortselling did, however, usually increase their market supervision.

What were the reasons for banning shortselling?

The primary reason given for the introduction of the ban was that it would protect financial companies from a crisis of confidence and increase the confidence of investors in the financial markets.[2] Financial companies, such as banks, are usually assumed to be in particular need of protection because their business is based on the counterparties having confidence in them. If confidence in the banks is undermined, then financial stability is affected throughout the economic system. In the autumn of 2008, the supervisory authorities were concerned that the dramatic fall in the prices of shares in financial companies, which to a certain extent was believed to be due to shortselling, would undermine confidence in the banks. The ban on shortselling can thus be explained in terms of the belief of the supervisory authorities that they needed to support the price of shares in financial companies artificially in order to reduce systemic risks. However, the share index for financial companies on the New York Stock Exchange fell considerably during the period despite the ban on shortselling (see Figure 2).

The supervisory authorities also gave other reasons for the ban. Investors, and especially hedge funds, were accused of using shortselling to drive share prices down without having any information that justified the significant downturns. The head of the supervisory authority in the USA stated in a press release that the authority was prepared to use all available means to combat any market manipulation that threatened investors and capital markets.[3] This statement justified the ban on shortselling by arguing that the pricing of the shares of financial companies was not true and fair and that the ban was an attempt to prevent investors fuelling the negative market trend for purely speculative purposes. The discussion in Europe about the use of shortselling to push share prices below the issue price in connection with new issues also relates to this.[4]

[1] In Sweden, naked shortselling can only be conducted during the trading day as the position must be covered by a "legitimate" short sell before the end of the trading day.
[2] Securities and Exchange Commission (2008).
[3] Goldman (2008).
[4] See for example Financial Services Authority (2008).

What was said in Sweden?

Sweden was one of the few European countries that did not introduce a ban on short-selling in the autumn of 2008. Finansinspektionen (the Swedish Financial Supervisory Authority) did not believe that there were any disruptions on the Swedish markets that could justify such a ban.[5] The authority did, however, increase its monitoring of the shortselling of Swedish shares.[6] Nevertheless, the debate concerning the prohibition of shortselling was also conducted in Sweden. For example, the Chairman of the Board of Swedbank, Carl Eric Stålberg, demanded in an article in the business newspaper *Dagens Industri* that shortselling should also be banned on the Swedish market.[7] The Swedbank share was under a lot of pressure for a long period of time in the autumn of 2008 and it was said that London-based hedge funds had short sold the share and then attempted to force down its price by spreading rumours. The founder of the investment company Cevian, Christer Gardell, also argued in favour of a ban on shortselling on weak markets.[8]

What is the difference between market manipulation and shortselling?

The debate concerning the ban on shortselling has not really been about the problem of shortselling itself but about market manipulation, that is that shortselling has been used as an instrument for market manipulation. It is therefore important in this context to clarify the difference between *shortselling* and *market manipulation*.

Shortselling is a measure in which the investor, on the basis of public information, speculates that the value of financial assets will fall. Speculating in falling asset values is thus no different than speculating in rising asset values. Market manipulation, on the other hand, entails the investor, without having any information other than that available to other market agents, deliberately attempting to influence the market price or mislead the buyers or sellers of financial assets. One example of this is the spreading of false rumours. Market manipulation is prohibited by law.[9] It should also be noted that market manipulation can equally entail asset prices being pushed up or pushed down in order to generate profits. A discussion of shortselling should thus be conducted independently of the debate on market manipulation.

Who uses shortselling and for what purpose?

Shortselling is used for many different purposes. As mentioned earlier, shortselling can be used for speculation if the investor has a negative view of the future of the company. Shortselling is also used for *hedging*, a process that aims to reduce the risk in a securities portfolio by offsetting a long position against a short position. The same technique can be used to lock-in profits from *arbitrage*, which is a common strategy for hedge funds. Arbitrage entails exploiting mispricing between related instruments or markets by selling (shortselling) the overvalued asset and buying the undervalued asset. Arbitrage has a positive effect on the efficiency of financial markets. Brent et al. (1990) found that the major part of the shortselling of shares in the USA was carried out for arbitrage and hedging purposes, and that only a minor part could be related to speculation. Two types of player that use shortselling to a great extent are hedge funds and market makers[10] on the stock market.

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[5] Dagens Industri (2008a).
[6] Finansinspektionen (2008).
[7] Dagens Industri (2008a).
[8] Dagens Industri (2008a).
[9] In Sweden, market manipulation is regulated in the Market Abuse Penalties Act (2005:377).
[10] A market maker is a financial player that quotes ask and bid prices for a financial asset. In the USA, these players were not covered by the ban on shortselling in the autumn of 2008.

Why is it good to permit shortselling?

The main argument for not regulating the possibility to take short positions on financial markets is that this increases market efficiency. More efficient markets are a positive factor whether the markets are rising or falling. There are several aspects to market efficiency. One is efficient pricing, that is the speed at which information is integrated in the asset price. Another is liquidity, that is the speed at which an asset can be bought and sold. Liquidity is measured, for example, in transaction volumes and the difference between bid and ask prices.

A ban on shortselling makes pricing less efficient as it obstructs and delays information from investors with a negative view of the value of the asset being reflected in the price.[11] Shares that can not be sold short therefore tend to be overvalued.[12] Boehmer et al. (2008) show that those who use short selling to a great extent are mainly well-informed investors. This means that their trading gives signals to other investors about the value of the asset. Boehmer et al. (2009) also found that the ban on shortselling on the US market in 2008 led to poorer pricing as the volatility of share prices increased. Higher volatility increases uncertainty regarding prices.

Those players that use shortselling (for example hedge funds) tend to be among the more active players on the market. By participating in market operations they contribute liquidity and information that, given this trading, is integrated into the prices. A ban on shortselling may make it more difficult, for example, for these players to conduct arbitrage regardless of market conditions. The liquidity that these players supply is important to the efficient functioning of the market. Boehmer et al. (2009) have shown that liquidity declined for the US shares that were covered by the ban on shortselling in the autumn of 2008. The shortselling transactions, which prior to the ban accounted for approximately 20 per cent of the daily transaction volume in the shares concerned, fell by 65 per cent.

Another argument against introducing a ban on shortselling is that the effect of such a ban is limited by the fact that it is possible to create a short exposure to a share using other financial instruments, for example by purchasing a put option.[13] A put option entitles the holder to sell a share at a predetermined price. If the price of the share falls, the value of the put option increases. This means that in order to achieve the full impact of a ban on shortselling the supervisory authorities would also need to regulate the options market. This, on the other hand, would impose extensive restrictions on trading on financial markets. The fact that the number of shortselling transactions decreased significantly when the ban was in force in the USA does not necessarily mean therefore that investors refrained from trading on the basis of a negative view of the future value of the companies. It may instead mean that they simply began to use other instruments. One sign that this was the case is that the number of options with US shares as the underlying asset that were traded on NASDAQ OMX in September 2008 almost doubled compared to the figure in September 2007.[14]

How does shortselling affect financial crises?

The main issue that came up in the autumn of 2008 was whether shortselling increases the probability of a financial crisis – or can make such a crisis worse – in the sense that it creates a negative spiral with falling asset prices that undermines confidence in the financial markets. Although there are theoretical models that show that

[11] See Diamond and Verrechia (1987), Saffi and Sigurdsson (2008) and Bris et al. (2007).
[12] See Chang, Cheng and Yu (2007) and Jones and Lamont (2002).
[13] Examples of articles that discuss this include Figlewski and Webb (1993) and Diamond and Verrechia (1987). Other instruments that can be used to create a short exposure to a share are, for example, futures.
[14] Examples of articles that discuss this include Figlewski and Webb (1993) and Diamond and Verrechia (1987). Other instruments that can be used to create a short exposure to a share are, for example, futures.

shortselling can have both positive and negative effects on financial crises[15], there is no direct empirical research that supports the argument that shortselling increases the risk of a crisis. Researchers have instead shown that a ban on shortselling does not have any significant effect on either the probability or the occurrence of financial crises.[16] Research on the dot-com bubble that occurred around 2000 also shows that the fact that it was difficult to take short positions in dot-com shares helped to drive up the prices of these shares and thus inflated the bubble.[17]

If financial markets are efficient, then the price of financial assets should reflect all the available information that is relevant to the value of the respective assets. This comprises both negative and positive information. In order for this to work, there must be a free flow of information and the market participants should be able to take positions that reflect their views of the future value of the asset. A ban on shortselling obstructs the free flow of information and thus makes pricing less efficient. The argument that a ban on shortselling prevents investors driving down the value of assets in periods of financial turbulence for speculative reasons is short sighted. A ban may delay a fall in prices, but in the long run it can not prevent the negative views of investors being reflected in the prices. This raises the question of whether the short-term benefit of artificially holding share prices up in order to prevent systemic risks is exceeded by the long-term cost of a deterioration in market efficiency.

The best protection against financial crises is efficient markets. If the values of assets are driven down well below their fundamental values, investors on an efficient market will note the incorrect pricing, carry out arbitrage and thus bring the prices back towards their fundamental values. Curtis and Fargher (2008) find that the use of shortselling over long time horizons does not reinforce a downturn in prices but rather plays an important role in bringing prices back to their fundamental values. All in all, there is therefore no reason for the supervisory authorities to attempt to control share prices in order to maintain confidence in financial companies and markets. Although markets in crisis are temporarily marked by the fact that investors behave in ways that are not compatible with efficient markets, a ban on shortselling is not the solution to this problem.

[15] Bernardo and Welch (2004) have developed a theoretical model in which a ban on shortselling has a stabilising effect on the economy. Hong and Stein (2003) on the other hand present a theoretical model that shows the opposite, that is that a ban on shortselling increases the risk of a financial crisis.

[16] See Saffi and Sigurdson (2008), Bris et al. (2007), and Charoenrook and Daouk (2005).

[17] See Lamont and Thaler (2003), Lamont and Stein (2004) and Ofek and Richardson (2003).

Table

Table 1. Measures in a sample of countries

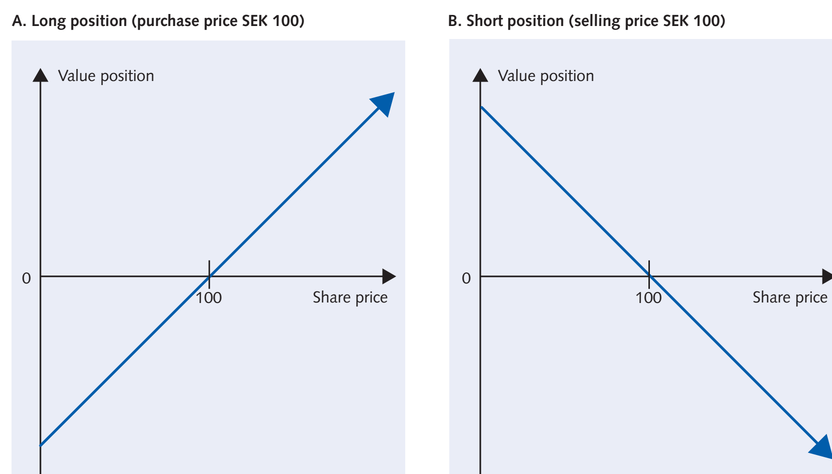
The table below shows the measures taken in 25 countries, of which 20 are European countries, prior to 31 May 2009. The table presents the type of measure taken, the date the measure was introduced and the date on which the measure was concluded or will be concluded.

Country	Measure	Date	End date
Australia	Shortselling all companies	22 September 2008	25 May 2009 (Nov. 2008 non-financial shares)
Austria	Only naked shortselling	26 October 2008	30 April 2009
Belgium	Shortselling financial shares	22 September 2008	21 September 2009
Bulgaria	Increased market supervision		
Canada	Shortselling financial shares	19 September 2008	8 October 2008
Denmark	Shortselling financial shares	13 October 2008	Until further notice
Finland	Increased market supervision		
France	Shortselling financial shares	19 September 2008	Until further notice
Germany	Shortselling financial shares	19 September 2008	31 May 2009
Greece	Shortselling financial shares	24 September 2008	31 May 2009
Hungary	Increased market supervision		
Iceland	Shortselling financial shares	7 October	30 January 2009
Ireland	Shortselling financial shares	18 September 2008	Until further notice
Italy	Shortselling financial shares	22 September 2008	31 May 2009
Japan	Only naked shortselling	28 October 2008	31 July 2009
Luxembourg	Only naked shortselling	19 September 2008	Until further notice
Netherlands	Shortselling financial shares	5 October 2008	1 June 2009
Norway	Shortselling financial shares	9 October 2008	Until further notice
Portugal	Shortselling financial shares	22 September 2008	Until further notice
Singapore	Increased market supervision		
Spain	Only naked shortselling	24 September 2008	Until further notice
Sweden	Increased market supervision		
Switzerland	Shortselling financial shares	2 October 2008	16 January 2009
UK	Shortselling financial shares	18 September 2008	16 January 2009
USA	Shortselling financial shares	18 September 2008	9 October 2008

Figures

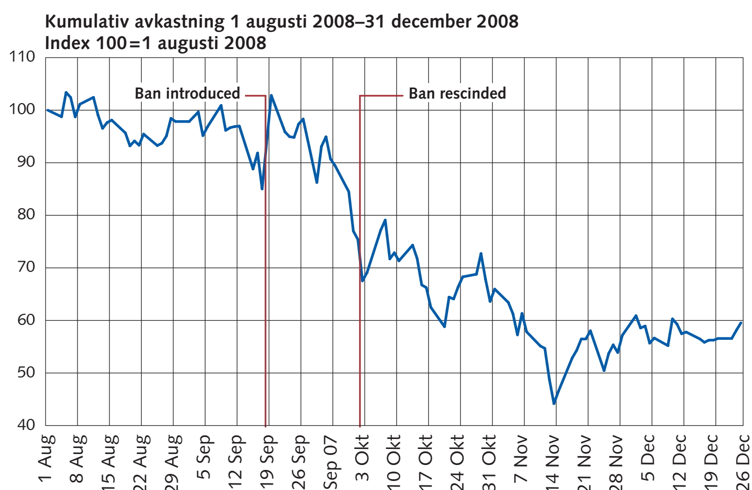
The graphs below show the return for a transaction in which a share has either been purchased for the price of SEK 100 (A) (long position) or has been short sold (that is borrowed and sold) for the price of SEK 100. If a share is purchased for SEK 100 the maximum loss can be no more than SEK 100 (if the share becomes worthless). On the other hand, there is no limit to how much the price of the share, and thus the profit, can increase. When a share is short sold (short position), that is borrowed and then sold for SEK 100 (B), the value of the share can not fall beyond zero, which entails a maximum profit of SEK 100. If the share increases in price after it is purchased, the investor will make a loss. There is no limit to the potential loss as the potential increase in the price of the share is also unlimited.

Figure 1. Return on long and short positions



The graph below shows the cumulative return on the NYSE Financial Index (index 100 = 1 August 2008) during the period 1 August 2008 to 31 December 2008. In the graph, the dates on which the ban on shortselling was introduced and rescinded in the USA are marked.

Figure 2. NYSE Financial Index



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