



The role of Credit Hedge Funds in the Financial System: Asset Managers, Not Shadow Banks

Research Committee

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1. Introduction

The term “shadow banking” was first coined by Paul McCulley of PIMCO in August 2007 to describe a large segment of financial intermediation that is derived outside the balance sheets of regulated commercial banks and other depository institutions, the implication being that such organisations are engaging in bank-like activities out of the sight of regulators, creating unmonitored risks to the global financial system.

In November 2010 the G20 requested that the Financial Stability Board (FSB) in collaboration with other international standard setting bodies develop recommendations to strengthen the oversight and regulation of the shadow banking system. One of the key challenges for policy makers is to first define and understand the scope of the term “shadow banking”. This paper argues that that credit hedge funds which have been at times included in the shadow banking complex and hedge funds in general should be considered part of the asset management sector, not the banking industry and as such should not be considered part of any shadow banking discussion.

In part 1 of this paper we deconstruct the term shadow banking arguing that it is a misnomer for several reasons. Crucial distinctions between the key functions of a traditional bank and that of hedge funds and other non-bank financial institutions will be highlighted. Part 2 offers an overview of the credit hedge fund universe, splitting it into four key investment strategies. We argue that hedge fund strategies are extremely diverse and constantly changing over time. The majority of these do not involve a focus on the fixed income or credit markets and hedge funds generally do not engage directly in credit transformation. Further, we discuss that hedge funds (and credit hedge funds) are not large users of leverage; offer unique liquidity terms for its investors and in doing so provide considerable advantage of enabling its investors to customise their asset mix more precisely to their liability profile. This reduces significantly any asset/liability mismatches that may occur and boosts investment returns.

Part 3 of the paper considers the questions posed by the Financial Stability Board’s task force (April 2011) as to what extent shadow banking (and in this case we look at the perspective of credit hedge funds being included in this definition) is involved in credit intermediation, maturity transformation, liquidity transformation and credit transformation. We show that hedge funds’ liquidity and maturity profiles as well as their leverage are such that they do not pose significant risks to the financial system. No hedge fund is sufficiently large, leveraged complex or interconnected that its failure or financial stress would cause such severe disruption. Hedge funds individually or collectively are therefore not systemically important and can be seen as a stabilising (additive to overall market liquidity) as opposed to a destabilising element of the financial system.

1.1 Definition of shadow banking / Explanation as to what money creation is and how it works.

Deconstructing the definition of shadow banking and how this reference is not an appropriate label for hedge funds.

In their *Federal Reserve Bank of New York Staff Report entitled ‘Shadow Banking’* Pozsar, Adrian, Ashcraft and Boesky (2011) critically note *‘We use the label “shadow banking system” for this paper, but we believe that it is an incorrect and perhaps pejorative name for such a large and important part of the financial system.’*

Indeed, the term shadow bank, originally coined by Paul McCulley, is a misnomer for several reasons.¹ First, the term seems to have caught on in the financial press partly due to the fact that it conjures up opaque or nefarious activity without precisely defining it. The implicit connotation is that such organisations engage in bank-like activities out of the sight of regulators, creating unmonitored risks to the system.

¹ ‘Finance: Shadow boxes’ by Brooke Masters and Jeremy Grant, Financial Times, 2 February, 2011

Second, the definition used in the above report is very broad and ignores one of the key functions of traditional banks that distinguish them from other non-bank financial institutions such as hedge funds, namely, *multiple deposit creation*.

Pozsar, Adrian, Ashcraft and Boesky (PAAB, 2011) define shadow banks as follows: “*Shadow banks are financial intermediaries that conduct maturity, credit, and liquidity transformation without access to central bank liquidity or public sector credit guarantees,*” (Federal Reserve Bank of New York Staff Reports). Though non-banks and traditional banks may share some of the above functions, this definition ignores key differences between banks and non-banks.

One of the reasons why traditional banks are important is that they are part of the money supply process (Mishkin (2007)).

The money supply process includes (a) the central bank, (b) banks (that is depository institutions), (c) depositors and (d) borrowings from banks. A central bank, such as the Federal Reserve controls the monetary base through open market operations and extension of discount loans to banks.

An individual bank can make loans up to the amount of its excess reserves, thereby creating an individual amount of deposits. However, the banking system as a whole can create a multiple expansion of deposits, because as each bank makes a loan and creates deposits, the reserves find their way to another bank, which uses them to make loans and create additional deposits. In a simple model, a narrow definition of money is linked to the monetary base through the so-called monetary multiplier. The money multiplier is a function of the currency ratio set by depositors, the excess reserves ratio set by banks and the required reserve ratio set by the central bank.

Hence, an important insight from the above discussion is that non-banks such as hedge funds are not involved in the money supply process through multiple deposit creation.

Not only are hedge funds not banks since they are not depository institutions, but hedge funds do not even fulfil all the criteria of the shadow banking definition criticized as being unhelpful in the Federal Reserve Bank of New York Report. Hedge funds are part of the asset management industry - not the banking industry. They do not take deposits, do not undertake maturity transformation or benefit from implicit or explicit taxpayer guarantees, for example. It may therefore be more helpful to label institutions such as hedge funds as non-banks rather than shadow banks.

PAAB(2011) describe shadow banks as being ‘*interconnected along a vertically integrated, long intermediation chain, which intermediates credit through a range of securitization and secured funding techniques such as ABCP, asset-backed securities, collateralised debt obligations and repo*’. However, hedge funds play only a subordinated role in this six step chain that consists of (1) Loan Origination, (2) Loan Warehousing, (3) ABS Issuance, (4) ABS Warehousing, (5) ABS CDO Issuance, (6) **ABS Intermediation** and (7) Wholesale funding. PAAB define credit hedge funds as being active in (6) ABS Intermediation. In this sense they are similar to other non-bank ABS investors such as pension funds, insurance companies, and sovereign wealth funds.

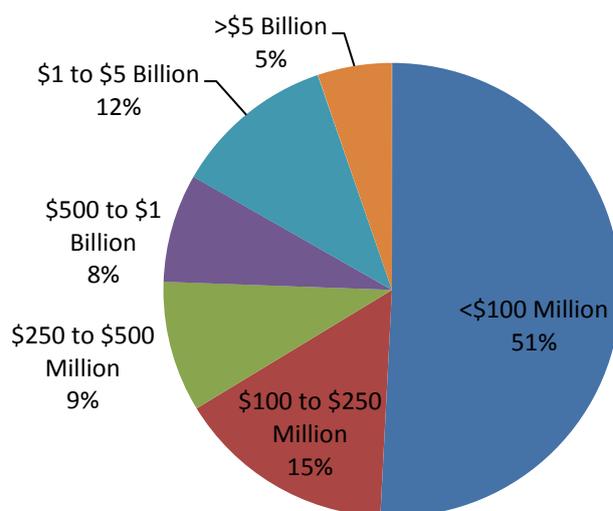
Moreover, credit hedge funds are not involved in all forms of credit intermediation. PAAB define credit intermediation as consisting of credit, maturity and liquidity transformation. Credit hedge funds are not involved in credit transformation which is defined as the enhancement of the credit quality of debt issued by the intermediary through the use of priority of claims. If hedge funds match the liquidity terms that they provide to their investors with the liquidity or maturity of the assets that they hold then they are not engaging in a maturity transformation (the use of short-term depositions to fund long-term loans) either. For example, direct lending by credit hedge funds is now done primarily through long lock-up private equity style vehicles. To the extent that most hedge funds are not traded on a liquid secondary market, most of them do not fulfil liquidity transformation functions either, even though this is in principle possible.

As PAAB note, hedge funds do not benefit from any official public sector enhancement such as deposit insurance. Activities with indirect and implicit official enhancements include asset management activities like bank-affiliated hedge funds and money market mutual funds.

2. Hedge Funds as Part of the Asset Management Family

According to the Boston Consulting Group (BCG) report 'Building on Success - Global Asset Management 2011', the value of professionally managed assets grew 8% to \$56.2tr in 2010. The BCG report divides these assets into retail (\$22.9tr) and institutional AuM (\$33.5tr). The retail asset management industry consists of mutual funds (\$10.6tr), unit-linked insurance (\$2.4tr), unit-linked pensions (\$5.2tr) and private banking (\$4.5tr) while the institutional asset management industry consists of insurance (\$7.9tr), pensions (\$18.7tr) as well as corporations (\$2.4), nonprofits (\$1.3tr), governments (\$1.9tr) and banks (\$1.1tr). The above asset management organizations may invest in hedge funds. As a result the two groups may overlap. According to Hedge Fund Research², the global hedge fund industry as of the end of 2011 was measured at approximately \$2trillion³. These assets were split among 7,409 diversified funds resulting in an average size of a hedge fund being \$275m. Note, however, that the largest 5% of hedge fund firms control over 60% of the assets so this average is skewed by a large number of small funds. It is important to consider that 95% of hedge funds manage less than \$5bn⁴.

Chart 1: Distribution of Hedge fund Industry Assets by Number of Firms in Q2 2011



Source: HFR, Inc. Global Hedge Fund Industry Reports

Credit hedge funds make up approximately one quarter to one third of the global hedge fund industry and fall into several categories (see also Section 3 and Annex 1).

³ Hedge Fund Research, Sept 2011 (www.hedgefundresearch.com)

⁴ Bank of America Merrill Lynch Q2 2011 Hedge Fund Industry Overview

The credit hedge fund universe

Credit hedge fund managers employ a diverse range of investment strategies, ranging from direct corporate lending to the trading of complex derivatives. A common feature that exists throughout these strategies is the acceptance of credit risk on behalf of the borrower. This credit risk has asymmetrical qualities relative to other market risks in that the upside of the risk is bounded by the return of capital at a future date at par. Traditionally, the focus of these investment strategies has been on corporate credit, but recent global events have meant that sovereign credits have also become part of the opportunity set that credit hedge fund managers invest in.

The classification of credit hedge fund managers into distinct investment categories has not been treated uniform across hedge fund index providers or by the managers themselves. For example, there are many hedge funds that refer to themselves as “event-driven”, a term which can refer to several distinct types of investment strategies involving both equity and credit instruments. The best way to understand credit hedge funds is to look past the name, past the assigned hedge fund index classification, and through to the actual activities performed. The list below divides the credit hedge fund universe into four investment types:

1. Relative Value Credit
2. Long-short Credit
3. Macro Credit
4. Fundamental Credit

The impact on and the relationship to the financial system on each of these investment types differs, often significantly. Whereas Fundamental credit managers are most likely to execute “near-bank” activities such as lending, the use of prime brokerage leverage by Relative Value and Macro managers entails a different set of market and regulatory concerns.

2.1 Relative Value credit managers:

Overview:

Central to the investment strategy of relative value credit managers is an analysis of price differentials between bonds and related assets (simultaneously buying and selling the different securities) to establish whether one is over or under-valued in relation to one another.

Positions are taken because of mispricing based on historical and/or expected future relationships. These can be within a single company’s capital structure (debt and equity) or between two separate companies’ capital structures. These credit hedge funds can be more commonly grouped under the following published hedge fund indices, “relative value arbitrage”, “credit arbitrage”, “long short credit”, and “fixed income-corporate”. Often mixed with other strategies, they can be found also within “fixed income arbitrage” and “convertible arbitrage”, although they have differing characteristics.

Relative Value credit managers invest in bonds, including convertibles, credit default swaps (CDS) on bonds and to a smaller degree, equity. The investment strategy practiced involves owning one instrument (going long) while short selling another one in a ratio which they believe optimises the risk/return of the trade. The financial instruments traded have a higher weighting towards derivatives, in particular CDS and CDS indices but may also include equity options and indices. CDS are usually investment grade or crossover, but not exclusively (they may also include sub-investment grade). Cash instruments may include corporate bonds or bank debt (less frequently), including sovereign bonds. Sub-strategies include “capital structure arbitrage”, “curve trading”, “index basis trading”, “volatility arbitrage”, “credit correlation”, “index arbitrage”, and “intra-capital arbitrage”.

Considerable fundamental analysis is used to determine whether mispricings exist, using methodology similar to that used by fundamental credit managers but usually not as detailed in

scope. Quantitative models are also used to highlight anomalies in relative valuations, although positions are not taken on the basis of altered mathematical relationships alone. Model outputs are used as signals only and fundamental credit research is undertaken to determine what factors may have caused the change in conditions and whether they are expected to continue.

Investment Horizon:

Typically, the investment horizon for a relative value trade ranges from 2-6 months (positions are generally not held for any longer unless the investment thesis holds or the position has been re-evaluated), often tied to an event (e.g. such as an earnings announcements) which is expected to realign value.

Exiting from these positions relies exclusively on secondary markets, unlike fundamental credit managers, who may receive a distribution of cash outright. Relative Value managers may be impacted from the same event as the fundamental credit managers, such as a restructuring, but are not as directly involved. For example, they might hold a bond position but would not be on the creditor committee negotiating on behalf of bondholders.

Portfolio investments are generally in the most liquid instruments in the credit space; and very often the entire portfolio can be liquidated (all positions in the portfolio sold out) within a week under normal trading conditions. Turnover in such a portfolio is relatively high; with 100% of the portfolio usually turned over every two to four months. Less liquid (or longer term) investments may also be held, but these usually comprise less than 5% of the fund's total NAV (with most funds having very strict investment limits) ranging from 10% to 20% of NAV. The fund's terms often state limits for less liquid instruments or Level III (FASB)⁵ assets, as well as provide for side pockets in the event of illiquidity.

Leverage:

Market exposure is typically net neutral from a risk or beta perspective⁶, and some leverage may be used to optimise returns on the particular trade. Notional leverage⁷ can be high, with a maximum gross notional exposure of 3 to 6 x NAV (a magnitude of three to six times the total of the fund's NAV); the average being around 4 times NAV. On a risk-adjusted basis, gross leverage is significantly lower, usually 1 to 2 times NAV, while the investments long exposure is often less than 1 times the fund's NAV. The difference between risk-adjusted and notional exposure is due to derivative instruments, which can limit maximum loss.

The use of derivatives also skews the apparent positioning of Relative Value managers as they may appear to have a net short exposure on a notional basis. This happens because short positions are taken in higher quality credits, which tend to have a lower beta to market moves, while longs, are in lower quality credits, which have a higher beta. Managers position the portfolio sensitivity to be "beta-neutral", which often requires a larger amount of short positions need to be held. Short positions are frequently held in CDS, which mean that the actual risk is a fraction of the notional amount⁸.

Investor Liquidity:

Investor liquidity is usually quarterly with 90 days' notice. Some funds have a one-year lock, which may often be waived for a penalty of 3% to 5%. There may be investor gates for redemptions above

⁵ Assets whose fair value cannot be determined by using observable measures, such as market prices or models. Level 3 assets are typically very illiquid, and fair values can only be calculated using estimates or risk-adjusted value ranges. In addition to Level 1 and Level 2 assets (both of which have more accurate fair values), Level 3 assets must be reported on by all publicly traded companies as of 2008.

⁶ Exposure varies over a credit cycle and managers may be marginally long or short biased (+/-40%), measured on a risk basis

⁷ Notional = market value of exposure

⁸ Some mark-to-market risk is assumed if the position is not fully funded and broker leverage is used

a certain amount, usually 25% (calculated at the fund level, investor level or both via a trigger mechanism).

2.2 Long-short credit managers

Overview:

Long-short credit managers are similar to relative value credit managers, but are differentiated by:

- A focus on fundamental mispricing over structural/quantitative mispricing, and
- A preference for sub-investment grade debt positions.

Their portfolios tend to be more directional, are usually longer-biased, with the “carry/yield” (the return from holding the asset) playing a more important role in expected returns. Among the most common investment strategies employed include taking outright⁹ long or short positions based on event-driven themes and/or perceived mis-valuations. Pure relative value trades usually make up less than one-third of portfolios in credit hedge fund managers who trade the strategy. Many of these managers often only have experience investing in long-only high yield instruments and are more comfortable trading in cash bonds tending not to use CDS indices or single names except for hedging purposes.

Positions that these managers are likely to invest include bank debt as well as bonds, both of which could be non-performing. Depending on the liquidity target of the same managers, funds may hold stressed and distressed¹⁰ positions, although these are usually in the large names which have several very liquid instruments available to trade (e.g. TXU, Lehman Brothers).

Long investments are predominantly held in sub-investment grade credits, while shorts positions usually include investment grade or crossover names¹¹. Short positions are often expressed via CDS, although many managers intentionally look for cash shorts to minimise synthetic vs cash mismatch (basis risk), having learnt the lessons of 2008. Many funds retain some overweight CDS exposure in notional terms within the short book which can result in total notional CDS exposure being higher than total notional cash exposure¹². However, significantly lower leverage usage than pre-2008 means that the risk of destabilising the fund via the unwinding of a similar trade is also lower.

Leverage:

Leverage usage is lower than for relative value manager, with gross notional exposure ranging between 1 to 4 times NAV and averaging around 2 times NAV. As is the case with Fundamental credit managers, gross long exposure is usually less than 1 times NAV. On a risk -adjusted basis, the risk-adjusted net exposure¹³ ranges between 0.6 and 1 times NAV (+100% to -60%).

Investment Horizon:

Typically, the investment horizon of a long-short credit manager is approximately three to six months, but some positions may have a longer expected holding period, perhaps as much as several years. As per the case of the relative value manager, ease of liquidity of the portfolio is imperative. The relevant manager must demonstrate that its investment positions can be fully liquidated within a short period of time (usually within one month and no longer than three months

⁹ Positions are taken outright, without a specific offsetting trade

¹⁰ Stressed credits are considered to be those that have not yet missed a coupon payment date nor filed for bankruptcy, in contrast to distressed credits

¹¹ Crossover credits straddle between investment grade and high yield. Managers delineate credit quality grades according to several factors, including current spread levels, relative debt/EBITDA ratios, and historic price ranges. They are generally dismissive of agency ratings

¹² For example the ratio of notional CDS exposure to notional cash exposure could be 3:2

¹³ Risk-adjusted exposure is lower due to derivatives' usage, as with Relative Value credit managers

even under stressed conditions). The average turnover of such an investment portfolio is approximately in the range of three to nine months.

Investor Liquidity:

Investor liquidity is usually quarterly with 90 days' notice and may also carry a one-year lock up¹⁴. Some managers waive this lock for a penalty (charged on exiting the fund) of 3% to 5%, although this option is less common than with Relative Value credit managers. Investor "gates" are increasingly common, where investor redemptions are limited above a certain amount, usually 25%, either at the fund level, investor level, or both. In the latter case, the investor gate is triggered once redemptions at the fund level reach a certain threshold. Managers often reserve the right of discretion vis-à-vis implementation of the gate even if the threshold is triggered, in particular if the underlying market liquidity is available. In the post-Lehman Bros. crisis period, it appeared¹⁵ that Long-Short credit managers were less inclined than Relative Value managers to use the gate once triggered, possibly because leverage being used was lower, cash bonds made up a greater portion of the portfolio and ISDA counterparty triggers were therefore less relevant.

Long-short credit funds can be found in hedge fund published indices alongside Relative Value managers, where they are more commonly grouped under "fixed income-corporate", "convertible high yield", "credit arbitrage", long short credit", "fixed income arbitrage" and "credit".

2.3 Macro credit managers

Overview:

An important point to note is that discretionary macro trading is a distinct hedge fund strategy and the use of the term "macro" does not imply that macro credit managers fall within this sector. Instead it refers to credit managers who take a top-down approach to invest in their portfolio rather than the more popular bottom-up approach employed by the majority of credit hedge fund managers. Their top down focus leads them to take positions that have a heavier focus on larger scale or quantitative mispricing in industries, asset classes and geographic regions, rather than positioning based largely on specific company fundamentals (central to the bottom up investment strategy). For example, in 2010-11 these managers actively traded long and short exposure in European banks and sovereigns based on top-down views. As with all credit managers, they also conducted fundamental research before taking positions.

Another characteristic of Macro credit managers is that portfolios tend to target risk neutrality combined with "convexity", i.e. option-like trades, imbedded in the portfolio, which should produce outsized returns if certain events or realignments occur. These can be both macro as well as sector or company related. This means that there can be a heavier emphasis on indices and options, and there is a greater focus on the most liquid credit instruments and derivatives (CDS and CDS indices). Portfolio turnover can be high, on average 100% of the portfolio turns over every one to two months.

Leverage:

Fund leverage employed by macro managers is similar to that of the Relative Value credit managers, but notional leverage can persist at higher levels: gross notional ranges at 3 to 6 times NAV, the average being around 4 times NAV. On a risk-adjusted based, the range of leverage employed is between 1 to 2 times NAV.

Investor Liquidity:

¹⁴ The agreed period of time during which investors' money in the hedge fund is committed and cannot be withdrawn. The length of lock-up period may depend on the quality and reputation of the fund, as well as the liquidity of the underlying investment portfolio.

¹⁵ This is an observation only, without empirical evidence

As with the terms on offer from the relative value credit managers, investor liquidity is typically quarterly (every three months) with 90 days' notice, although some funds have shorter liquidity terms, as short as monthly with 30 days' notice.

2.4 Fundamental credit managers

Overview:

While perhaps more commonly recognised (via hedge fund data vendors) as “event driven”, “special situations” and “activists” or “fundamental value” investors, fundamental credit managers are value investors. For classification purposes, some funds end up being grouped in equity buckets rather than credit ones because their investment focus includes all parts of the capital structure, including equity. In addition, when these funds participate in a restructuring, they can receive equity as settlement of a debt obligation.

Leverage:

Fundamental credit managers are generally “long-biased” in their investment outlook, which means that they take very few short positions to offset risk¹⁶. These long positions generally total less than 100% of their fund's capital (the remainder being cash), while short positions (i.e. short sales) are usually put on together as a “macro” hedge against large market downturns. These short positions are typically taken in equity and credit indices such as the S&P 500, Russell 2000, DJ CDX.NA.IG Main, DJ CDX.NA.HY, or iTraxx Europe.

Investment Horizon:

The investment horizon of a fundamental credit manager is typically long term, (generally 24-36 months) and may in some cases be extended longer. By way of comparison, stylistically they range between Private Equity funds and Specialist Lending companies. Like Private Equity, fundamental credit managers buy because the perceived value of the investment is considerably less than that implied by the price. Managers usually target a 20-30% Internal Rate of Return, depending on the perceived risk of the investment. However, while, private equity funds invest in the shareholders' equity of its going concern (firm being invested in); credit hedge funds target companies in financial distress and buy their debt, with the expectation that they could receive the equity of the company¹⁷ should a restructuring or liquidation of the company occur¹⁸.

Credit hedge funds will often buy this debt from banks who have had to sell positions where the firm (subject of financial distress) would have (i) breached its lending covenants (ii) risks of lending to the same company has increased beyond their (or that of the regulators tolerance levels). Unlike Private Equity funds, these debt instruments may still trade, and may even be extremely liquid. Returns on the investments are generated as a consequence of specific company events (event driven) such as the balance sheet restructuring of the financially distressed firm, a trade sale, a public offer of the firm, or court-ordered plans for reorganisation (bankruptcy related court orders).

Similar to Private Equity funds, Fundamental credit managers may become “activist” investors. These investors deliberately set out to acquire a sufficiently large quantity of stakes in the firm's capital structure (debt or equity) allowing them to wield enough influence that the company often must listen to them (by holding blocking positions in either the equity or debt of the capital structure). Activist investors may choose to negotiate directly with the company or indirectly. Often they may be motivated by ethical concerns, and may canvass for change in the management

¹⁶ Risks would include short term mark-to-market volatility of a long-term position, or undesired residual exposures within an investment, e.g., exposure to a subsidiary within a company.

¹⁷ Hedge funds would look to receive some combination of cash, equity, and new debt, depending on the invested instrument and health of the company.

¹⁸ In the event of a company bankruptcy, debt holders will always get paid out ahead of equity shareholders as a matter of priority in a bankruptcy situation of a company.

of the firm or its operations. Activist credit funds often become involved in a company's financial and/or its organisational restructuring. Several of these types of hedge funds hold board seats on companies in which they have significant holdings.

Corporate lending is also an activity carried out by fundamental credit hedge fund managers who act as lenders of last resort to companies in cases where access to more traditional means of bank lending is either (i) unavailable (when a company is undergoing a restructuring) or (ii) more expensive.

Often this lending activity is tied to a company's restructuring. For example, hedge funds may provide bridge financing to a company that has already declared bankruptcy in order that it may continue to function as a going concern, a bank would not normally have a mandate to supply this kind of financing.

Some hedge funds have become specialist lenders to other borrowers who find it difficult to source loans from commercial banks. These are typically small- and medium-sized companies who have had to meet higher hurdles as banks have tightened their lending practices. As with other Fundamental credit strategies, Direct Lending and Specialist Lending hedge funds are not large users of leverage. However in lower interest rate environments, some of these managers have set up term funding lines in order to obtain marginal gearing, usually extending no higher than 50% of equity.

Credit lending hedge funds have long investment horizons, ranging from 12 months to 5 years or longer. The funds' underlying investments are structured as loans with some having equity warrants attached. Managers may also invest a small amount in the equity of a borrower directly as part of their commitment. A typical lending arrangement would have the following characteristics:

- | |
|--|
| <ul style="list-style-type: none">- Non-callable for the first year- Call typically at 102-103 (ie, penalty for early repayment of 2-3 points)- Final maturities of 5-7 years, with average duration of 2-3 years- Either fixed or floating interest rates, depending on market conditions- Upfront fees of 1-2.5 points |
|--|

Investor Liquidity:

Within the Credit hedge funds universe, fundamental credit strategies have the most stringent investor liquidity limits, ideally matched to the liquidity of the underlying funds' investments. Many of these funds have investor liquidity of two years or longer with additional investor protection from redemptions (in the form of gates), should a large part of the fund be redeemed simultaneously. In the last few years there has been an increase in funds using a private equity structure; synonymous with a lengthy investment horizon, and built-in redemption periods. During periods of heightened fund illiquidity and/or unusually investor redemption pressure, credit hedge funds have the ability to "gate" and or "side-pocket" investor cash. As such, credit hedge fund managers can take (and have taken) time to unwind their portfolios, a position hedge fund investors have accepted.

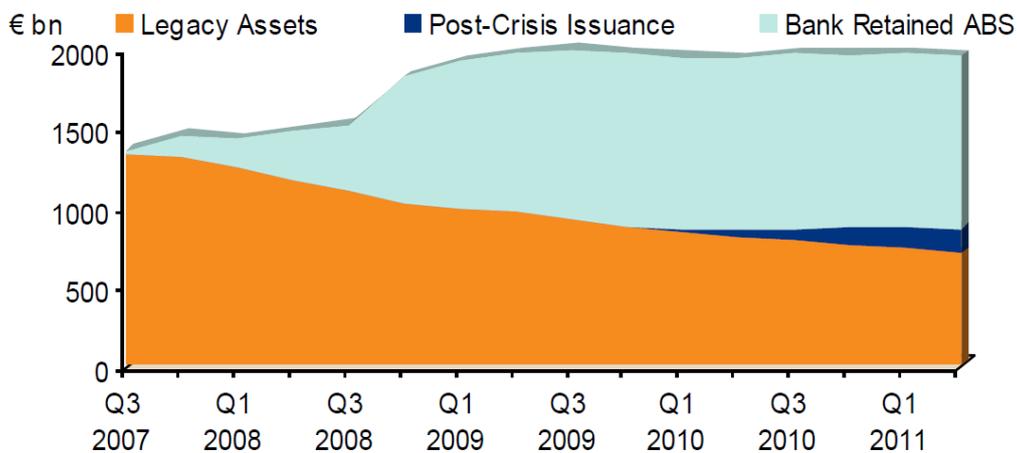
3. Involvement of hedge funds in direct lending and asset backed securities

In this section we look at the extent to which credit hedge funds are involved in maturity transformation, liquidity transformation, and credit transformation in the area of direct lending which is complementary to hedge fund strategies that were described in the previous section. The objective is to attempt to quantify the extent of that activity in order to understand whether it should be accounted for in any systemic risk concerns.

Policymakers might consider select hedge funds as contributors to maturity/credit transformation because of direct lending strategies or through the chain of credit intermediation in purchasing Asset Backed Securities (ABS) on behalf of their clients (who are mainly institutions such as pension

funds). While such transformations may occur in the small subset of credit hedge funds involved in direct lending, special situation “loan to own” strategies or through ABS positions, credit hedge funds only account for approximately 1% of non-bank credit intermediaries as indicated by the FSA. Further, it is estimated that direct lending activities and ABS only account for a small subset of this total. As illustrated below, a dominant majority of ABS has been retained by banks and new issuance since 2008 remains very low. Legacy assets in European ABS are held by a variety of non-bank credit intermediaries of which hedge funds make up a small percentage. We do not view this exposure as systemically significant.

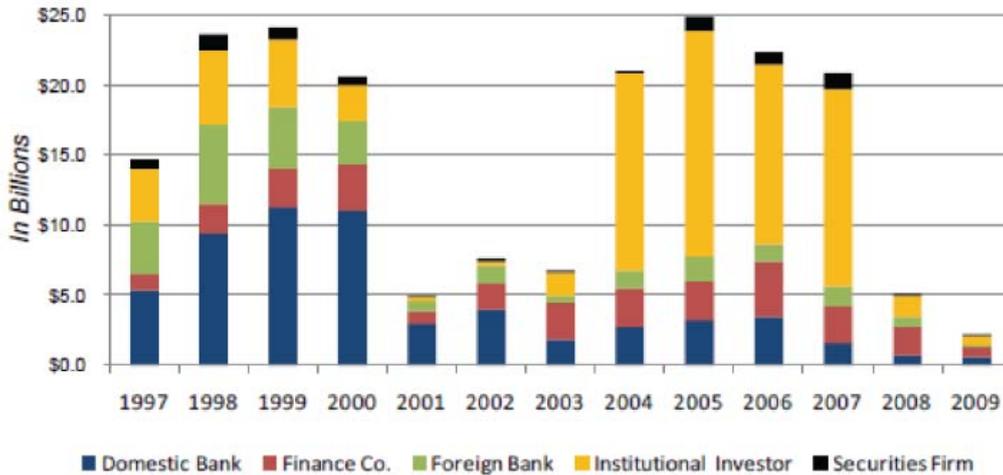
Chart 2: European Asset and Mortgage-Backed Market



Source: RBS Global Banking and Markets.

Since 2008, the degree to which credit hedge funds have employed direct lending as an investment strategy has diminished considerably. Most funds that are still involved in this practice are structured as private equity vehicles rather than hedge funds. This structuring ensures that the liquidity profile of their underlying assets matches that of the relevant finance vehicle. We estimate that only a small number of large alternative investment firms (as measured by assets under management) have small private equity style funds (with a drawdown structure and 5 year lock-ups to take advantage of a funding gap in the middle market). These funds do not use leverage and are generally small in size (\$500m-\$1,500m committed capital). Prior to 2008, middle market companies received financing from commercial banks, finance companies, CLOs and specialized hedge funds. Chart 3 below illustrates the volume of US direct lending to middle market companies; a proxy for overall direct lending, (as companies greater than \$50m EBITDA tend to access the high yield market). One can observe the size of this market is small and continues to shrink, with past annual issuance reaching as high as \$25bn, but more recently tracking closer to \$5bn (against a background of new industry regulations and other similar pressures being imposed on commercial banking lending activities).

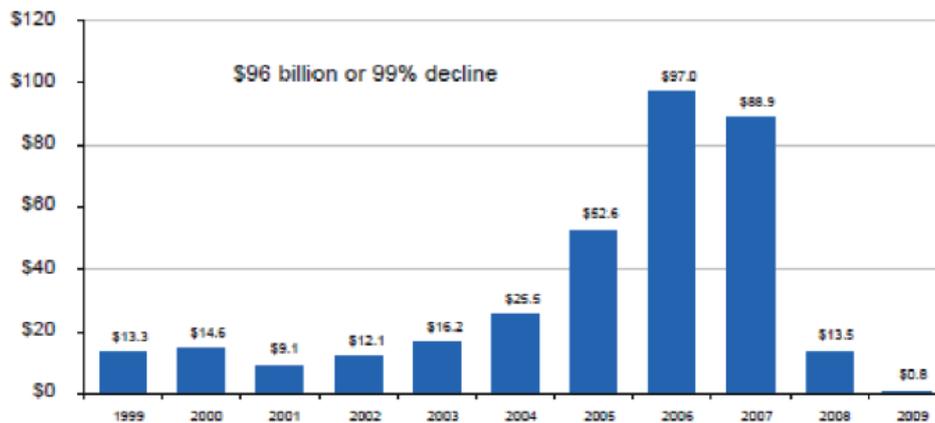
Chart 3: Total New Issue Middle Market Volume (Sub-\$50m EBITDA Companies)



Source: Standard and Poor's (Leveraged Commentary and Data)

Further, the Collateralised Loan Obligation (CLO) market, which in the past supplied both middle market loans and larger syndicated bank loans, remains largely shut down (see chart 4 below) with little loan origination stemming from these vehicles. The overall leveraged loan market is flat in the US and shrinking in Europe as companies opt for issue high yield bonds instead.

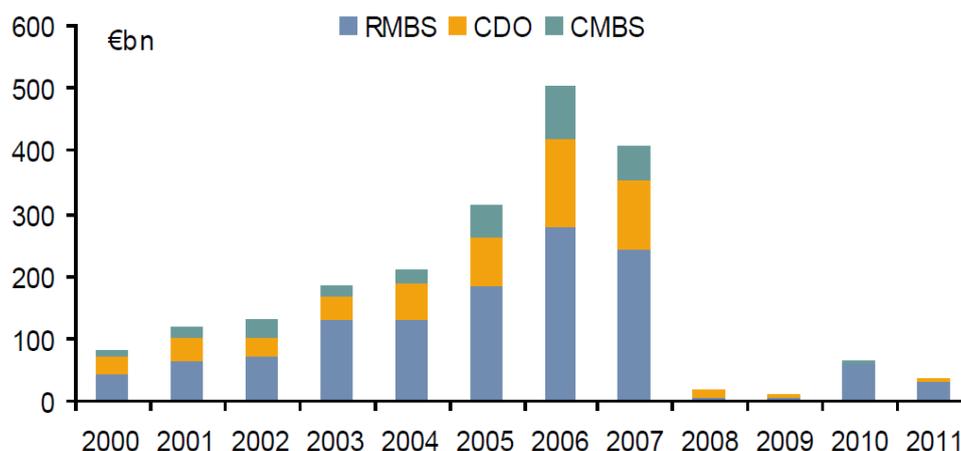
Chart 4: CLO Capacity by Year (1999-2009)



Source: S&P's Leveraged Commentary and Data (January 2010)

Asset backed securities such as RMBS, CMBS and CDOs contributed to growth in credit markets until 2008. Since then, securitisation has been very limited as indicated in chart 5 below. Hedge funds may invest in securitised products but do so on an opportunistic basis to take advantage of mispriced risk. Again, we regard the magnitude of credit hedge funds' role as a component of the credit intermediation chain to be too small to be systemically significant.

Chart 5: Securitisations of Mortgages and Leveraged Loans



Source: RBS Global Banking and Markets.

So are credit hedge funds and hedge funds in general systemically important 'shadow banks'?

According to the Financial Stability Board, the key drivers of systemic risk are size, interconnectedness, and leverage of financial institutions. In the shadow banking discussion, the importance of credit, liquidity and maturity transformation plays an important role. This section seeks to address these issues from the hedge fund perspective.

Hedge Funds ability to manage the liquidity profile:

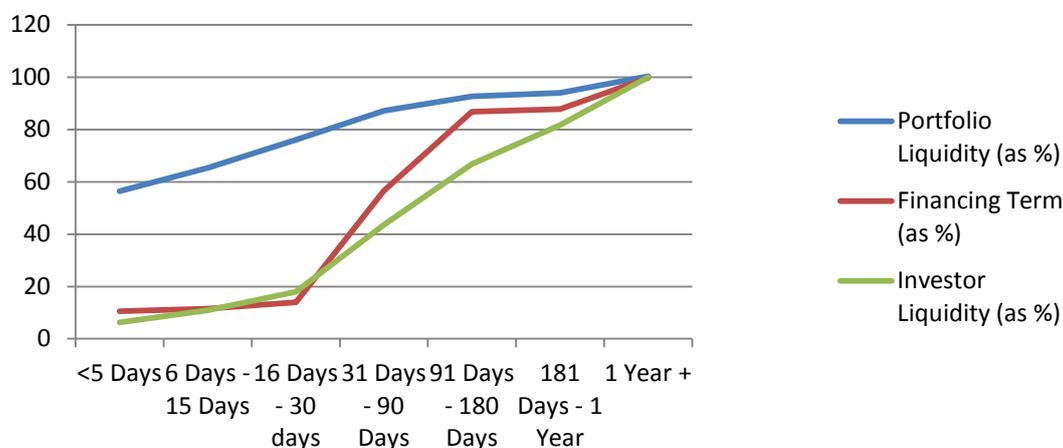
The most recent survey published by the FSA shows that the hedge fund liability profile is opposite to that of a bank, i.e. the funding maturity is longer than the liquidity of the risk portfolio. The sources and the terms of hedge fund borrowings are also a relevant factor. The latest FSA survey found evidence that the hedge fund industry is becoming less reliant on short term funding:

"Portfolio and Investor liquidity largely remains unchanged relative to the April 2010 Hedge Fund Survey. In contrast, the term of financing has been "pushed out" in aggregate, with a reduction in short-term financing of between 5 and 30 days and an increase in financing terms of 31 to 180 days. By pushing out the financing terms, hedge funds have potentially reduced the risk of a sudden withdrawal of finance from their leverage providers (usually prime brokers)"¹⁹

The graph below shows that assets of hedge funds could normally be liquidated in a shorter time frame than the period after which their liabilities (to investors and finance providers) would become due. Assets held by hedge funds could naturally be contractually long in maturity. For individual hedge funds as well as for the entire financial system, the risks involved in this maturity transformation, for both individual hedge funds and the whole financial system are mitigated by market liquidity only to the extent that markets can justifiably be assumed to remain liquid during stressed conditions.

¹⁹ FSA Hedge Fund Survey, April 2011, http://www.fsa.gov.uk/pubs/other/hf_survey.pdf

Chart 6: Liquidity transformation in hedge funds



Source: Financial Services Authority, Hedge Fund Survey 2011

As we have highlighted in section 2, hedge fund structures are also designed to deal with stressed market conditions and are normally able to restrict investor redemptions through gates, side-pockets, suspensions or as otherwise allowed by their various fund offering documents. Maturity/liquidity transformation in hedge funds should therefore not be subject to systemic risk concerns to the same extent as those for financial institutions or structures whose liability profiles are short term.

Another factor that one should consider is the alignment of investor expectations, with regard to the underlying liquidity of investments within a hedge fund. The annual survey of hedge fund investors produced by Deutsche Bank²⁰ underscores this important feature of the hedge fund market (ref Table 1 below). Investors routinely accept long initial lock-up periods whereby the invested funds cannot be redeemed before the lock-up period expires. Indeed, the vast majority of hedge fund investors also accept quarterly or longer redemption periods.

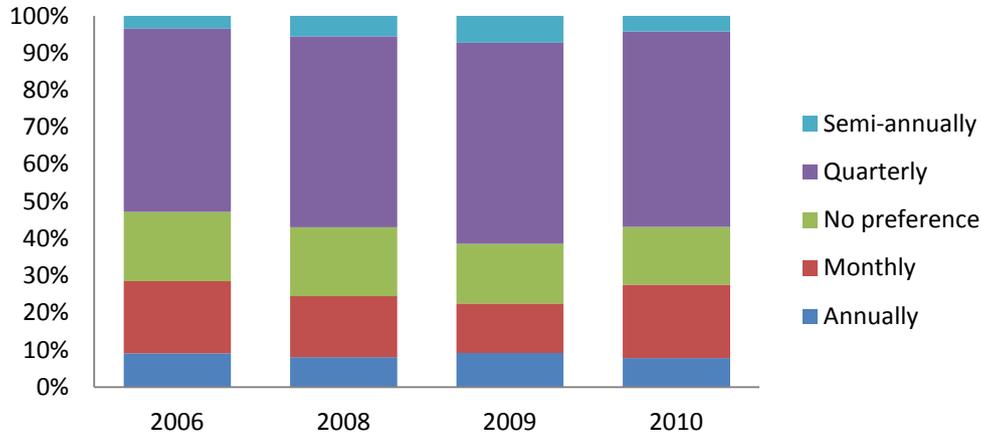
Table 1: What is the longest lock-up that you will accept on new hedge fund investments?

No lock up is acceptable	10.10%
Less than 6 months	6.00%
Less than 1 year	7.00%
1 years soft lock up	15.90%
1 years hard lock up	18.80%
2 years soft lock up	13.70%
2 years hard lock up	9.60%
3 years soft lock up	4.00%
3 years hard lock up	3.60%
3 or more years	5.10%
NA/Prefer not to answer	6.30%

Source: Deutsche Bank Alternative Investment Survey 2011

²⁰ The 2011 annual survey conducted by Deutsche Bank included respondents from 528 hedge fund investors that collectively manage more than \$1.34 trillion in hedge fund assets under management.

Chart 7: What liquidity do you require? Historical



Source: Deutsche Bank Alternative Investment Survey 2011

Leverage:

The FSB note states that leverage built up within the shadow banking system can also amplify procyclicality. As mentioned previously in section two, the use of leverage within hedge funds is modest, and indeed far lower levels of leverage are employed within the hedge fund industry than those employed by banks. In its most recent report (July 2011), the UK FSA estimated that the use of leverage by hedge funds managed from the UK remains largely unchanged in the aggregate (at approximately 2 or 3 times its net equity) compared with banks which are currently leveraged around 15 to 30 times their equity (down from as high as 40 or even 60 times prior to the crisis).

Empirical analysis collected via a recent academic study on industry leverage further supports this position. According to the study, an estimate of the leverage ratio employed by investment banks from December 2004 to December 2009 was 14.2 (times net assets), with a peak of 40.7 recorded in 2009, while the estimated leverage employed across the entire financial sector was 9.4 times. By comparison, during the same period, the study reported that the average leverage factor used across the hedge fund industry was 2.1 times, (hedge fund leverage peaked at 2.6 and bottomed out in October 2009 to 1.5).

A more recent analysis published by Hedge Fund Research Inc, (see table 2 below) reported that hedge fund industry leverage declined in the last 12 months, from 1.27 times to 1.1 times investment capital. Similar academic studies and hedge fund surveys carried out by various regulatory jurisdictions all conclude that the hedge fund industry has consistently employed relatively low levels of leverage.

Table 2: Standard Leverage

Standard Leverage	Q1 2010	Q1 2011
All SM Fund Weighted	127%	110%
ALL SM Asset Weighted	239%	216%
Fund Size: <= 50 MM	108%	106%
Fund Size: 50-200MM	117%	107%
Fund Size: 200-500 MM	145%	131%
Fund Size:500M - 1B MM	173%	158%
Fund Size: > 1B	203%	189%

Source: HFR, Inc 2011 Hedge Fund Leverage Report

The relative size and systemic importance of the hedge fund industry:

Hedge Funds are significantly smaller players in the context of the broader financial market. Recent estimates of the size of the hedge fund industry reported total hedge fund assets under management of approximately \$2 trillion, whilst the global banking industry is now estimated to total in excess of \$100 trillion in assets under management. We estimate that there are only two very large hedge fund firms that would qualify as Systemically Important Financial Institutions (SIFIs) under the Dodd-Frank criterion (where institutions with over \$50bn of assets are deemed as systemically important), with the largest of these hedge fund advisers managing assets equal to approximately 3% of the entire hedge fund industry. Further, many hedge fund managers provide multiple hedge fund offerings; the result of all this being that the total size of assets managed by the hedge fund industry is even less concentrated when looking at asset concentration on a fund by fund basis. This dispersion of assets reduces the risk that the failure of any one hedge fund or fund adviser would create systemic risk due to a lack of substitutes.

Size of the credit hedge fund industry:

Using the criteria set out in section 2, we estimate the proportion of credit hedge fund assets being within a range of approximately 25%-35% of the total of all hedge fund assets under management, or approximately \$630 billion. Please see Annex 1 for a breakdown of the estimated total of the hedge fund universe and the estimated proportion relevant to credit hedge funds.

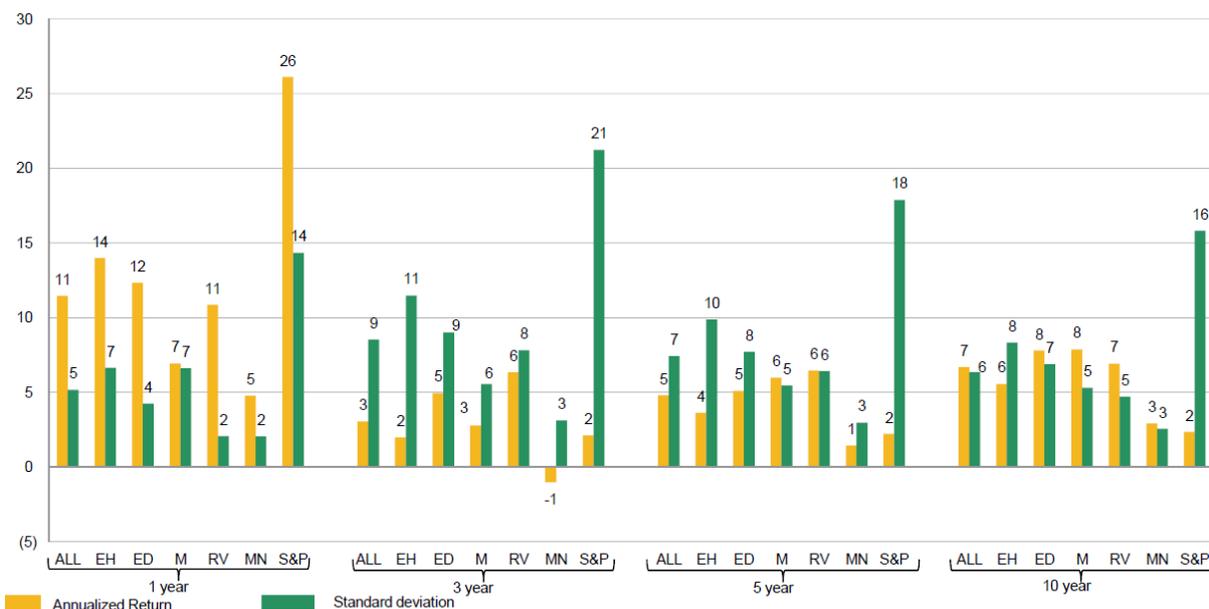
The movement of assets to the hedge fund industry should not cause additional concern either, as it is gradual (consensus forecasts of industry growth estimate total AUM to reach \$2.25 trillion in 2012). Moreover the hedge fund market is both well managed in terms of risk and subject to increasing oversight by regulators, including under the new AIFMD (although for many years hedge funds have already been required to be registered with the UK's FSA) and the Dodd-Frank Act. During the financial crisis, hedge funds frequently closed and liquidated in an orderly manner as evident from chart 10 in annex 1, but there was little or no impact on the system and there was no burden placed on the taxpayer. In a March 2011 report, the UK FSA remarked that "risk-taking by non-banks may be less concerning because non-banks are more likely to be able to fail without damaging the wider sector and economy. For example many hedge funds fail each year without causing systemic problems".²¹

²¹ Prudential Risk Outlook 2011, Financial Services Authority (Section B4) <http://www.fsa.gov.uk/pubs/other/pr.pdf>

Risk: Volatility:

Hedge fund returns are significantly less volatile than equity returns, meaning hedge funds as a group tend to be significantly less risky than a diversified portfolio of stocks as represented by the S&P 500. According to analysis from Morgan Stanley (see chart 8 below), the standard deviation of hedge fund returns in all strategies (ALL) ranges from 5-9% versus S&P 500 range of 14-21% across 1, 3, 5 and 10 year periods. Credit hedge funds bucketed under Event Driven (ED) and Relative Value (RV) range from 5-9% while Equity Hedged strategies are slightly higher at 7-11%. By this measure, investing in the S&P 500 carries approximately twice the risk of investing in hedge funds.

Chart 8: Annual returns and Standard deviations as of June 2011



Source: Hedge Fund Research (June 2011), Morgan Stanley Prime Brokerage

4. Conclusion

Credit hedge funds are part of the asset management community and exist to serve pension funds, endowments, unions, family offices and other investors; they are not ‘shadow banks’.

First, hedge fund asset managers do not operate in a ‘shadow’. They are or will shortly be subject to strict regulation in all major jurisdictions around the world. EU hedge fund managers are currently regulated on the basis of domestic Member State regulation but will shortly be subject to increased and harmonised regulatory scrutiny following the entry into force of the new Alternative Investment Fund Managers Directive (AIFMD). Similar regulations will apply for US hedge fund managers pursuant to the Dodd-Frank Act. Importantly, all major jurisdictions are introducing a detailed and mandatory systemic risk reporting regime which is based on the template created by the International Organization of Securities Commissions (IOSCO)²².

The level of regulation and oversight of the hedge fund industry should ensure that if there were to be a build up of systemic risk in the hedge fund sector, competent authorities should have all the available data and tools to contemplate appropriate intervention.

²² A summary of the existing regulatory framework for hedge fund managers in Hong Kong, Singapore, USA and Europe is outlined in Annex 3.

Second, hedge funds are not banks. There are well-established differences between hedge fund managers and banks:

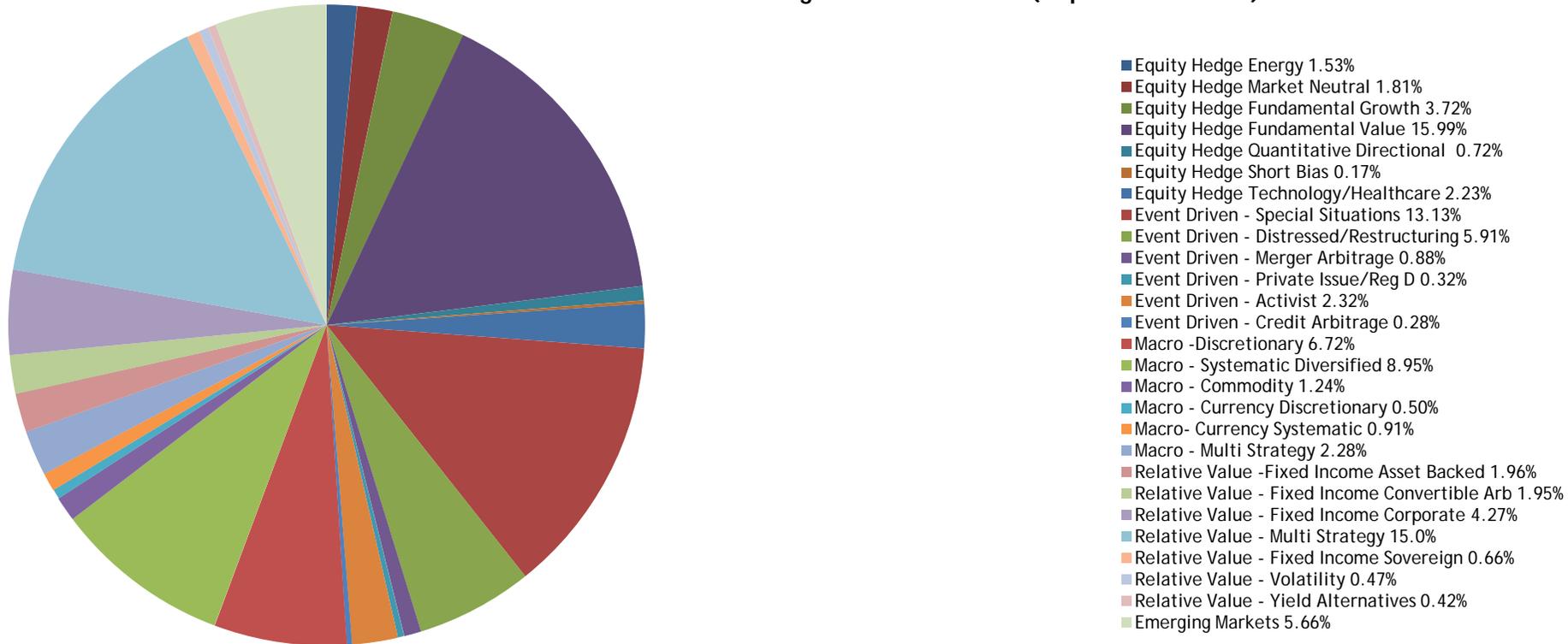
- Investors in asset managers seek particular risk exposures (bank depositors or money market fund investors generally do not seek exposures to bank loans, trading portfolios or other risk portfolios);
- Hedge funds can control, manage and change their liquidity profiles ex-ante by aligning their redemption policies with the liquidity profiles of the funds and ex-post by potentially limiting or even suspending redemptions (and therefore lengthening their liability profile) depending on the market liquidity situation;
- Hedge funds create bespoke liquidity conditions for particular funds or even groups of investors which then match the liquidity profiles of the invested instruments (managed accounts, single investor funds);
- Hedge funds do not offer a guarantee, or do not hold themselves out in such a way as to give an impression to guarantee the redemption of the original investment at par or at a pre-specified time;
- The absolute majority of the hedge fund investor base is now composed of sophisticated institutional investors.

We therefore do not believe credit hedge funds or hedge funds in general should be considered part of the complex called the shadow banking sector because they are:

- adequately regulated
- subject to extensive reporting to competent regulatory authorities
- small in size in relation to the rest of the financial system
- consistently employ low levels of leverage
- do not engage in any significant sense in credit, liquidity or maturity transformation
- do not play a large role in the credit intermediation process.
- are not in need of government support - safe to fail not too big to fail.

Annex 1

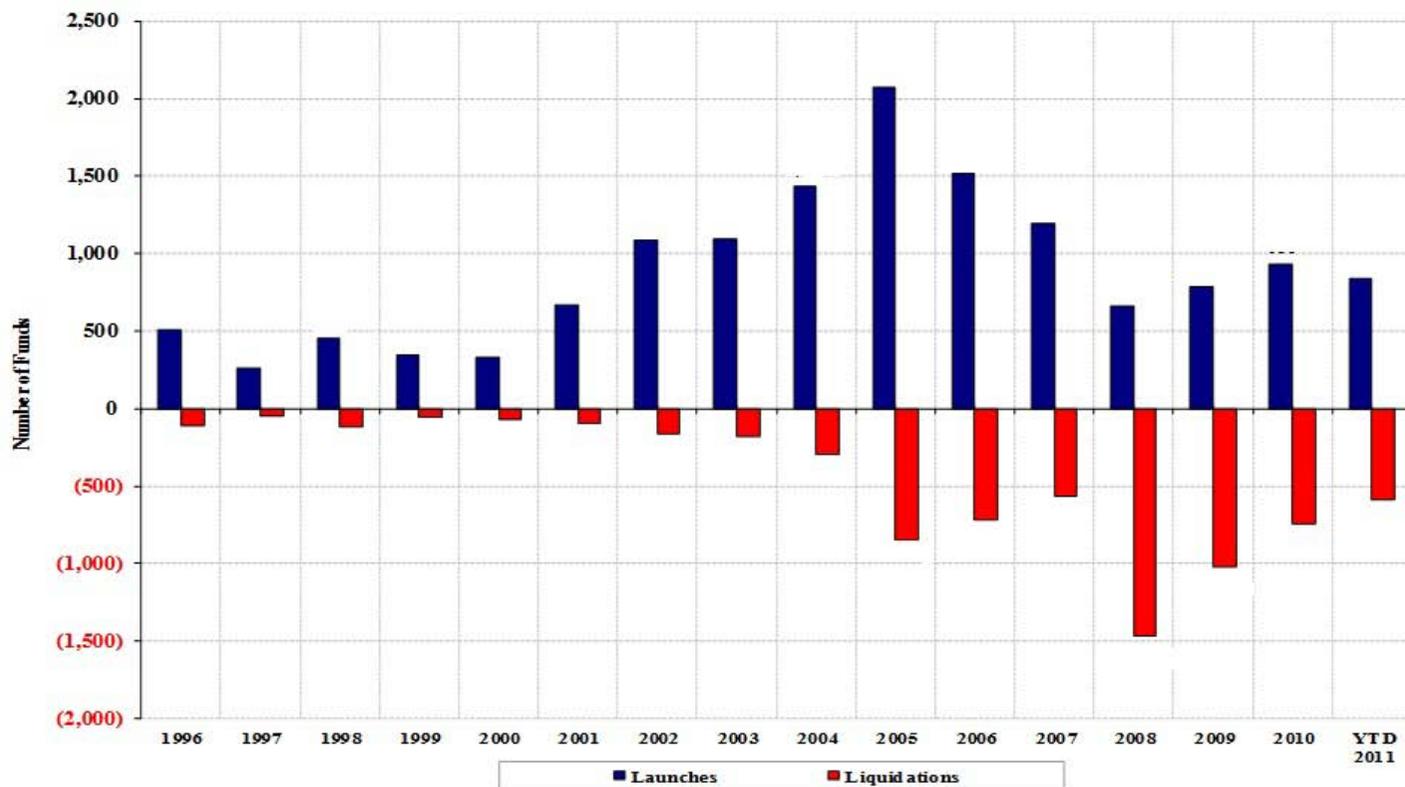
Chart 9: The Global Hedge Fund Universe (September 2011)



Source: HFR Inc. HFR Global Hedge Fund Industry Reports

Note: Our best estimate of the credit hedge fund universe as per our guide in section 2 and 3 above is made up of estimates of total hedge fund assets under management derived from Event Driven (Special Situations, Distressed/Restructuring, Merger Arbitrage, Activist, Credit Arbitrage) and Relative Value Fixed Income (Fixed Income Asset backed, Convertible Arbitrage, Fixed Income Corporate and Fixed Income Sovereign) hedge fund strategies.

Chart 10: Launches and Liquidations of Hedge funds (1996- September 2011)



Source: HFR, Inc. HFR Global Hedge Fund Industry Reports.

Annex 2

Redemption strategies

There are a variety of strategies potentially available to hedge funds for handling redemptions requests and requests for payment. Such strategies may include:

- **Reliance on a 'lock-up' or 'lock-in' period:** Requires that new investors agree to a minimum period of time during which their money invested in the hedge fund is committed and cannot be withdrawn. The length of lock-up period may depend on the quality and reputation of the fund, as well as the liquidity of the underlying investment portfolio. Some funds may allow investors to redeem during a lock-up period if they pay a penalty (redemption fee), for example 3% to 5% of the amount of capital they are seeking to redeem.
- **The alteration of provisions as to redemption notice periods, redemption dates, or their frequency:** Redemption requests are conditioned upon a requirement to give notice (generally 45 to 120 days) to the manager that the investor wishes to redeem all or a portion of its capital account on the given redemption date. These notices are generally irrevocable once delivered and are unconditional.
- **The suspension of determination of the hedge fund's Net Asset Value (NAV), along with a suspension of subscriptions and redemptions:** Redemptions may be refused if the fund manager reasonably believes that the NAV of the fund investments cannot be fairly ascertained, the redemption or realisation of the fund's investments cannot, in the managers opinion, be affected at normal prices or normal rates of exchange, or if there are negative tax consequences of the redemption.
- **The suspension of the date of payment of the redemption proceeds:** Full suspensions or other restrictions can be imposed at the manager's discretion or subject to certain preconditions.
- **The imposition of a 'gate' on redemptions:** This mechanism is used by hedge fund managers to limit the percentages of capital that can be withdrawn on the fund's scheduled redemption date, or to delay or suspend withdrawals altogether where there is a possibility of a "run" on the fund's capital. Redemption gates are often imposed at the discretion of the fund manager to investors, for any reason, from removing any but a portion of their original stake in a fund over a period of time or delay the payment of redemption proceeds to investors. Other gates are drafted as non-discretionary mechanism exercisable only in specified circumstances.
- **The creation of a 'side pocket' or a special purpose vehicle ('a synthetic side pocket') for illiquid investments:** Under this strategy, the hedge fund creates a special purpose vehicle (SPV) to which it conveys the hedge fund's illiquid assets in return for shares or security interests, thereby separating illiquid assets from other more liquid assets. It then transfers those shares or security interests to its redeeming investors as payment 'in kind' of the redemption price that is owed to those investors. The SPV would liquidate the illiquid assets at some point in the future, when market conditions are more favourable and it is able to do so, and then distribute the proceeds to the SPV's shareholders or beneficial owners. A type of account used in hedge funds to separate illiquid assets from other more liquid investments. Once an investment enters a side pocket account, only the present participants in the hedge fund will be entitled to a share of it. Future investors will not receive a share of the proceeds in the event the asset's returns get realised. Investors who

leave the hedge fund will still receive a share of the side pocket's value when it gets realized. Usually only the most illiquid assets, such as delisted shares of a company, receive this type of treatment, because holding illiquid assets in a standard hedge fund portfolio can cause a great deal of complexity when investors liquidate their position.

In addition to the alternatives described above, a fund manager may also be able to use strategies such as the restructuring of the hedge fund or voluntary or compulsory liquidation of the hedge fund.

The availability or suitability of any of these strategies will depend on the terms of each hedge fund as further outlined in the governing documents, and the facts and commercial considerations of each particular case.

Redemption restrictions may be declared during:

- a) any period (other than ordinary holiday or customary weekend closings) when any market is closed which is the main market for a significant part of the investments, or when trading thereon is restricted or suspended;
- b) any period when any emergency exists as a result of which disposal by the fund of investments which constitute a substantial portion of its assets is not practically feasible;
- c) any period when for any reason the prices of a material portion of the investments of the fund cannot be reasonably, promptly or accurately ascertained by the fund;
- d) any period when due to conditions of market turmoil or market illiquidity it is not possible, in the opinion of the Directors, to determine the fair value of a substantial portion of the assets of the fund;
- e) any period when remittance of monies which will, or may be, involved in the realisation of, or in the payment for, investments of the fund cannot, in the opinion of the Directors, be carried out at normal rates of exchange;
- f) any period when proceeds of the sale or redemption of the Shares or Management Shares cannot be transmitted to or from the fund's account;
- g) any period when the business operations of the Manager, the Investment Manager, the Administrator (or any delegate thereof) in relation to the operations of the fund are substantially interrupted or closed as a result of or arising from acts of war, terrorism, revolution, civil unrest, riot, strikes or acts of God;
- h) any period when, in the reasonable opinion of the Investment Manager the realisation of assets by the fund to fund redemptions would result in unreasonable losses to the fund; and
- i) any period when a conclusive valuation of the fund is not possible for any other.

Annex 3 Regulatory framework - Authorisation and reporting requirements for hedge funds and hedge fund managers

Country	Authorisation requirements - Hedge Funds	Authorisation requirements - Hedge Fund managers	Reporting requirements in relation to competent authorities
United States	Hedge funds may either be authorised or non-authorised. Authorised hedge funds pursuant to the Securities Exchange Act of 1934 may offer its interests to any number of investors while non-authorised hedge funds may only offer its interests to certain investors. Authorised hedge funds are under the supervision of the Securities & Exchange Commission ('SEC').	Hedge fund managers may register with the SEC under the Investment Advisers Act 1940. Hedge fund managers that make use of futures and options to execute trades are also obliged to be registered by the Commodities & Futures Trading Commission. Under the newly adopted Dodd-Frank act, hedge fund managers/advisers will be obliged to register with the SEC or the CFTC.	Authorised hedge fund managers are required to report, <i>inter alia</i> , fund's holdings of financial instruments and risk measurement. Under the Dodd Frank Act the U.S. regulatory agencies have broad powers to request regular reporting requirements from hedge fund managers and advisors. This will likely include data about their size, risk exposures and leverage. The reporting regime is likely to be based on the IOSCO template.
EU	Fund structures and establishment remains in the domain of national law of EU Member States.	National European legislation pertaining to hedge fund managers is being replaced with the newly adopted Alternative Investment Fund Managers Directive. All hedge funds with assets under management of more than 100 million euros will have to be authorised by Member State competent authorities.	Managers will have to report a large set of data about themselves, their size, strategies, their risk exposures and leverage to their respective competent authorities. The reporting regime is likely to be based on the IOSCO template.
France	Hedge funds (except for contractual funds) are subject to authorisation requirements by the Autorité des marchés financiers ('AMF') pursuant to the French Monetary and Financial Code.	Management companies are authorised by and placed under the supervision of the AMF.	Hedge fund managers are required to report, <i>inter alia</i> , key information as to holdings and exposures of hedge funds.
Hong Kong	Hedge funds sold to the public in Hong Kong are subject to authorisation requirements by the Securities and Futures Commission ('SFC') pursuant to the Securities and Futures Ordinance ('SFO') and the SFC's Code on Unit Trusts and Mutual Funds.	Any asset management activity conducted in or from Hong Kong, whether in relation to a retail or a privately placed fund, or other forms of securities and/or futures contracts management, requires the fund manager/adviser to obtain a SFC licence pursuant to the SFO.	Hedge fund managers are required to report, <i>inter alia</i> , key information as to holdings and exposures of hedge funds.

Germany	Hedge funds are subject to authorisation requirements by the Bundesanstalt für Finanzdienstleistungsaufsicht ('BaFin') pursuant to the German Investments Act.	Hedge fund managers are subject to authorisation requirements pursuant to the German Banking Act.	Hedge fund managers are required to report, <i>inter alia</i> , key information as to holdings and exposures of hedge funds.
Singapore	Hedge funds are subject to authorisation requirements by Monetary Authority of Singapore ('MAS') pursuant to the Securities and Futures Act ('SFA').	Hedge fund managers are subject to authorisation requirements pursuant to the SFA.	Hedge fund managers are required to report, <i>inter alia</i> , key information as to holdings and exposures of hedge funds.
Luxembourg	Hedge funds (UCITS or non-UCITS) are subject to authorisation requirements by the Commission de Surveillance du Secteur Financier ('CSSF') pursuant to the part II of the act of 20 December 2002 ('UCI Act 2002') or the act of 13 February 2007 ('SIF Act 2007').	Hedge fund managers are subject to authorisation requirements by the CSSF pursuant to UCI Act 2002 or SIF Act 2007.	Hedge fund managers are required to report, <i>inter alia</i> , key information as to holdings and exposures of hedge funds.
Sweden	Hedge funds (UCITS or non-UCITS) are subject to authorisation requirements by the Finansinspektionen ('FI') pursuant to the Swedish Investment Funds Act ('LIF').	Hedge fund managers are subject to authorisation requirements by the FI pursuant to the LIF.	Hedge fund managers are required to report, <i>inter alia</i> , fund's holdings of financial instruments and risk measurement.
United Kingdom	Hedge funds may either be authorised or non-authorised. Hedge funds that are regulated must comply with the provisions of the FSA Handbook. Under the UK regulatory regime, hedge funds are typically non-authorised.	All UK based hedge fund managers must be authorised and, once authorised, then regulated by the Financial Supervisory Authority ('FSA') pursuant to the Financial Services and Markets Act 2000.	Authorised hedge fund managers are required to report, <i>inter alia</i> , fund's holdings of financial instruments and risk measurement.