

# Hedge funds and prime broker dealers: steps towards a “best practice proposal”

---

**PHILIPP M. HILDEBRAND**  
*Vice-Chairman Elect\**

*Governing Board, Swiss National Bank*

*The rapidly growing hedge fund industry has brought substantial benefits to financial markets. At the same time, hedge funds can in some circumstances give rise to a number of potential risks. Not unlike in the period following the Asian crisis and the collapse of Long-Term Capital Management, governments, regulators, and central banks have been called upon to assess whether additional regulatory initiatives are required to mitigate these risks.*

*There are three potential regulatory objectives that can be invoked. They are investor protection, market integrity protection and financial system protection. The link between hedge funds and the stability of the financial system relates to the possibility that large losses in one or several hedge funds get transmitted to one or several large internationally active banks.*

*This paper discusses the benefits and the risks of hedge funds. It outlines the steps towards a best practice proposal aimed at strengthening the credit relationship between prime broker dealers and hedge funds. The objective of such an internationally endorsed standard would be to minimize the risks of the credit links between prime broker dealers and hedge funds being unwound in a disorderly fashion in times of extended market stress. The basic elements of the proposal are:*

- Prime broker dealers should ensure that they have a complete risk metric of each of the largest hedge funds they are exposed to.*
- Prime broker dealers should ensure that they invest sufficient resources in collateral risk management systems to complement their market risk management systems.*
- Prime broker dealers should permanently monitor variation margins, traditional initial margins and portfolio risk based or VaR-based initial margins. In addition, they should conduct rigorous periodical stress-testing.*
- On the basis of a wide range of stress test scenarios which are routinely updated, global margin call simulations across all exposures should be conducted between the prime broker dealers and the largest hedge funds on a regular basis.*
- Prime broker dealers and their most important hedge fund clients should take advantage of benign market conditions to work out clear terms to determine margin call procedures for different simulated scenarios assuming extended adverse market conditions.*
- The underlying liquidity profile of hedge funds should be an important element in conducting stress tests and margin call simulations as well as in determining margin call procedures under adverse market conditions.*

NB: The author thanks Daniel Heller, Head of Financial Stability and Oversight of the Swiss National Bank, for his contribution to this article.

\* In effect as of May 1, 2007.

Despite extraordinary growth in the last ten years, the hedge fund industry remains small in comparison to the global markets for equity and debt securities. The industry's rapid expansion and a number of prominent cases of shareholder activism partly related to hedge funds have triggered public policy discussions in a number of countries. Not unlike the period following the Asian crisis and the collapse of Long-Term Capital Management, governments, regulators and central banks have been called upon to assess whether additional regulatory initiatives are required to address a number of potential risks associated with hedge funds. The question of hedge fund regulation is currently on the agenda of the G7.

Notwithstanding renewed public scrutiny, it is widely accepted that hedge funds and other private investment vehicles have been a source of innovation in the global asset management industry and have brought substantial benefits to financial markets. The fact that hedge funds are only lightly regulated has likely enhanced their ability to devise innovative and unconstrained ways to seek profits from their investment strategies. When assessing the need for additional regulatory measures, public authorities must therefore carefully consider the trade-off between the need for regulation to mitigate risks and the risk that unnecessary regulation will stifle innovation.

This paper outlines the steps towards a "best practice proposal" aimed at strengthening the credit relationship between prime broker dealers and hedge funds. The specific objective of such a standard would be to minimize the risks of the credit links between prime brokers and hedge funds being unwound in a disorderly fashion in times of extended market stress. This "best practice proposal" is therefore anchored in the prudential regulatory domain and is aimed at promoting financial stability.

In the first section, the paper seeks to identify a number of key characteristics of hedge funds and discusses the recent growth and performance of the industry. The second section addresses the benefits that hedge funds bring to financial markets. The third section briefly considers three objectives for potential additional regulation of hedge funds. Focusing on the financial system protection objective, the fourth section outlines the channels through which hedge

funds can undermine financial stability. The final section outlines a potential "best practice proposal" to mitigate the risks of a disorderly unwinding of credit relationships between prime broker dealers and hedge funds under extended stressful markets conditions.

## 1 | THE HEDGE FUND INDUSTRY

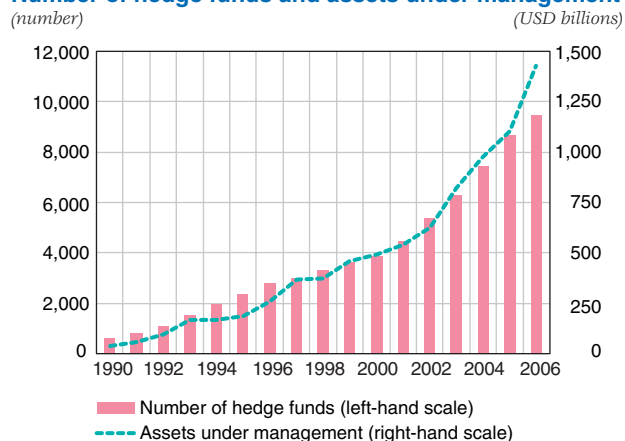
The definition of hedge funds has remained surprisingly elusive. As the industry stands today, the word "hedge" has little definitional value.<sup>1</sup> Nonetheless, a number of common characteristics can be and have been identified.<sup>2</sup> Hedge funds are best understood as potentially leveraged private investment vehicles deploying a wide range of largely unconstrained investment strategies with the aim of achieving superior absolute rates of return (alpha). To achieve this aim, hedge funds make extensive use of derivative instruments and seek investment opportunities in traditional as well as non-traditional market segments such as commodities, films or stock exchanges.

The investment managers of hedge funds typically invest a share of their personal wealth –often in the form of deferred compensation– in their own hedge fund vehicles, which helps to align their incentives with the interests of the external investors. Most hedge funds have substantial minimum investment requirements. Typical investors in hedge funds are wealthy individuals and, increasingly, endowments, family offices and more traditional institutional investors. Most hedge funds have a dual fee structure. The investor pays a management fee of 1% to 5%. In addition, hedge funds usually charge incentive fees on any capital gains, in some cases above a pre-defined threshold such as the Treasury bill rate. Industry wide, the performance fees typically vary between 20% and 30%, but in exceptional cases can be as high as 50%. Alternatively, some fund managers charge all expenses of the management company to the fund. An increasing number of managers impose investment lock-in periods of one to three years on their clients. During these lock-in periods principal, and in many cases profits, cannot be withdrawn. From the investors' point of view, liquidity is further constrained by the fact that redemption orders can take three to six months to be executed.

<sup>1</sup> Alfred Winslow Jones is credited for the creation of the first hedge fund in 1949. His strategy consisted in combining long positions in undervalued stocks and short positions in overvalued stocks, in an attempt to minimize the influence of the overall stock market moves. To magnify his portfolio's return, Jones added leverage (See L'Habitant, 2002)

<sup>2</sup> See Hildebrand (2005b), McCarthy (2006) and Crockett (2007).

**Chart 1**  
Number of hedge funds and assets under management



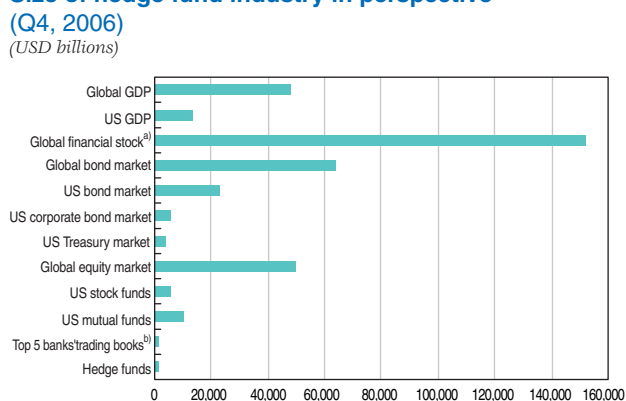
Source: HFR Industry Report

The hedge fund industry can look back at several years of impressive growth. The numbers are by now well known. In 1990, about 500 hedge funds managed assets of some USD 40 billion. As Chart 1 illustrates, in 2006, there were approximately 9,500 hedge funds with about USD 1,400 billion worth of assets under management. The significant pool of capital managed by proprietary trading desks of global investment banks is normally not included in these and similar statistics. Though typically not formally structured around hedge fund vehicles, the trading of these assets closely mirrors the investment activities of hedge funds. Moreover, the compensation schemes for investment banks' proprietary desks increasingly resemble those used by hedge funds.

While the growth trajectory of the hedge fund industry is impressive, the size of the industry remains small compared to the global markets for equities or debt securities. Chart 2 illustrates this by comparing the size of the hedge fund industry to the total global financial stock in 2005 as well as its various subcomponents. For example, the hedge fund industry is much smaller than the mutual fund industry. It is also smaller than the size of the sum of the five largest trading books of large internationally active banks.

Chart 3 shows the development of the hedge fund industry since 2001, compared to the development of the outstanding amount of debt securities and outstanding credit default swaps (CDS). The growth in these markets has been much more substantial than the growth of the hedge fund industry. Even if one applies

**Chart 2**  
Size of hedge fund industry in perspective



a) Bonds, Equities and Bank Assets (2005).

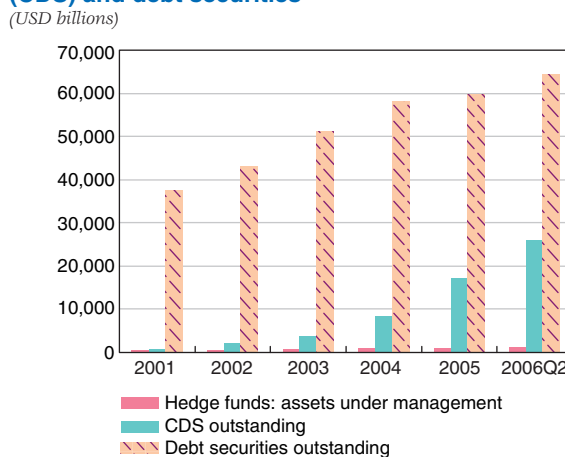
b) UBS, Credit Suisse, Deutsche Bank, Barclay, BNP (Annual Reports 2005).

Sources: BIS, HFR, ICI, IMF, SIFMA, WFE

a relatively aggressive average leverage ratio of 5 to the entire hedge fund industry, its total size remains small compared to the more than USD 60,000 billion debt securities outstanding and the USD 25,000 billion in credit default swaps outstanding.

Two additional points are worth noting when examining the recent growth of the hedge fund industry. The distribution of hedge funds by size is heavily skewed towards small funds. According to recent data of the UK Financial Services Authority (FSA), there are close to 450 European hedge fund managers that manage less than USD 50 million while there are only a handful of European managers with assets in excess of USD 5 billion.<sup>3</sup> Three trends are discernable

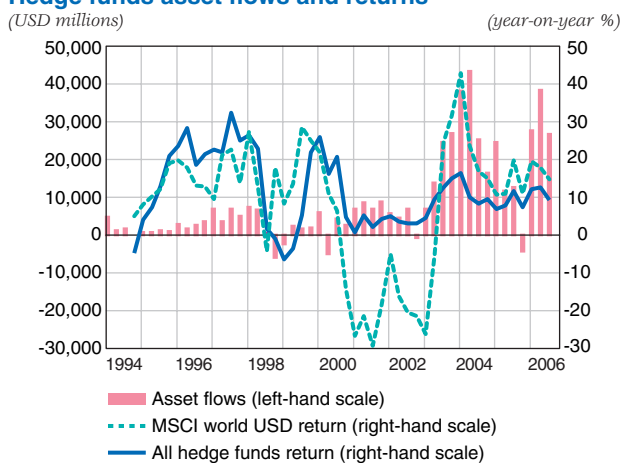
**Chart 3**  
Development of hedge funds, credit default swaps (CDS) and debt securities



Sources: BIS, HFR, ISDA

3 See McCarthy (2006).

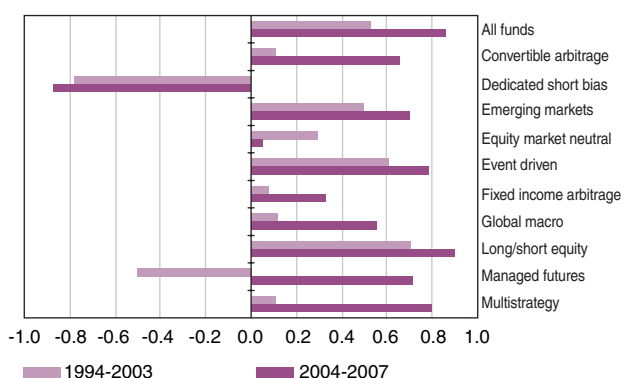
**Chart 4**  
Hedge funds asset flows and returns



Source: CSFB Tremont

when analyzing recent hedge fund performance figures. First, as chart 4 illustrates, the historically high relative rates of return, particularly during the global equity bear market from 2001 to 2003, have apparently contributed to the strong inflows of the last four years. Second, a more recent decline in relative performance appears to be associated with the rapid acceleration of inflows, leading to an apparent reduction in profit opportunities.<sup>4</sup> Third, as chart 5 shows, the correlations between investment returns and the MSCI world returns have increased substantially across virtually all hedge fund strategies in recent years compared to the period from 1994 to 2003.<sup>5</sup> This would suggest that, regardless of the hedge fund strategies pursued, an important share of the recent investment returns have been generated

**Chart 5**  
Correlations between investment style returns and MSCI world returns



Source: CSFB Tremont

<sup>4</sup> See Hildebrand (2005b, pp. 45).

<sup>5</sup> This paper does not discuss the different investment strategies prevalent in the hedge fund industry. For a detailed discussion, see some of the other contributions to this volume as well as Hildebrand (2005b).

<sup>6</sup> According to the last Fitch: "Global credit derivatives survey", (September 2006), the 10 top banking counterparties represent about 85% of the total amount of sold and bought outstanding positions. With regard to trading volumes, the survey indicates that hedge funds represent at least 20 to 30% of the total volume.

through direct or indirect exposure to the equity markets.

## 2 | THE BENEFITS OF HEDGE FUNDS

Global financial markets have benefited from the growth of the hedge fund industry. Unconstrained by the structures of traditional investment guidelines and supported by rapidly evolving financial and technological developments, hedge funds have been and continue to be an important source of financial market innovation. Through their flexible investment approaches in financial markets and their extensive use of innovative financial instruments, they have contributed to improved price discovery in financial markets. A more efficient price discovery mechanism renders financial markets more efficient in allocating capital. This is particularly welcome in market segments that are dominated by a few large commercial and investment banks such as the credit derivative market.<sup>6</sup> Risk can be intermediated to a much greater extent than before. Every imaginable kind of risk is now routinely deconstructed, reassembled and then transferred to those who are willing to bear these risks at the lowest cost. Ultimately, this means greater diversification opportunities for investors. Hedge funds and other private investment vehicles have also played a positive role in fostering the process of rendering previously illiquid assets liquid and thus tradable.

The hedge fund industry also serves as a catalyst for change and innovation in the traditional asset management industry. The traditional asset management business remains constrained by investment guidelines and typically does not employ leverage. Nonetheless, traditional asset managers have clearly become much more innovative in recent years. The competitive pressure emanating from the hedge fund industry has promoted this process. Complex and innovative financial instruments are now routinely used by traditional asset managers to respond as flexibly and as efficiently as possible to changing market conditions. Hedge funds, together with the financial and technological innovation

they have fostered, have been important forces in reshaping the traditional asset management industry. In the process, they have helped render markets more liquid, more efficient, and more flexible thus making them more resilient to shocks.

### 3| POTENTIAL REGULATORY OBJECTIVES

Notwithstanding these important benefits, hedge funds can in some circumstances be a destabilizing force and give rise to a number of risks. These risks are often cited when calls are made for additional regulation. In principle, there are three potential regulatory objectives that can be invoked when reflecting on the need for additional regulation of hedge funds. They are investor protection, market integrity protection and financial system protection.<sup>7</sup>

Investor protection is, for the most part, not a crucial issue with regard to hedge funds. The bulk of the investments in individual hedge funds stem from wealthy individuals or professional asset managers who require no investor protection. Nonetheless, consumer protection issues are likely to become more pertinent as retail investors become an important investor class through funds of funds vehicles, as public pension funds begin to invest in the hedge fund industry and as individual hedge funds begin to open up to retail investors.<sup>8</sup> A number of different regulatory approaches to these problems are likely to emerge. The pragmatic approach endorsed by the 2007 report of the President's Working Group on Financial Markets is to restrict investments in individual hedge funds to wealthy individuals or professional wealth managers. An alternative would be to require hedge funds to spell out in a detailed and understandable way the risks associated with investments in individual hedge funds. Finally, on the funds of funds side, regulators could and, in some cases, already do require minimal diversification standards for funds of funds that market themselves

to certain investor classes such as retail investors or public pension funds.

The market integrity objective has recently received increased attention, not least due to the report and the recommendations published by the Counterparty Risk Management Policy Group II (CRMPG II) in the summer of 2005.<sup>9</sup> The market integrity problems identified by the CRMPG II have important ramifications for the hedge fund industry. But, as Callum McCarthy has noted, "there is no evidence... that these problems of market integrity, which present real issues across markets, are concentrated within the hedge fund sector".<sup>10</sup> Potential market integrity problems such as insider information, insufficiently robust trading technologies, mis-valuation of profits and losses or incomplete documentation of trades are important issues that need to be addressed across all segments of the financial markets. Clearly, there are close links between market integrity protection and financial system protection. Indeed, the report of the CRMPG II is explicitly "directed at initiatives that will further reduce the risks of systemic financial shocks and limit their damage when, rarely but inevitably, such shocks occur".<sup>11</sup>

For central banks, financial system protection is the most important regulatory objective. There are potential hedge fund specific risks to financial stability even though in practice, it is often difficult to distinguish potential systemic risks that arise from the activities of hedge funds from those of other important actors in the financial markets.<sup>12</sup>

### 4| HEDGE FUNDS AND SYSTEMIC RISK

Hedge funds can and extensively do use leverage as an instrument to manage their risk and extract profits from financial markets. As mentioned earlier, the use of leverage is one of the defining

<sup>7</sup> See McCarthy (2006) who effectively uses the same categories although he refers to prudential issues, consumer protection and market integrity.

<sup>8</sup> Funds of funds are investment pools which make allocation to a number of hedge funds, thereby seeking to benefit from diversification. They are typically operated by private banks, asset management firms or institutional asset managers. The managers of these funds of funds negotiate with the individual hedge funds on the size of investment and fee structure. These fees are passed on to clients, in addition to a management fee for the fund of funds itself.

<sup>9</sup> See Counterparty Risk Management Group (2005).

<sup>10</sup> See McCarthy (2006).

<sup>11</sup> See Counterparty Risk Management Group (2005, pp. iii).

<sup>12</sup> See McCarthy (2006).

characteristics of hedge funds. The most basic form of leverage pertains to financial intermediaries (typically globally active investment banks) extending credit facilities to hedge funds to allow them to invest funds in excess of their own capital base.<sup>13</sup> A more complex form of leverage employed by hedge funds is instrument leverage. This type of leverage is embedded in the use of a wide range of complex financial instruments. At times, such instruments contain substantial leverage.<sup>14</sup> The amount of instrument leverage employed by hedge funds depends on overall market conditions and on the trading strategies pursued by a particular hedge fund. Leverage is not just a risk ratio selected by hedge fund managers. Ultimately, hedge funds are constrained in the amount of leverage they can employ in their trading strategies by the amount of exposure creditors and counterparties are willing to accept. The exposures chosen by creditors and counterparties are, in turn, influenced by the capital and supervisory framework that applies to them and the discipline imposed on them by the market.<sup>15</sup>

The mere fact that hedge funds employ leverage does not in and of itself imply that they represent a risk to financial stability. Indeed, leverage, if properly employed, can be a very effective risk management tool. Ultimately, what matters is the extent to which leverage impacts the total value-at-risk of a particular market exposure.<sup>16</sup> The link between hedge funds and the stability of the financial system relates to the possibility that large losses in one or several hedge funds get transmitted to one or several large internationally active banks. In an extreme case, this dynamic could be sufficiently strong to threaten the solvency of one or several large banks and undermine the stability of the financial system. In reality, it is not just the size of potential hedge fund losses that will determine whether a large bank and, ultimately, the stability of the financial system might be adversely

affected. The type of markets where the losses occur, the strength of the hedge fund's underlying capital base, the degree of concentration of the losses and the liquidity of the positions generating the losses will all be crucial in determining the ultimate impact of the losses. This explains why the recent losses of the hedge fund Amaranth, though very large in size, had no adverse impact on the stability of the financial system.

The primary potential transmission channel of systemic risk is through counterparty credit risk exposure. Prime broker dealers (typically large internationally active banks) provide leverage and issue credit lines to hedge funds. Through their margin requirements and collateral risk management, they also determine the amount of instrument leverage employed by hedge funds. A linked transmission channel is through negative effects on market prices and liquidity. In the event of extended stressful market conditions, prime broker dealers will likely demand additional collateral or, alternatively, force hedge funds to liquidate market positions to stop their own risk profile from deteriorating. Such a process can further increase market volatility and further depress market prices. In the event of extreme or "fat tail" scenarios, such a self-reinforcing dynamic can lead to rapid reduction in market liquidity. As Tim Geithner (2006) states: "firms' (i.e. the prime brokers') incentives to minimize their own exposure can amplify the initial shock and impose on others the negative externality of a broader disruption to market liquidity". The report of the CRMPG II also points out that credit and market risk can become blurred as the decline of creditworthiness and the collapse of asset prices feed upon one another. It states: "Position liquidations which –while perfectly reasonable a the micro level– add to macro pressures on asset prices which in turn trigger the initial evaporation of market liquidity for one or more classes of assets".<sup>17</sup>

13 See Garbaravičius and Dierick (2005), Hildebrand (2005a) and Geithner (2006).

14 According to data collected by the Bank for International Settlements (BIS) the value of futures, swaps and options on interest rates, foreign exchange and equity indices has been growing at an annual rate of 20% per annum since 1995.

15 See Geithner (2006).

16 According to the FSA's survey of prime broker dealers, the average leverage calculated as the long market position of hedge funds divided by their net equity was around 2 to 2.5 (see McCarthy, 2006). An alternative measure developed by the Bank for International Settlements indicates that the leverage of hedge funds has decreased from 4 to 2 over the last 5 years, with a peak of 8 in 2004. This alternative measure captures the sensitivity of hedge funds returns to changes in the major risk factors. It should therefore provide a more comprehensive picture of the risk profile of hedge funds, including the embedded leverage (for methodological details, see Bank for International Settlements, 2005).

17 See Counterparty Risk Management Group (2005, pp. 7).

## 5 | TOWARDS AN INTERNATIONAL "BEST PRACTICE PROPOSAL"

Based on everything we know, hedge funds bring substantial benefits to financial markets. But they also constitute a potential source of systemic risk. To be more precise, "hedge funds can become the transmission mechanism of systemic risk because they borrow from and trade with regulated financial institutions, such as prime brokers and investment banks".<sup>18</sup> Any financial regulatory authority with statutory responsibilities to promote financial stability therefore has an obligation to think about possible measures to mitigate systemic risk emanating from the activities of hedge funds or other private investment vehicles with similar characteristics. Still, the threshold for justifying additional regulatory measures should be set high. Ill-considered regulatory initiatives will achieve little and risk being counterproductive. Any additional regulatory initiative to address potential threats to financial stability emanating from the hedge fund industry should be rooted in three fundamental regulatory principles. First, the focus should be on the activities of the largest hedge funds. In principle, they are the ones that could generate sufficiently large losses to threaten the solvency of a large bank.<sup>19</sup> Second, potential regulatory initiatives should address the relationships of these funds with the most important global banks acting as prime broker dealers. Third, the main objective of any potential new regulatory initiative should be to reduce the risk of a sudden liquidation wave.

These principles imply that the most sensible regulatory response to the potential systemic risks emanating from the activities of hedge funds would be an internationally endorsed effort to agree on a best practice proposal that would govern the relationship between prime broker dealers and hedge fund. This would help to enhance market discipline. The international dimension must be emphasized here. A best practice proposal that is not internationally adhered to inevitably runs the risk of being without teeth or distorting competition.

Moreover, as the recent President's Working Group Report made clear, because the most important key creditors and counterparties to hedge funds and other private investment pools are active in many different jurisdictions throughout the world, international policy collaboration is essential if positive results are to be achieved.<sup>20</sup>

The specific aim of an internationally endorsed "best practice proposal" should be to minimize the risks of the credit links between prime broker dealers and hedge funds being unwound in a disorderly fashion in a market environment characterized by extended stress. Why this specific emphasis on mitigating the risk of disorderly unwinding of credit links between hedge funds and prime broker dealers in times of stress? An important new element since the late 1990s is the tremendous innovation in complex structured financial instruments. Financial innovation has made markets more liquid, more flexible and in many ways more resilient. On the other hand, new categories of complex financial products have also rendered the credit relationship between prime broker dealers and hedge funds more challenging. Many of these new products are traded on an over-the-counter (OTC) basis and have to be marked to model rather than to market. Another feature of OTC products is that they generate a potential future credit exposure which depends on the volatility of the underlying asset. This potential future exposure is a multiple of the current credit exposure and should be adequately covered by initial margins.<sup>21</sup> Moreover, many of the new highly complex structured products have yet to be tested in market environments of heightened and extended stress. It is important to remember that much of the modelling underlying the pricing of complex structured financial products is impacted favourably by the sustained low volatility environment that has characterized global markets until very recently. In addition, the recent protracted period of abundant liquidity and low volatility has likely contributed to an increase in the exposure of hedge funds and other market participants to riskier and less liquid assets. As a result, the mismatch between the average liquidity of the underlying portfolios of hedge funds and the liquidity offered to investors of hedge funds is likely to have increased. A potentially heightened

<sup>18</sup> See Fung and Hsieh (2006, pp. 27).

<sup>19</sup> See McCarthy (2006, pp. 4).

<sup>20</sup> See The President's Working Group (2007, pp. 5).

<sup>21</sup> See Geithner (2006)

liquidity mismatch is a further reason to focus future regulatory initiatives on measures to mitigate the risks of disorderly unwinding of the credit relationship between hedge funds and prime broker dealers.

The following paragraphs are an attempt to identify the potential key elements of such best practice proposal.

- Prime broker dealers should ensure that they have a complete risk metric of each of the largest hedge funds they are exposed to. This does not mean they require information on specific trading positions. But they need to be able to assess the aggregate risk exposure of their largest hedge fund clients vis-à-vis the entire prime broker dealer community. For example, a prime broker dealer should be aware of the margining terms agreed by its largest hedge fund clients with other important creditors or prime broker dealers. A recent survey by the FSA in the United Kingdom has concluded that only 21 of 152 hedge funds had more than one prime broker.<sup>22</sup> While this is a comforting statistic, the largest and systematically most important hedge funds are likely to continue to deal with several prime brokers, not least to ensure anonymity and avoid front-running when executing their trading strategies.

- Prime broker dealers should ensure that they invest sufficient resources in collateral risk management systems to complement their market risk management systems. The quality of margin statements should be a priority, particularly with regard to margins for options or other more complicated derivatives. In a time of crisis, weak collateral management systems are a potential source of margin uncertainty and future margin call disputes between prime broker dealers and hedge fund.

- Prime broker dealers should permanently monitor variation margins, traditional initial margins and portfolio risk-based or VaR-based initial margins. In addition, rigorous periodical stress-testing should be conducted. VaR-based initial margins, in particular, should be stress-tested regularly, i.e. they

should be compared to the potential credit exposure that could materialize in stress situations. Volatility has declined significantly until most recently. As a result, so have margin levels in VaR-based systems. Stress test scenarios should be updated accordingly. They should include large simultaneous shocks to market and volatility levels.

- On the basis of a wide range of stress test scenarios which are routinely updated, global margin call simulations across all exposures should be conducted between the prime broker dealers and the largest hedge funds on a regular basis. Ideally, such margin call simulations should also be conducted on an aggregate basis. This would allow a particular prime broker dealer to get a sense of the impact of simultaneous margin calls by all prime broker dealers exposed to one or several hedge funds.

- Prime broker dealers and their most important hedge fund clients should take advantage of benign market conditions to work out clear terms to determine margin call procedures for different simulated scenarios assuming extended adverse market conditions. This will enhance predictability in the credit relationship between prime broker dealers and their largest hedge fund clients. Such predictability mitigates the risk of disorderly unwinding of the credit links. Moreover, subject to the underlying liquidity profile of a particular hedge fund, such margin call procedure agreements should have as long a time horizon as possible. This would further reduce the risk of cyclical market volatility triggering disorderly unwinding of positions.

- The underlying liquidity profile of hedge funds should be an important element in conducting stress test and margin call simulation as well as in determining margin call procedures under adverse market conditions. To be more precise, the match or mismatch between the liquidity of a portfolio of a hedge fund and the liquidity the hedge fund offers to its clients should be an important factor in determining the specific margin arrangements between a prime broker dealer and a hedge fund.

<sup>22</sup> See McCarthy (2006, pp. 4).

*A best practice standard along these lines would have many advantages. It would tackle a coordination problem between the largest hedge funds and the most important prime brokers. It would promote financial stability by addressing what is arguably the most likely potential systemic threat emanating from the hedge fund industry: namely the risk that in a market environment characterized by extended stress, insufficiently prudent counterparty risk management could lead to credit losses of the prime broker dealers and a pro-cyclical liquidation wave of hedge fund positions against the backdrop of diminishing liquidity and potentially rapidly declining market prices. In an extreme case, such events could conceivably jeopardize the solvency of a large internationally active bank, thus potentially undermining the stability of the global financial system.*

*A well-designed "best practice proposal" would strengthen market discipline and avoid misallocating scarce regulatory resources. Moreover, it would not require any direct regulatory interference with regard to market pricing and would therefore be market-friendly. If specified appropriately and adopted universally, it could have a constructive effect on the risk appetite of the most important prime broker dealers. Finally, it would be consistent with the recent demand by the President's Working Group that the most important "creditors and counterparties must commit resources and maintain appropriate policies, procedures, and protocols to define, implement, and continually enhance best risk management practices. Those policies, procedures, and protocols should address how the quality of information from a private pool of capital should affect margin, collateral, and other credit terms and other aspects of counterparty risk management".<sup>23</sup>*

*Clearly much work remains to be done to make such a "best practice proposal" operational and productive in the sense of enhancing financial stability. In principle, a proposal along these lines would not require formal regulation. It could be implemented by the industry as a "best practice standard". Ongoing monitoring of the standard could then be conducted by national financial supervisory agencies. Initially, regulators need to gain a better understanding of how collateral and margin practices are evolving in light of the ongoing and rapid product innovation in the credit markets and the heightened competition surrounding the relationship between prime broker dealers and the most important representatives of the hedge fund industry. This fact-finding exercise can only be conducted effectively in concert between the regulatory authorities of the most prominent financial centres, senior hedge fund managers and representatives and risk management experts from the most important global financial institutions. The Federal Reserve Bank of New York, the SEC and the UK FSA have recently initiated such a process. In cooperation with other supervisory authorities, they are conducting periodic surveys of the exposures of most important prime broker dealers to hedge funds. Such a cooperative framework could form the basis for moving towards a "best practice proposal".*

<sup>23</sup> See The President's Working Group (2007, pp. 3).

**BIBLIOGRAPHY****Bank for International Settlements (2005)**

BIS Quarterly Review, Vol. 1, March

**Counterparty Risk Management Group (2005)**

"Toward greater financial stability: a private sector perspective", *The Report of the Counterparty Risk Management Policy Group II*

**Crockett (A.) (2007)**

"The evolution and regulation of hedge funds", Banque de France, *Financial Stability Review*, No. 10

**Fitch Ratings (2006)**

"Global credit derivatives survey"

**Fung (W. K. H.) and Hsieh (D. A.) (2006)**

"Hedge funds: an industry in its adolescence", Federal Reserve Bank of Atlanta, *Economic Review*, 1-34, forth quarter

**Garbaravičius (T.) and Dierick (F.) (2005)**

"Hedge funds and their implications for financial stability", European Central Bank, *Occasional Paper Series*, No. 34

**Geithner (T.) (2006)**

"Hedge funds and derivatives and their implications for the financial system", Hong Kong

**Hildebrand (P.) (2005a)**

"Finanzmarktstabilität und Hedge Funds: wirksame und unwirksame Überwachungsansätze", Berlin Mitte

**Hildebrand (P.) (2005b)**

"Recent developments in the hedge fund industry", Swiss National Bank, *Quarterly Bulletin* 1/2005, pp. 42-57

**L'Habitant (F.-S.) (2002)**

"Hedge funds: myths and limits", Wiley Finance, West Sussex

**McCarthy (C.) (2006)**

"Hedge funds: what should be the regulatory response?", SUERF Lecture

**The President's Working Group (2007)**

"Agreement among PWG and US Agency principals on principles and guidelines regarding private pools of capital"