

■ Hedge funds and financial crises

BY MARIA STRÖMQVIST¹

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A discussion of the impact of hedge funds on the crisis is a recurring feature of every financial crisis. Even though the course of events in previous crises may have been very different, the criticism of hedge funds tends to be the same. This article discusses the impact of hedge funds on financial crises first from a historical perspective and then in relation to the current crisis. The claim that hedge funds in general have a greater impact on financial crises than other investors is not, however, supported by the analysis here.

Many differences between hedge funds and mutual funds

“Hedge fund” is a collective term for different types of investment fund. Generally speaking, a hedge fund is a fund with absolute return targets for financially sophisticated investors. Although many hedge funds protect their investments against losses (so-called hedging) this does not apply to all the funds. Hedge funds in fact use many different investment strategies.

Hedge funds do, however, have a number of common characteristics that distinguish them from mutual funds. In general, hedge funds employ more flexible investment strategies. A more liberal regulatory framework² than for mutual funds enables more dynamic investment strategies with both long and short positions and the use of derivatives. Hedge funds can also choose to have a high level of leverage. Mutual funds have relative return targets where the results of the fund are compared with an index. Hedge funds have absolute return targets irrespective of the development of the market as a whole.

¹ E-mail: maria.stromqvist@riksbank.se. The views expressed here are those of the author and should not be regarded as the Riksbank's views on these issues. I am grateful for the comments made by the editors of the Economic Review, which have helped to improve the article.

² In Sweden, hedge funds are regulated by the Investment Funds Act (2004:46) and Finansinspektionen's regulations regarding investment funds (FFFS 2004:2). See Finansinspektionen (2007).

The fee structure in hedge funds also differs from that in mutual funds. In a mutual fund, the management fee is a few per cent of the managed capital. In hedge funds, it normally consists of a fixed fee of two per cent of the managed capital and then a variable fee of 20 per cent of any earnings over and above the return target. Some hedge funds also apply a “high water mark” which sets a limit for when the variable fee may be levied. A high water mark means that the variable fee is only charged if the value of the fund exceeds its highest previous value, irrespective of the earnings achieved in the period concerned.

With a high minimum limit for investments, hedge funds are primarily intended for institutional investors or financially strong individuals. A typical feature of hedge funds is also that investors can only withdraw their money from the fund on a monthly or quarterly basis, in contrast to mutual funds, which provide liquidity on a daily basis. This approach facilitates investments in less liquid assets.

The hedge fund market has grown dramatically

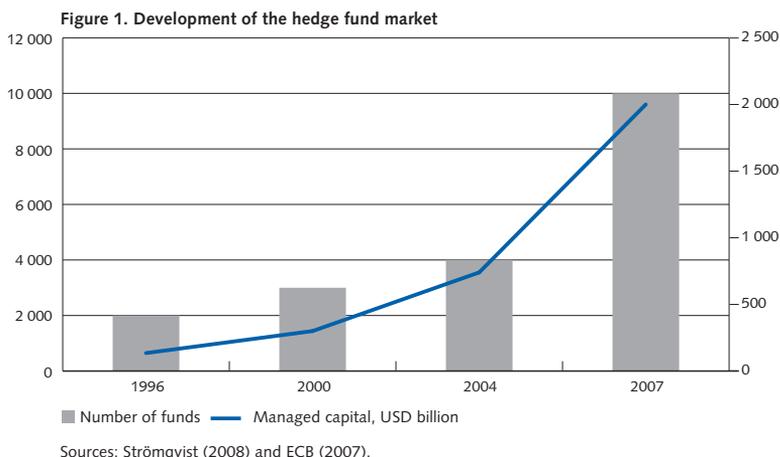
Over the last ten years, the hedge fund market has grown exponentially. In 1996, hedge funds managed approximately USD 135 billion dollars and there were around 2 000 funds. By the end of 2007, 10 000 hedge funds managed USD 2 000 billion (see Figure 1). This means that there has been a fifteenfold increase in the capital managed by hedge funds during the period, which can be compared to the sixfold increase for mutual funds in the same period. In addition to the fact that the hedge funds have grown in size, the range of strategies adopted has also changed during the period. Almost a third of the total capital invested in hedge funds in 1996 was to be found in global macro funds³ (Strömquist (2008)). The most common strategies today are share-based (e.g. long/short equity⁴) and arbitrage strategies that exploit identified cases of mispricing on the market. Global macro funds now account for only a few per cent of the market.

The Swedish hedge fund market is still developing. The first Swedish hedge fund started in 1996. The market has grown since then and at the end of 2007 there were approximately 70 hedge funds which managed almost 5 per cent of the total capital managed by funds in Sweden.⁵ Long/short equity funds predominate on the Swedish market.

³ Global macro funds are based on an analysis of changes in macroeconomic variables and invest in all types of assets and markets.

⁴ Long/short equity is a strategy in which the managers buy shares they believe will increase in value and sell shares they believe will fall in value.

⁵ www.fondbolagen.se



How can hedge funds affect financial markets?

The more liberal investment rules that govern hedge funds can have both positive and negative effects on financial markets. First and foremost, the more liberal investment rules mean that hedge funds can perform two functions on the financial markets.

The first is to play the role of arbitrageur. A common hedge fund strategy these days is for the manager to exploit mispricing. This may, for example, concern a derivative that is mispriced in relation to the underlying asset or a share that is mispriced in relation to the fundamental value of the company. Whether an asset is mispriced or not is usually evaluated using statistical and economic models. When investors buy undervalued assets and sell overvalued assets, prices are pushed back towards their more fundamental values. This helps to improve pricing, which makes the market more effective.

The second role is to help to improve liquidity in the financial system. Higher liquidity is generally believed to lead to more effective pricing. Hedge funds tend to be more active than other investors, which means that more assets are bought and sold. Hedge funds are more able than mutual funds to invest in less liquid markets and instruments. They are also often important participants in new markets. All of these properties provide increased liquidity.

But the flexibility that hedge funds have also entails risks. The most tangible risk is a high degree of leverage. Although this may make it possible for a fund to make large profits, it also increases the risk that a fund will collapse if it makes the wrong investments. The high degree of leverage entails risks for the counterparties of the hedge funds (for example the lenders) and the failure of a fund may therefore have contagion

effects in the financial system. The hedge funds' use of derivatives also entails certain risks. Derivatives make it possible to adopt large positions on the market for a small capital contribution, which gives the manager additional leverage. Derivatives can, however, be used for two purposes: for speculation or for risk protection. Hedge funds use derivatives for both these purposes. The use of borrowing and of derivatives can contribute to greater fluctuations in share prices as it leads to the adoption of larger positions. The more liberal investment rules for hedge funds can also be used to reinforce market movements for speculative purposes, so-called positive feedback trading.

The positive and negative effects of the more liberal investment rules of the hedge funds will be discussed below.

Previous financial crises

In the financial crises of the 1990s and 2000s, a discussion arose about the role of hedge funds. Even though the course of events in these crises differed widely, the criticism of hedge funds has tended to be the same. The criticism directed at hedge funds in connection with financial crises is that hedge funds or groups of hedge funds with a high degree of leverage could have a strong impact on prices by making speculative attacks on, for example, certain companies, sectors or currencies. This impact on prices can be strengthened when herd behaviour is generated among investors. Hedge funds are also accused of manipulating asset prices and of contributing to the build-up of financial bubbles. A financial bubble is a situation in which the price that players pay for financial assets, such as shares or properties, significantly exceeds the value that the asset has in terms of the income that it can realistically be expected to generate.

In this section, four different financial crises and the effects of hedge funds on these crises will be discussed in relation to the above criticism. The first crisis concerned European currencies and occurred at the start of the 1990s. The second crisis is the Asian crisis that began in the autumn of 1997. One year later we saw the collapse of the Long-Term Capital Management hedge fund, which was partly a result of the financial failure in Russia earlier that year. Finally, the IT bubble and its resolution in and around year 2000 is discussed. In the following section, the current crisis will then be analysed.

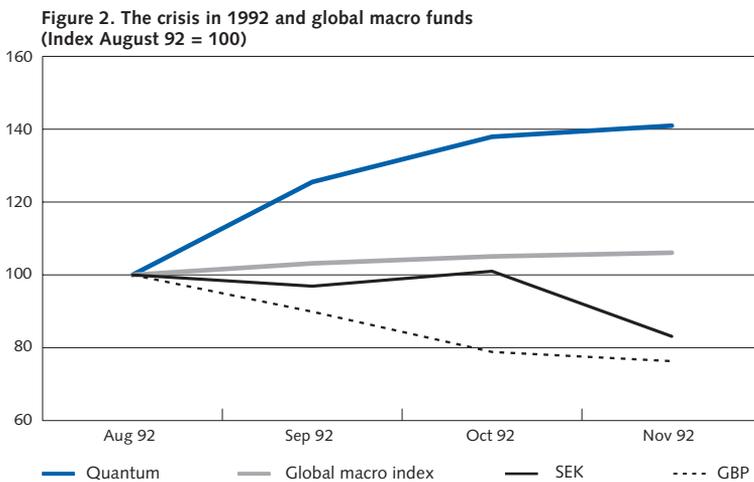
GEORGE SOROS AND THE EUROPEAN CURRENCIES

A clear example of when an individual hedge fund influenced prices relates to the well-known currency speculation by George Soros and his

Quantum Fund in the early 1990s. The Quantum Fund was a global macro fund and Soros speculated in this case against fixed European exchange rates. The reason that the exchange rates were challenged was that they did not correspond with the macroeconomic conditions in the countries concerned. In the autumn of 1992, the Quantum Fund sold large volumes of the British pound and the Swedish krona, among other currencies, against the US dollar forward rate (short positions). The attempts of the respective central banks to defend their fixed exchange rates became too costly and they were forced to abandon them. As a result, there was a rapid decline in the value of the currencies and the Quantum Fund was able to make billions. According to Fung and Hsieh (2000), the Quantum Fund made a profit of one billion pounds on its short positions in the British pound alone. Soros came under heavy criticism for his actions but responded that since the currencies were obviously incorrectly valued a price adjustment would in any case have been necessary sooner or later.⁶

Figure 2 shows the relative development of the two European currencies and hedge funds in the period August to November 1992. The two graphs at the bottom of the figure show the cumulative development of the British pound and the Swedish krona relative to the US dollar. The upper two graphs show the cumulative earnings for an index of hedge funds with a global macro strategy and for Soros' hedge fund Quantum.

The Bank of England was forced to abandon its defence of the pound on 16 September. In this month, the Quantum Fund had a return of 25 per cent. The fund's return continued to be positive over the follow-



Sources: Fung and Hsieh (2000) and Strömqvist (2008).

⁶ See Rouzbehani (2007).

ing months. The Riksbank took the decision to allow the krona to float on 19 November and as a result the krona lost 20 per cent against the dollar.

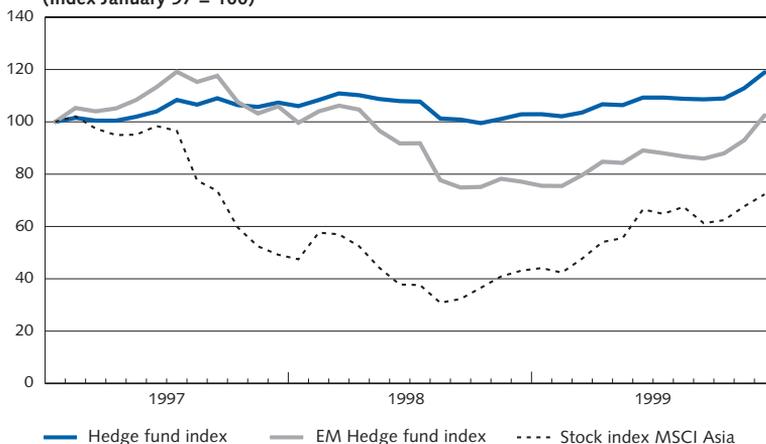
In this case, it is undoubtedly so that the speculative attacks of an individual hedge fund on the currencies significantly affected prices. On the other hand, the Quantum Fund can not be accused of having manipulated prices or of contributing to the development of the financial bubble. This bubble was the result of an erroneous economic policy and a price adjustment was therefore unavoidable. The criticism that can be made, however, is that this price adjustment occurred more rapidly and more dramatically due to the speculation of the Quantum Fund than, in all likelihood, would otherwise have been the case. A more well-ordered price adjustment could have been conducted at a lower economic cost but, on the other hand, may have delayed the necessary structural transformation enforced by the crisis. The fact that the macro fund index in Figure 2 is fairly stable during the period indicates that the currency speculations were relatively limited to the Quantum Fund and possibly a few other funds. In other words, there is little evidence of herd behaviour among the hedge funds.

THE ASIAN CRISIS

Issues relating to hedge fund speculation against fixed exchange rates became current again in connection with the crisis in Asia. In the mid-1990s, a number of countries in South-East Asia, for example Thailand, had large deficits in their current accounts. Their fixed exchange rates against the US dollar contributed to domestic borrowing in foreign currencies and this in turn led to exposure to currency risk. The development of a financial bubble was also driven by an inflow of international capital. When this inflow reversed and became an outflow, the fixed exchange rates became untenable. In July 1997, Thailand devalued its currency and was soon followed by Malaysia and South Korea. The bursting of the financial bubble led to major adjustments in asset prices, such as share prices. It was discussed whether hedge funds held extensive short positions in the Asian currencies and had thus pressured the countries to devalue so that they would then be able to make large profits from the weakening of the currencies and the falling share prices. The issue was taken so seriously that it was investigated by the IMF (Eichengreen et al. (1998)), which interviewed a number of market operators.

Figure 3 shows the cumulative return on the Asian stock market, an index for hedge funds that focus on emerging markets, and a general hedge fund index. If hedge funds had collectively speculated against the economies of the Asian countries we should see a high positive return for

Figure 3. Cumulative return during the Asian crisis 1997–1999
(Index January 97 = 100)



Sources: MSCI Barra and Strömqvist (2008).

hedge funds during the period. However, this is not the case. The general hedge fund index shows a weak positive return during the period.

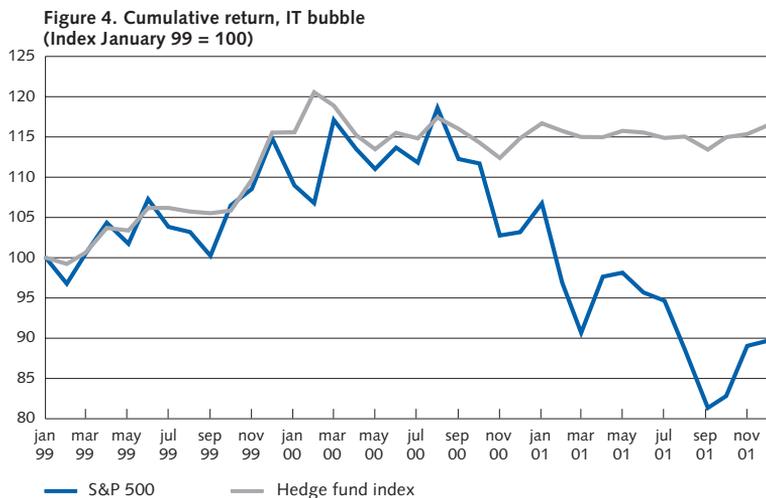
A more interesting point is that hedge funds that focus on emerging markets lost 20 per cent of their value up to the middle of 1998. The Asian crisis thus had a negative impact on these hedge funds (although they still had a higher return than the share index). I have shown (Strömqvist (2008)) that hedge funds that invest in emerging markets mainly use long positions in shares. Their return is thus positively correlated to the stock market. An article by Bris, Goetzmann and Zhu (2007) points out that the possibility to take short positions in emerging markets is limited. This reduces the opportunities of the hedge funds to exploit a negative market trend to generate increased profits.

As in the case of the crisis in 1992, this financial bubble was the result of fundamental and structural imbalances in the financial system. Hedge funds therefore played no prominent role in the development of the bubble. The factor that distinguishes the Asian crisis from the crisis of 1992 is that in the Asian crisis it was not possible to identify individual investors or groups of investors who contributed more to the development of the crisis than others. What happened instead was that international investors in general panicked and quickly withdrew the capital they had invested in the region (Lindgren et al. (1999)). Eichengreen et al. (1998) found no evidence that hedge funds in particular had helped to undermine the economies of the Asian countries through speculation, herd behaviour or positive feedback trading. Nor could Fung and Hsieh (2000), by means of regression analysis, find a generally applicable negative correlation between hedge fund returns and changes in the value of the Asian currencies.

THE IT BUBBLE

In 1999, the value of IT-related shares increased dramatically, which resulted in record market values in relation to the companies' reported values or profits. These values proved to be untenable and in March 2000 the trend reversed and the prices of IT-related shares fell heavily. If hedge funds had played the role of arbitragers, they should have counteracted the exaggerated price increases by taking short positions in IT shares. However, in a study of hedge fund holdings in American IT shares, Brunnermeier and Nagel (2004) found that the opposite was in fact the case. According to the results of this study, hedge funds held extensive long positions in IT shares during the bubble and then reduced these holdings before the crash occurred. This conclusion is confirmed in Figure 4 which shows the cumulative return for hedge funds in relation to the US stock market. The index for hedge funds increases at approximately the same rate as the share index in 1999 and the early part of 2000. Subsequently, the two graphs separate; the share index falls dramatically, while the hedge fund index remains relatively unchanged throughout the rest of 2000. Brunnermeier's and Nagel's (2004) explanation was that the hedge funds were aware that there was a bubble and the optimal strategy was to ride the wave rather than to correct prices.

So, what criticism can be levelled at the hedge funds in the case of this crisis? It is possible that by buying IT-related shares, the hedge funds helped to drive up prices and thus increase the financial bubble. We may also ask whether they started the dramatic fall in prices by selling their IT shares. The stock market is, however, a relatively liquid market and large volumes must be traded in order to affect the general trend. The hedge



Sources: Ecowin and Strömqvist (2008).

funds' impact on the bubble should therefore correspond to their influence on the financial market at the time. If we assume that the hedge funds realised that there was a bubble, the fact that they chose to ride the wave indicates that they believed they did not have sufficient influence on the financial markets to be able to burst the bubble themselves. Brunnermeier and Nagel (2004) found that although the hedge funds reduced their holdings in IT shares before the crash, they did not sell their entire holdings. It is reasonable to assume that they did not at the same time adopt short positions in these shares in order to drive prices downwards.

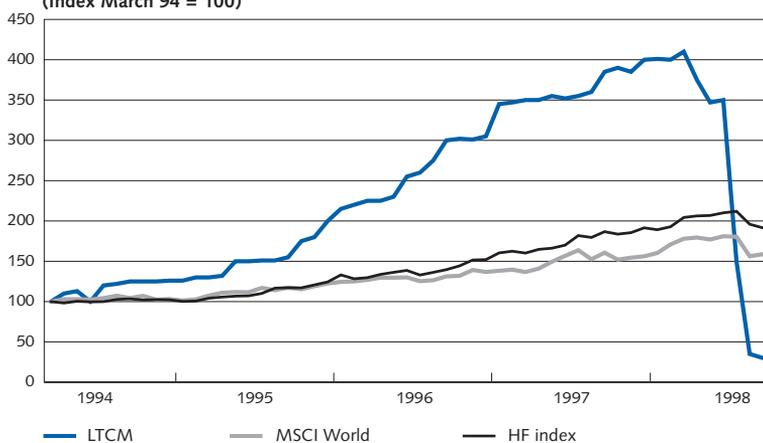
LTCM

The three crises presented above represent episodes in which hedge funds, for various reasons, succeeded in getting a better return than the market as a whole. This section discusses the leverage of the hedge funds and the effects on financial stability when the strategies fail by looking at the example of Long-Term Capital Management.

The well-known hedge fund Long-Term Capital Management collapsed in August 1998. According to Edwards (1999), the fund had at that time equity of approximately USD 5 billion but had borrowed up to USD 125 billion, which entails an extremely high degree of leverage of 25 times equity. The fund's strategy was to exploit mispricing, particularly on the bond market. For example, the fund had invested large sums in the assumption that the interest rates of bonds issued at different times but with the same maturity would converge. Following the financial collapse in Russia, the market situation suddenly changed and the interest rates diverged instead. The fund suffered major losses and, given its high leverage and its positions in derivatives, the Federal Reserve was of the opinion that a collapse could have a negative impact on the entire financial system. Together with a number of investment banks, the Federal Reserve therefore arranged a rescue involving the take over of positions in the fund.

The LTCM episode demonstrates partly that there are risks associated with funds with a high degree of leverage, and partly that hedge funds can be regarded as being systemically important. It is namely not only the fund's investors and their counterparties that are affected if the fund goes bankrupt. When the assets have to be sold off, the values of assets of the same type also fall, which in turn may force other leveraged investors to sell off assets if the value of their collateral falls below the borrowed sum. This creates a vicious circle that affects financial stability. Good risk management is therefore important, not only for the hedge funds themselves, but also for the counterparties that make the high leverage possible. The

Figure 5. Cumulative return for Long-Term Capital Management (Index March 94 = 100)



Sources: Lowenstein (2000), MSCI Barra and Credit-Suisse Tremont.

LTCM case also illustrates that the risks are particularly great in market situations with a high degree of uncertainty and a high level of risk aversion.

According to Edwards (1999), however, it is, unusual for hedge funds to have a degree of leverage of more than 10 times their equity. In their study, Eichengreen and Park (2002) found that 74 per cent of the hedge funds had a degree of leverage less than two times their equity in 1998. The corresponding figure one year later was 89 per cent. The US President's Working Group on Financial Markets (1999) discussed the risks associated with a high degree of leverage. The Group found that other institutional investors had the same degree of leverage as the hedge funds in 1998 but that they also managed much greater assets.

How does the present financial crisis differ from previous crises?

The discussion concerning hedge funds and financial crises has arisen once again in connection with the current turmoil. One example is from the beginning of 2007 when Bear Sterns' hedge funds collapsed. These funds had highly leveraged portfolios with credit instruments related to the US market for housing bonds (subprime). Another example is when Iceland accused hedge funds of speculating against the Icelandic currency and, consequently, the Icelandic economy (Affärsvärlden, 31 March 2008). In Sweden, there were also claims that London-based hedge funds were spreading malicious rumours about Swedbank with the aim of getting the share price to fall as these hedge funds had been shortselling (selling borrowed shares) the share (Dagens Nyheter, 19 September 2008 and Dagens Industri, 26 September 2008). In September 2008, shortsell-

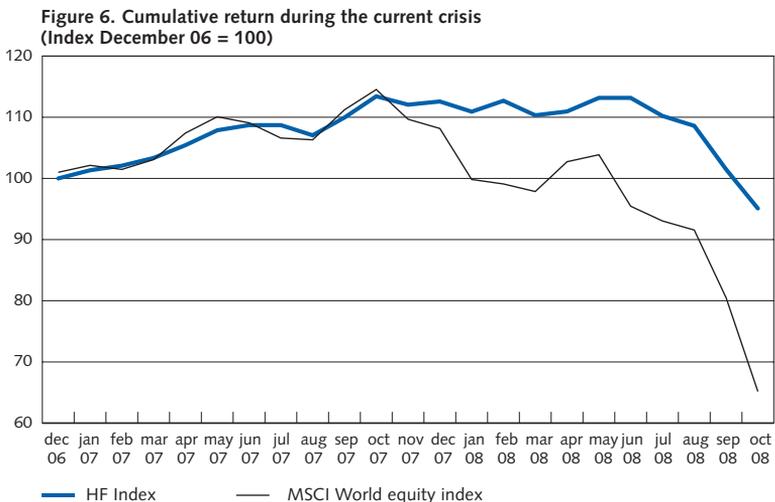
ing was prohibited on many markets as it was believed that the practice had been used to accelerate falls in share prices, especially in financial companies.

The question is: What has the role of the hedge funds been in the current crisis? A general answer is that the crisis has affected them more than they have affected the crisis. The main argument for this is that the hedge funds have experienced more problems in handling this crisis than previous crises.

BROAD DECLINE FOR HEDGE FUNDS

Figure 6 shows the cumulative returns on the hedge fund market and stock market during the present crisis. Hedge funds had a stable and thus better development than shares between October 2007 and June 2008. Thereafter, both the hedge fund index and the share index declined, although the fall was greater for the share index.

Unlike the situation in the Asian crisis, when it was mainly funds with a focus on emerging markets that were affected, the negative development of the hedge funds in this crisis can not be related to a particular strategy. According to Barclay's database on hedge funds, as many as 89 per cent of the hedge funds in the database had a negative return in September 2008. Figure 7 shows the market return over a period of six months, May to October 2008, for six different strategies. In May 2008, all of the strategies had a positive return. Thereafter a negative trend began, which subsequently accelerated in September and October. The

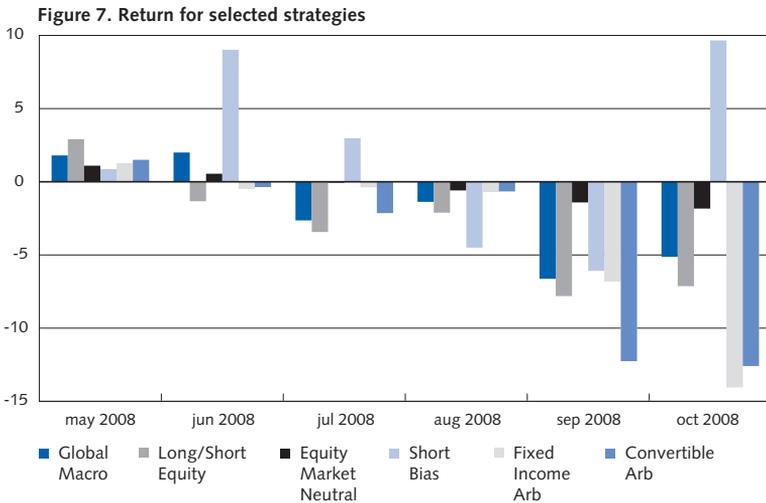


Sources: Credit Suisse Tremont and MSCI Barra.

strategies that performed best were the equity market neutral strategy⁷ and the short bias strategy.⁸ The strategies that performed worst during the period were the convertible arbitrage and fixed income arbitrage strategies.⁹ The poor return of the long/short equity strategy indicates that the funds employing this strategy have had a predominance of long positions in the falling stock market. A number of factors that distinguish the current crisis from previous crises and that have contributed to the poorer return for hedge funds are discussed in the sections below.

CHANGES IN REGULATIONS

A unique feature of the current crisis is the decision taken in the autumn of 2008, which suddenly changed the regulations governing the market. The decision to ban shortselling (primarily the shortselling of shares in financial companies) affected different strategies to different degrees. There was a major negative impact on some strategies, mainly those in which shortselling is a natural element or in which there is a high degree of exposure to the financial sector. The ban affected hedge funds more than mutual funds because hedge funds use shortselling to a greater extent. A ban on shortselling in a falling market makes it more difficult to use strategies that reinforce negative market movements. This was also



Sources: Credit Suisse Tremont.

⁷ An equity market neutral strategy aims to avoid market risks by adopting long and short positions. The fund's total position then becomes neutral in the sense that the general market movements do not tangibly affect the fund's result. The removal of the systemic risk does not mean that the fund is entirely risk-free. The non-systemic risk remains.

⁸ This strategy is defined in the next section.

⁹ These strategies exploit the mispricing of convertible debt instruments and interest rate instruments respectively.

the aim of the ban. However, the ban on shortselling also made it more difficult to protect long positions through short positions and to use certain arbitrage strategies.

Short bias is a strategy that provides increasing returns in the case of falling asset prices and the effect of the ban on shortselling can be clearly seen in Figure 7. The short bias strategy worked well during the summer of 2008, but not in September, when the ban on shortselling was introduced. The strategy then provided a high positive return in October. The strategy is not particularly opportunistic, however, as it means that the fund always has a predominance of short positions in its portfolio, irrespective of market conditions.

An example of a market neutral arbitrage strategy that includes shortselling is convertible arbitrage. In this strategy, a long position is usually taken in the convertible debt instrument and a short position in the share concerned. The profits arise from the mispricing of the convertible debt instrument in relation to the share; for example it may be undervalued due to poor liquidity. As convertible arbitrage is a market neutral strategy, i.e. the return should not be dependent on market movements, it has nothing to gain from strong negative market movements and does not therefore normally use shortselling for this purpose.

BROAD DECLINE IN ASSET VALUES

Previous crises have been limited to particular markets or asset types. In the current crisis, many different asset types have been affected at the same time, and globally. Normally, hedge funds receive premiums for assuming credit risk, duration risk and liquidity risk. These risk premiums usually constitute a large part of the hedge funds' profits. In the latest crisis, however, a higher degree of risk taking has not led to higher profits, on the contrary. The fact that the downturn has affected many different asset types and markets at the same time has also wiped out all of the profits previously gained from these premiums. The increased risk premiums have simply not compensated for the losses made.

In the period 2001 to 2003, many hedge funds generated large profits by diversifying their portfolios to include property or commodities. As investors have become more unwilling to take risks during the crisis, they reduced borrowing in their portfolios by selling assets. This has driven the prices of almost all asset types downwards, including commodities and property, which has weakened the positive effects of diversification.

The hedge funds were better able to predict the downturn that occurred in connection with the IT bubble than the current downturn because the valuations of the companies during the IT bubble were at

historically high levels. It was therefore not difficult to see that a price adjustment would take place. This was not the case in the current crisis and many funds were therefore taken by surprise by the dramatic fall in share prices.

There has been extreme volatility in both share and commodity prices in the current crisis. This has made it more difficult to forecast future movements in asset values. For example, many hedge funds that had invested in a negative stock market trend and high commodity prices experienced problems in July 2008 when the trend suddenly reversed with a considerable increase in share prices and a considerable fall in commodity prices (ECB (2008)).

A final difference between the current crisis and previous crises is that the current turmoil originated in a bank crisis. The banks' problems have had a direct impact on the hedge funds in the form of more restrictive lending, higher borrowing costs and assets tied up in connection with bankruptcies (e.g. Lehman Brothers). The funds have been forced to sell off assets in a falling market and this has had a negative effect on their returns.

Do hedge funds today constitute a greater threat to financial stability than other investors?

This section discusses the relationship between hedge funds and other types of investor. The possibility for an investor to influence the financial markets is greater the greater the proportion of total capital this investor manages. The question is, how large a proportion of total risk capital is currently invested in hedge funds, given that these have grown dramatically in numbers and size over the last 10 years? Another interesting question is whether hedge funds are the only type of investment fund on today's financial markets that can pose a threat to financial stability?

DISTRIBUTION OF MANAGED CAPITAL

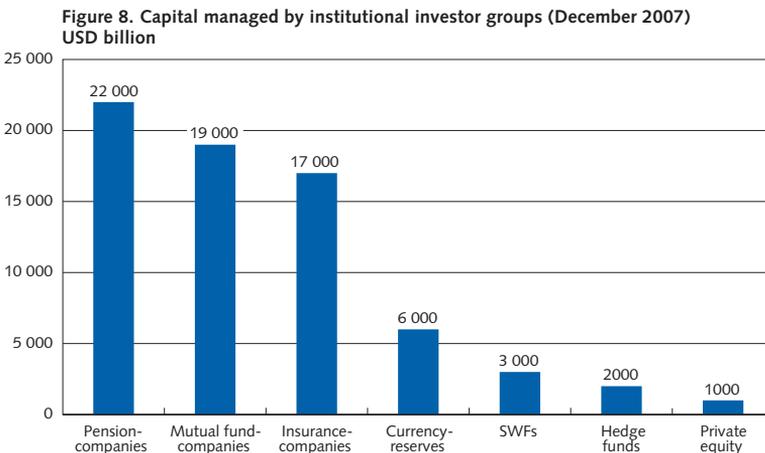
Figure 8 shows the capital managed by institutional investor groups in December 2007. Despite the dramatic growth of the hedge fund market, hedge funds still account for only a small part of total managed capital. Both pension companies and fund companies manage approximately ten times as much capital as hedge funds. This counters the argument that hedge funds as a group could influence entire markets. In the case of major market movements it is therefore probable that several types of institutional investor follow the same trends.

How great is the influence of individual hedge funds? Figure 8 shows the total quantity of managed capital, but says nothing about how the capital is distributed between the funds. That question is instead answered by Figure 9. According to the journal Alpha Magazine, the largest hedge fund in the world is JP Morgan Asset Management, which had a managed capital of USD 45 billion at the end of 2007. This is only a few per cent of the capital managed by the world's largest fund companies and pension companies. It is therefore reasonable to assume that the influence of individual hedge funds on entire markets is limited.

SOVEREIGN WEALTH FUNDS

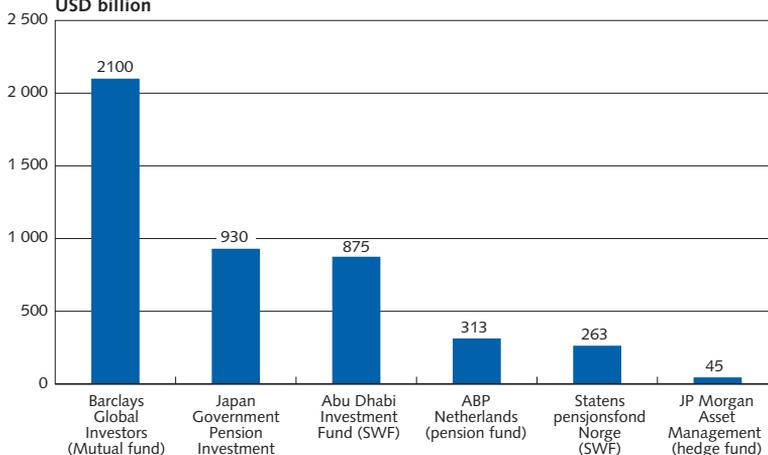
It is interesting to note the amount of capital now managed by Sovereign Wealth Funds (government investment funds). At the end of 2007, their total managed capital was approximately USD 3 000 billion dollars, 50 per cent more than the hedge funds. It is worth considering a comparison between the Sovereign Wealth Funds (SWFs) and the hedge funds. Both these types of investment fund are fairly unregulated and do not need to publish information about their holdings and transactions. They can both contribute liquidity to financial markets and increase the efficiency of these markets. Even though the SWFs often have a long-term investment horizon there are examples of speculative transactions on the part of such funds. On one occasion, the Norwegian SWF shortsold bonds issued by Icelandic banks, a move that was severely criticised by the Prime Minister of Iceland (The Economist, 17 January 2008).

There are, however, significant differences between hedge funds and SWFs. In the first place, the market for SWFs is highly concentrated



Sources: The Economist (17 January 2008).

Figure 9. The largest players in terms of managed capital (December 2007)
USD billion



Sources: Pionline.com, Alpha Magazine's Hedge Fund 100 Rankings 2007 och The Economist (17 January 2008).

in that it consists of a handful of very large funds. The largest individual SWF, the Abu Dhabi Investment Fund, manages almost a third of the total managed capital (USD 900 billion). This is followed by the Norwegian SWF, which has almost USD 400 billion. The hedge funds' total managed capital of around USD 2 000 billion is distributed among 10 000 funds.¹⁰ The SWFs should therefore be more able to influence the market than the hedge funds. In the second place, there is a clear risk that the investments of SWFs will be governed by political decisions and not by the expected return relative to risk, which is not the case with the hedge funds. Such investments may have a detrimental effect on the effectiveness of the financial markets.

No support for the claim that hedge funds affect financial crises more than other investors

Although hedge funds have undoubtedly influenced the financial markets in certain crises, the analysis in this article shows that this is not something that happens as a rule. The behaviour of the hedge funds, like that of other investors, has differed widely in the previous crises.

The criticism of the hedge funds often stems from the fact that in crises they have invested money in the price adjustment of incorrectly valued assets. Under normal conditions, this has a positive impact on the effectiveness of the market. In financial crises, on the other hand, it is regarded as a factor that will make the market more unstable. It is,

¹⁰ According to Strömquist (2008), the average hedge fund managed USD 100 million.

however, unreasonable to expect that investors who normally employ arbitrage strategies should refrain from doing so during financial crises and that mispricing should be allowed to prevail. From the policy point of view, it is thus difficult to assess when these strategies are desirable and when they are not.

Another common criticism is that hedge funds manipulate asset prices and contribute to the development of financial bubbles. However, the only crisis discussed in this article where hedge funds can be suspected of contributing to the development of the bubble is the IT crisis. In two of the other crises, the funds exploited untenable situations caused by erroneous economic policies. Generally speaking, the use of arbitrage strategies actually counteracts the development of financial bubbles. However, given their profit-maximising targets, hedge funds do not accept any responsibility for preventing the creation of bubbles. One may, however, discuss whether the hedge funds' speculative attacks against bubbles can accelerate and deepen the process when the bubbles burst.

The arguments for the claim that hedge funds do not have a greater impact on financial markets than other investors have already been presented by Eichengreen et al. (1998) and are still valid today. Hedge funds alone are not large enough to be able to influence prices on liquid markets, as their capital is small in relation to that of other investors, such as banks and insurance companies. It is therefore more probable that large market movements are due to several types of institutional investor following the same trends. The fact that the hedge funds rode the wave in the IT bubble can be seen as a sign that they did not regard themselves as being large enough to influence the direction of the market on the liquid stock market.

There is no clear evidence that hedge funds generate herd behaviour. It can rather be argued that hedge funds are less prone to generate herd behaviour than other investors because they want to keep their strategies secret (see Eichengreen et al. (1998)). The IT bubble exemplifies the fact that hedge funds may be those that follow other investors, rather than the other way around. Neither Fung and Hsieh (2000) nor Eichengreen et al. (1998) were able to find proof that hedge funds reinforce market movements, or that they are more interested in manipulating a market than other investors.

It is often claimed that the hedge funds' lack of transparency constitutes a risk. It is therefore interesting in this context to compare hedge funds to the SWFs that have emerged. The SWFs manage more capital than the hedge funds and the market is highly concentrated, i.e. there are only a few, large SWF's. SWFs are not obliged to report their holdings or transactions and there is also a risk that their investments will be governed

by political decisions. There is therefore no reason to believe that hedge funds are able to exert greater influence on financial markets or to generate more instability than SWFs.

The strongest argument for the claim that hedge funds have not driven the current financial crisis is that they have been negatively affected on a broad front. In contrast to previous crises, the downturn has affected most asset types and markets, which has reduced the effect of diversification. In addition, the shortselling of shares was prohibited on many markets in September 2008 with the aim of preventing an acceleration of the fall in share prices. The cost of this ban was, however, that strategies that normally employ shortselling, irrespective of market conditions, were affected. This was unfortunate because, in the long run, restricting the possibility to conduct arbitrage reduces the effectiveness of the financial markets. The fact that hedge funds have been hit by the latest crisis does not, however, rule out that they have played a role in the development of the crisis together with banks and other institutional investors. Bear Sterns' funds were two of the funds that provided liquidity for the complex new credit instruments which then shook the market when they collapsed.

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