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Funds of Hedge Funds

An Introduction to Multi-manager Funds

Martin Fothergill
(44) 20 7547 1523
martin.fothergill@db.com

Carolyn Coke
(44) 20 7547 6532
carolyn.coke@db.com

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An Introduction to Multi-manager Funds

We believe funds of hedge funds offer the investor exposure to a wide range of alternative investment styles and strategies that, combined in a portfolio, can produce consistent absolute returns with low levels of risk. The fund of funds structure can also provide a more transparent and liquid platform than direct hedge fund investment, and can relieve the investor of many potential problems, such as the processes of due diligence, and fund selection. Funds of funds provide exposure to hedge funds through a relatively low minimum investment, sometimes as a listed share, and can provide higher levels of disclosure.

- As an asset class, hedge funds are extremely varied, encompassing a broad range of different investment objectives and styles. The managers of hedge funds have enormous flexibility compared to their traditional long equity counterparts. They have the ability to invest in virtually any instrument and to employ a variety of trading and investment techniques. As a result, there is no typical hedge fund, but rather an asset class of funds with greatly differing risk/return profiles and little correlation to each other or to financial markets.
- Although hedge funds have long been popular with high net-worth private investors, to date, the perceived high level of risk has deterred institutions and the majority of retail investors. However, we are now seeing an increased interest in hedge funds, from both the retail market and major institutions, as investors become increasingly interested in alternative investments, including hedge funds, as diversification tools against progressively correlated and overvalued equity markets.
- In addition to the recent pace of development of the global hedge fund market, the multi-manager, or fund of hedge fund industry, is also flourishing. In fact, this has been an important growth area for many years, particularly in Europe. Sophisticated investors are learning that by combining hedge funds in diversified portfolios, systematic risk can actually be reduced, while still achieving double-digit performance. Although the risks associated with holding just one or two hedge funds can be extreme, industry research has shown that a broadly diversified portfolio of 15 to 20 hedge funds can reduce risk to bond levels and maintain steady returns of 10% to 15% per annum.
- Although this document discusses the hedge fund industry as a whole, its primary focus is on funds of hedge funds. We examine the philosophy behind portfolios of hedge funds from a risk/return viewpoint, and consider the structural advantages and practicalities of fund of fund investing. We estimate that there are about 450 funds of funds in existence, which we have filtered down to around 50, predominantly European or European-based funds, for the purpose of our analysis. We focus in even more detail on a number of funds that we believe offer diversification, liquidity and attractive structural attributes.

Investment Case

Funds of hedge funds offer structural benefits such as transparency, low minimum investment, and portfolio construction

In addition to the enhanced risk/return profile of funds of hedge funds, there are numerous additional structural benefits. These funds offer increased levels of transparency, sometimes due to stockmarket regulations, and generally provide regular shareholder information and portfolio updates. Minimum investment levels for single hedge funds are often as high as $1 million, but funds of funds have much lower barriers to entry, with minimum sizes of below $50,000 being common. There are other obstacles to direct hedge fund investment, such as access to managers, closed funds and limited liquidity, which can be alleviated through the fund of funds structure. The most important benefit is access to an experienced portfolio manager to select investments, decide on strategy, carry out the exhaustive process of due diligence, and monitor the portfolio and market on a continuing basis.

Dealing in funds of hedge funds is usually on a monthly basis

Like mutual funds, funds of hedge funds are usually open-ended, offering periodic dealing in their units. Dealing frequency is typically monthly, with 30 days' notice for redemption and 3% fees for subscription. Some funds are listed on European exchanges, affording investors an increased level of regulation.

Challenging incentive fees attract high-quality investment managers

A defining feature of the hedge fund industry is performance fees. Although sometimes viewed as excessive, this is often what attracts talented investment professionals to the industry. Funds of hedge funds also charge investors for their services; we estimate they charge on average 1.4% annual management fees with, typically, a performance fee of 10%, subject to various conditions.

Taxation can cause problems in certain countries if funds are not recognised investments

Many funds of hedge funds are managed from Europe and a few specialise in investing in European hedge funds. However, many of these funds of funds are domiciled outside Europe in offshore tax havens, restricting marketing activity and reducing the universe of eligible, or tax-efficient, investors. For example, very few funds are registered for sale in some of the major European markets.

We have studied a sample of 50 funds of hedge funds that we believe will be of interest to European investors

We estimate that there are approximately 450 funds of hedge funds globally, although, due to the nature of the market, there are no official figures. We have taken a sample of 50, predominantly European funds, which we have selected on factors such as size, listing, currency, strategy, diversification, liquidity and so on. We have focused on those funds that we believe are likely to be of most interest to European investors, although the list is by no means exhaustive. In addition to this broad overview, we have selected ten funds to examine in more detail. These tend to be the largest and most well-known funds, but we have also tried to cover the spectrum of structures, managers and investment styles.

Hedge Funds – An Introduction

"To Hedge – To secure against loss" – Oxford English Dictionary

Hedge funds are an often-misunderstood asset class, which has not helped their image

The hedge fund industry has attracted a lot of publicity over the past few years. This was triggered by the 1998 financial crisis, and the resulting problems of a few, high-profile hedge funds, and was exacerbated by a lack of understanding of what hedge funds actually are, and what they aim to achieve. In a financial context, the term 'to hedge' refers to protecting an asset against adverse price movements. However, investing in a hedge fund does not automatically insure against market falls. Hedge funds aim to minimise directional market risk, while maintaining steady returns.

Efficient markets theory is the basis for traditional investing.

Hedge fund investing is based on an alternative theory that significant mispricing does occur.

Historically, there have been two competing theories of investment. The first is the traditional efficient markets theory, which states that share prices fully reflect market information and therefore only temporary mispricing occurs. It is therefore impossible for investment managers to continue to make excess profits over the long term without undue levels of risk. This theory is the basis for traditional buy/hold equity and bond investing, which benefit predominantly from market direction. The second theory argues that greater inefficiencies occur, and therefore opportunities can arise that enable investors to exploit mispriced securities without incurring excessive levels of risk. This is the principal argument behind hedge fund investing.

The is a wide range of strategies and instruments that can be used by hedge funds

Hedge funds encompass a wide range of different investment objectives, strategies, styles, techniques and assets, offering a wide spectrum of risk/return profiles. As a result, some hedge funds are very high risk, offering high volatility with a correspondingly high return. These are the funds that are at most risk of default, and are most commonly focused on by the media.

There are various definitions of hedge funds, sometimes contradictory, such is the heterogeneous nature of the asset class. A general, albeit all-encompassing definition is given by Dr Phillipp Cottier, a hedge fund advisor.

"All forms of investment funds, companies and private partnerships that use derivatives for directional investing and/or are allowed to go short and/or use significant leverage through borrowing. "

Hedge fund investment involves more varied disciplines and strategies to traditional funds

The approach of hedge fund managers is very different from that of traditional long equity managers. Hedge funds aim to achieve steady absolute returns with low risk, rather than relative performance against a stated benchmark index, typically the goal of traditional buy/hold managers. This is a key difference for many small or private investors, for whom an absolute return 'benchmark' may be more relevant than an index benchmark. Will investors be happy that a fund has outperformed its index benchmark by 2% when the index is down 20%?

They have great flexibility to invest in different asset classes, instruments and markets

Despite the flexibility of not having an index benchmark, hedge funds still generally adhere to an investment strategy detailed at the launch of the fund. Although hedge funds have the flexibility and freedom to invest in a wide variety of markets and instruments, most funds choose to specialise in specific asset classes, strategies or markets. The range of investments available to hedge funds includes equities, currencies, interest rates and commodities. Generally, all markets are available for investment, including the US, Europe, Japan and, to a lesser extent, Emerging Markets. Investment

instruments and techniques include cash, futures and options, derivatives, short selling, stock borrowing and lending and leverage.

Hedge Fund Strategies

A number of basic hedge fund strategies are commonly employed

A number of different investment strategies are employed by hedge funds. Although we define the broad categories here, it should be noted that there are no industry standard definitions and hedge fund managers will often use their own interpretations, subdividing further the categories we present. This should be taken into consideration when comparing portfolio descriptions from different managers.

- **Equity Hedge** – this strategy employs bottom-up research to take advantage of undervalued and overvalued securities by taking both long and short positions. Managers can shift from net long to net short, value to growth, small to large cap, and strategies can be focused on specific sectors and geographical regions. More opportunistic managers may adopt a less structured approach. Leverage, and the uses of derivatives, are also common features of this strategy.
- **Relative Value** (Market Neutral) – this strategy attempts to exploit temporary anomalies between related equities, fixed interest securities and derivatives, usually of the same company, by being long and short at the same time. This strategy tends to have a low correlation with movements in equity and fixed interest markets.
- **Global Macro** (Asset Allocators) – this strategy employs top-down macro research to take advantage of expected market movements by taking both long and short positions at the same time. Such funds can invest in equities, bonds, currencies and derivatives and tend to be highly opportunistic and highly geared.
- **Event Driven** – this strategy focuses on companies that are involved in special situations, including corporate restructuring, acquisition, merger and bankruptcy. A manager will typically take a long position in the company being acquired and a short position in the acquirer. The principle risk factor is deal risk rather than market risk. These types of funds do not therefore rely on market direction, but do tend to perform best when equity and fixed interest markets are strong.
- **Short Selling** (Short Biased) – short strategies involve managers taking short only positions in overvalued securities, by either selling borrowed stock or using derivatives to create synthetic shorts. Although these strategies are usually short only, Short Biased strategies involve long positions being taken for limited periods of time.
- **Funds of Funds** (Multi-manager funds) – the majority of funds of hedge funds invest in portfolios diversified by manager and strategy. The objective is to create consistent returns with low risk. Funds of funds provide hedge fund investors with access to experienced management, enhanced liquidity and less risk of default. Funds of hedge funds are the main focus of this document.

Characteristics of Hedge Funds

Structure and Accessibility

Hedge funds are not particularly accessible to smaller investors

Estimates by industry participants suggest there are in excess of 6,000 hedge funds, the majority of which are the result of private placements with specific investors, and not publicly marketed. Many funds' strategies limit investment

capacity, therefore they are only open to subscription for short periods of time, and are offered only to known investors and funds of funds. Funds offering continued subscriptions may require notice for new investments and have high minimum investment levels; in some cases as high as $1 million. Many impose entrance fees or sales charges. Redemption is usually more difficult, typically quarterly with long notice periods and exit fees. These issues restrict the accessibility of hedge funds, particularly to the smaller investor.

Potentially high fees attract quality managers to the sector who align their interests with those of investors

Performance Fees and Manager Interest

Hedge fund managers are typically rewarded in the form of an annual management fee (a pre-defined percentage of net assets) and, more significantly, through a performance-based fee. This is one of the distinguishing features of hedge funds. While annual fees are generally equivalent to 1-2% of assets, performance fees are typically in the region of 15-25% of a fund's profits. Hurdle rates (typically 5% per annum) and high watermarks are often enforced to ensure fees are earned for absolute performance. A high watermark applies where accumulated losses need to be recouped before a performance fee will be paid. Although such fees may appear excessive, this type of remuneration has always been standard practice, luring high-quality investment professionals into the hedge fund sector and encouraging managers to generate maximum returns for investors.

Hedge fund managers also tend to be investors in their own funds. The extent of their investment varies (and is rarely documented), but many managers commit a sizeable proportion of their own wealth to their fund, thereby further aligning their interests with those of investors.

Leverage can be in the form of bank debt or buying on margin

Leverage

A feature of hedge funds is their ability to employ leverage to enhance returns. Hedge funds typically leverage their capital by buying securities on margin or taking out bank borrowing, and are able to buy derivative products. This avoids having to provide the full capital value at the time of purchase, while still gaining market exposure. Funds can also secure negotiated credit lines with banks but, as these tend to be relatively expensive, their use is generally limited to financing additional unexpected margin calls. Individual funds vary their use of leverage according to their desired risk/return profile.

Growth of the Hedge Fund Industry

Assets under management in the hedge fund industry have grown to $450 billion

The hedge fund industry has grown rapidly during the past ten years. Fuelled by a large rise in the number of affluent and sophisticated investors, coupled with the asset class's favourable risk/return profile and low correlation with traditional assets, the 1990s have proved to be a strategic inflection point[1] for the hedge fund industry. It has been conservatively estimated by industry studies that assets under management have grown from $20 billion in 1990 to over $450 billion today. This represents an annualised growth rate of approximately 36%. *(1: see page 13.)*

The first hedge fund was set up over 50 years ago by Alfred Jones

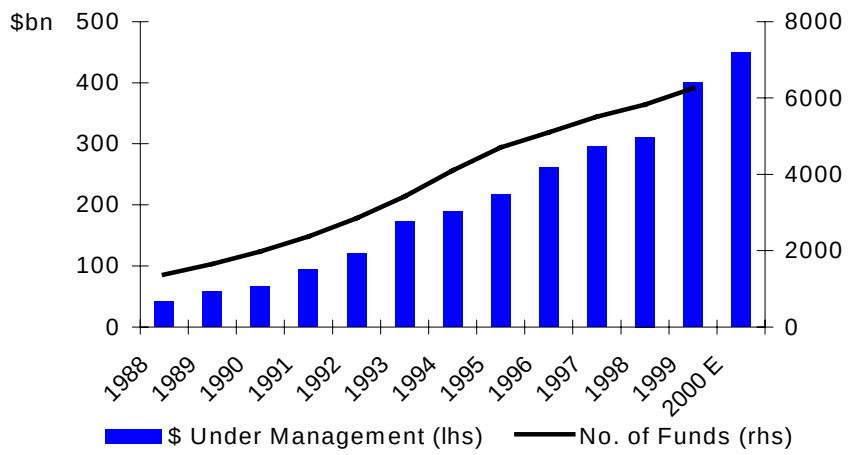
The First Hedge Fund

Hedge funds are not new. On the contrary, the industry can trace its origins back to 1949 and the establishment of a private partnership by the US-based Australian, Alfred W Jones. He ran his fund for nearly ten years, generating profits through superior stock picking, hedging out market risk by short selling, while applying leverage to magnify the returns of these hedged positions. He also introduced a performance-based compensation arrangement, earning a percentage of the profits generated by the fund, similar to performance fees seen throughout the industry today.

The first fund of hedge funds began in 1969

The first fund of hedge funds began in 1969 The hedge fund industry continued to grow steadily throughout the 1960s, largely on the back of the success of Jones. In 1969 the first fund of hedge funds, Leveraged Capital Holdings, was established. Growth slowed during the early 1970s following the oil crises, before resuming a steady pace throughout the 1980s. As Figure 1 shows, growth during the 1990s has been dramatic.

Figure 1: **Growth of Global Hedge Fund Universe**



Source: Van Hedge Fund Advisors

We estimate that there are up to 6,000 hedge funds with total assets of $450 billion

The hedge fund industry is a largely private and unregulated industry, which means that the reporting of data is voluntary, creating immediate disclosure problems. Estimating the current size of the market is therefore difficult, as is calculating the growth in number of funds or the average fund performance. Respected databases have now been developed, including Van Hedge, TASS, PerTrac and Mar/Hedge, but unfortunately none is really comprehensive. Based on various industry studies, we estimate that there are currently as many as 6,000 hedge funds with assets approaching $450 billion. Note, however, that while compiling this report we have come across estimates

below and in excess of these figures. One industry forecast sees the global sector increasing to $1.7 trillion over the next eight years.

Table 1: **The History of the Hedge Fund Industry**

1949	First hedge fund established by Alfred W. Jones
1968	140 hedge funds are recognised by SEC
1969	Leveraged Capital launches first Fund of Hedge Funds. George Soros launches the Quantum Fund.
1970	Hedge funds enter their first crisis as equity markets fall. Industry studies estimate that hedge fund assets under management fell by 70%.
1986	Julian Robertson established the Jaguar Fund, the first global macro fund. The growth of the sector continues.
1992	Hedge funds attract widespread media attention as the British pound is forced out of the ERM.
1994	Many hedge funds suffer heavy losses as the Fed unexpectedly increases US interest rates.
1995-98	With strong equity markets, hedge funds achieve spectacular returns, thereby attracting hundreds of new managers to the industry
1997	Hedge funds blamed for triggering the Asian currency crisis. In Europe, the number of funds grows at a rapid pace. The major investment banks establish prime brokerage services.
1998	The hedge fund boom comes to an end as market liquidity drives up and equity markets correct. The Fed negotiates a bailout of Long-Term Capital Management.
1999	Despite generating strong returns, the industry remains out of favour. Growth, however, continues apace.
2000	On the basis of industry studies, we estimate that there are currently around 6,000 hedge funds, with assets approaching $450 billion.

Source: Deutsche Bank

Growth in the 1990s was strong, helped by inflows from high net worth individuals

The hedge fund industry generated positive returns throughout the 1990s. Primarily, fund inflows rather than organic growth have driven expansion. There are three principle reasons behind this flow:

- strong growth of the high net-worth individual and more sophisticated private client investor;
- increasing empirical and academic evidence showing that hedge funds can offer superior returns while displaying a low correlation to other asset classes.
- Increased respectability and acceptance of alternative investment vehicles in general, including hedge funds, private equity and venture capital, as a recognised and separate asset class.

Growth of the High Net Worth Investor

High net worth individuals dominated the market throughout the 1980s

High net worth individuals dominated the market throughout the 1980s Although the risk/return profile of hedge funds may be attractive, the largely unregulated nature of the industry has so far restricted its growth to two groups: sophisticated high net worth individuals and, to a lesser extent, institutional investors. Research[2] shows that the hedge fund industry was almost exclusively owned by high net worth investors throughout the 1980s and it was not until the early 1990s that institutional investors began to take an interest in the industry. We estimate the current split between the high net worth investor and the institutional investor is estimated to be approaching 70:30. *(2: see page 13.)*

High net worth individuals have been more willing to bear the risks associated with hedge funds

An integral factor in the continued dominance of high net worth investors in the hedge fund industry is their willingness to bear higher risk, in exchange for higher return. Although numerous studies[3] have now concluded that portfolios of hedge funds can offer a superior risk/return profile, individual hedge funds still exhibit higher risks. Another important factor that has restricted investment by institutions is the lack of regulation. Institutions tend to face strict fiduciary responsibilities when investing client money, which can include heavy monitoring of credit counterparty risk. The necessary due diligence, which can be both timely and expensive, has limited the appeal of hedge funds to many institutions. *(3: see page 13.)*

The Importance of the Institutional Investor

The importance of the institutional investor is growing

Although research[4] confirms that the single most important hedge fund client remains the high net worth individual, the importance of other groups of investors, including Pension Funds, Charitable Foundations, and Endowments, is growing. With US institutions currently estimated[4] to allocate less than 1% of assets to hedge funds, any incremental commitment of funds will have a material impact on the industry and would be likely to lead to greater demand for transparency. Since the 1998 crisis, disclosure has improved significantly, due to greater risk awareness. Increased levels of transparency have already been noted in terms of information on leverage, liquidity, portfolio composition and performance attribution. The implementation of password-protected websites has also greatly improved transparency and the speed of disclosure. *(4: see page 13.)*

Disclosure has improved since the 1998 crisis

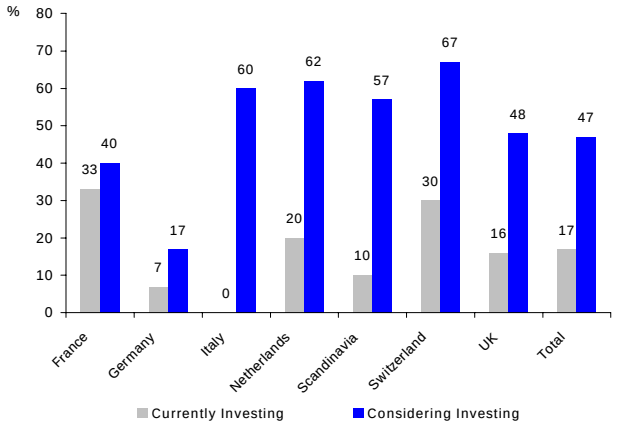
Demand from institutions is also coming from the expanding fund of funds sector, with a number of large institutions recognising the potential of attracting wealthy individuals and small institutions through low-risk products.

Over 50% of European institutions invest or are looking to invest in hedge funds

A recent survey[5] revealed that 56% of European institutions either currently invest institutional money into hedge funds, or were looking to do so. This figure comprises 17% that are already investing in hedge funds and 39% who were planning to invest in the foreseeable future. If that 39% were to allocate 1% of assets to hedge funds (as in the US), this would equate to an inflow of approximately £21 billion. Figure 2 shows the percentage of institutions by country that currently invests in hedge funds and those that intend to do so. *(5: see page 13.)*

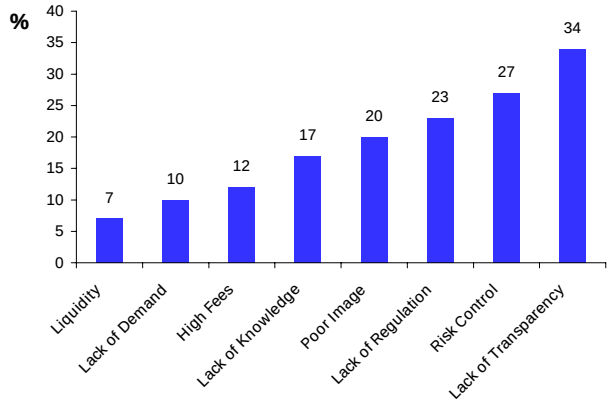
France and Switzerland have the highest proportion of institutions already investing in hedge funds, either directly through in-house hedge funds, or by third-party specialists. Italy, Germany and Scandinavia currently have the lowest number of institutions in hedge funds, although 60% of Italian and 57% of Scandinavian institutions were considering investing in the foreseeable future.

Figure 2: **Percentage of European Institutions Currently Investing in Hedge Funds**



Source: Ludgate Communications

Figure 3: **Main Problems Cited by European Institutions Regarding Hedge Fund Investing**

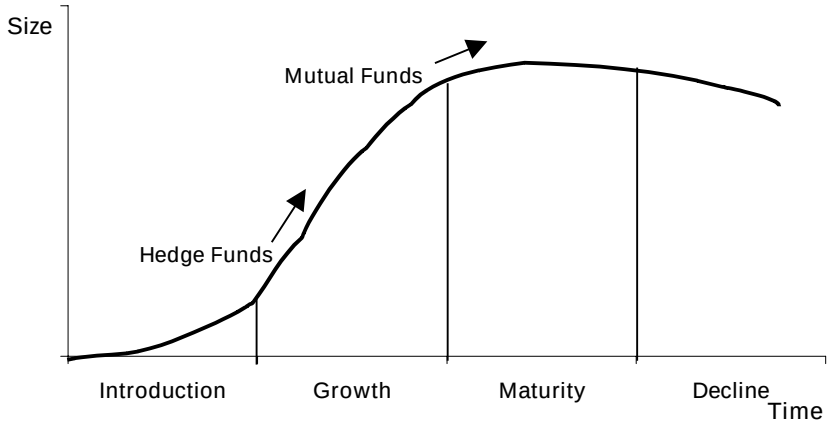


Source: Ludgate Communications

The 1998 crisis has prompted the industry to review its risk controls

Ludgate Communications' survey asked what was preventing institutional investment. The most frequently cited problem was lack of transparency, with risk controls and lack of regulation also prominent (Figure 3). Numerous respondents mentioned the collapse of LTCM. However, the LTCM default, and events dating back to the 1997 Asian crisis, have prompted a review of risk management procedures – specifically credit, market and operational risks – by both hedge fund managers and investors.

Figure 4: **The Lifecycle Pattern of an Industry**



Source: Deutsche Bank

Growth of the mutual fund industry is an indicator of the potential growth pattern to be expected from the hedge fund industry

Potential Growth of the Industry

An analogy can be made of the growth pattern of the hedge fund Industry to that of mutual funds ten years ago. It could be argued that the growth of the mutual fund industry is an indicator of the potential growth pattern to be expected from the hedge fund industry. Research[6] shows that lifecycle theory can be applied to both industries, albeit mutual funds are over ten years ahead of hedge funds (Figure 4). In the early 1980s, mutual funds began to attract significant investor attention, rapidly growing into a multi-trillion dollar industry. In its early days, the mutual fund industry was largely unregulated, with little information available on performance, strategy and fees. It was also largely restricted to the more sophisticated investor. *(6: see page 13.)*

European Hedge Fund Market

European hedge funds are now at the leading edge of the industry's growth

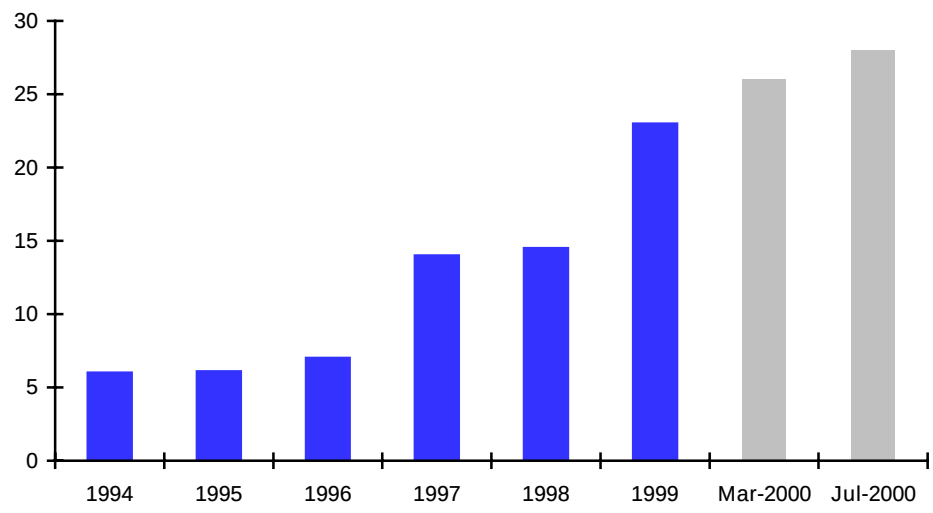
Since the financial crises of the late 1990s, there has been significant expansion of the hedge fund industry, particularly in Europe and Asia. In fact, research[7] shows that the European hedge funds are now at the leading edge of the industry's growth. Growth began earlier in the European fund of funds sector (the first fund of funds came from Europe in 1969), although 1999 saw substantial amounts of capital invested in European single-manager start-ups and existing funds, in addition to an increased number of US hedge funds setting up European offices. In our view, the European hedge fund industry now has such momentum that growth is unlikely to be daunted by anything, other than a prolonged bear phase in equity markets. We expect demand for hedge funds to increase among European institutions and that funds of hedge funds are most likely to benefit from inflows from new hedge fund investors. We have already seen anecdotal evidence of traditional funds investing in managed funds of hedge funds, to diversify portfolios and reduce risk.

We expect demand for hedge funds to increase among European institutions

The breaking down of corporate barriers across Europe has encouraged the growth of hedge funds

Unsurprisingly, in our view, the introduction of the Euro and the breaking down of corporate barriers across Europe, has encouraged the growth of merger-arbitrage strategies. Europe has also witnessed an increasing number of banks and traditional asset management houses launching their own hedge fund products. As these new funds reach maturity thresholds (two-to-three-year track records), we expect there to be higher demand from private investors. The necessary hedge fund infrastructure has also developed in Europe (consultants, legal advisors, software suppliers), and administrative and listing services are already well established in London and Dublin, due to the existing offshore (traditional) fund industry.

Figure 5: **Growth of European Hedge Fund Market ($ billion)**



Source: TASS

1. In *"The Coming Evolution of the Hedge Fund Industry: A Case for Growth and Restructuring"*, Dr. Ramo Rao argued that the Hedge Fund Industry was at a strategic inflection point. Mathematically, the inflection point occurs when the rate of change of the slope of any curve changes. After a few decades of modest growth, the hedge fund industry, since 1990, has experienced a dramatic acceleration in its growth of both assets and number of funds.
2. Matthias Bekier (1996) and Philip Cottier (1997).
3. Henker (1998), Lamm (1998, 1999) and Lamm and Ghaleb-Harter (2000).
4. Hedge Fund Research.
5. Ludgate Communications survey of 100 of the leading European institutions that collectively control 60% of assets under management in Europe Euro 5,300 billion.
6. Ramos and Szilagyi
7. William Dombrowski, Arthur Anderson (1999)

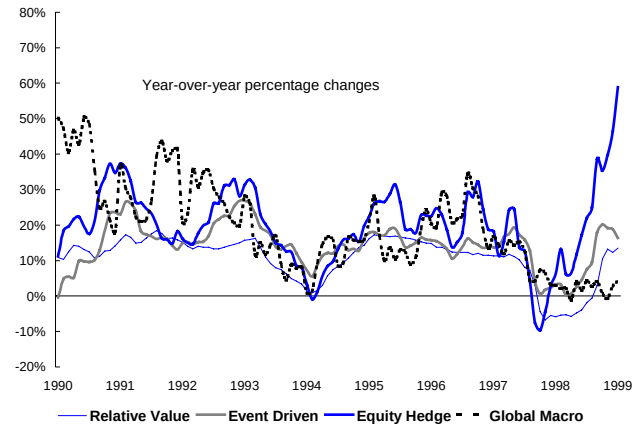
Diversification of Hedge Fund Investment

"During the past five years, investors in George Soros' Quantum Fund have earned net returns of 41% per year. Not bad! In contrast, many investors in David Askin's Granite Fund lost most of the money in 1994 when his fund imploded. Not good!" – George P. Van, 1995

Diversified portfolios of hedge funds can provide double-digit returns with bond-level risk

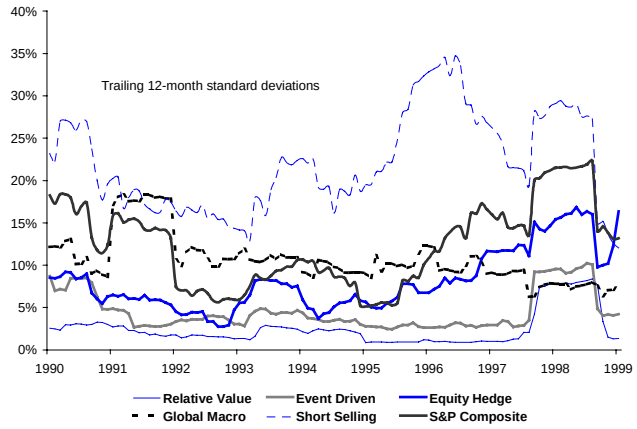
In reality, hedge funds are not as volatile as these two extreme cases would suggest, but different strategies do offer different risk/return profiles. Figures 5 and 6 show the risk and return profiles of competing strategies over the past decade. A closer examination of 1999 shows the divergence of returns, as equity hedge managers rebounded strongly following the troubles of 1998 on the back of a strong equity market. Performance by relative value and event-driven hedge funds also improved, while global asset allocators continued to lag. Owning a relatively few hedge funds can, therefore, be a high-risk strategy and would be in contradiction of Modern Portfolio theory, that advocates portfolio diversification. It concludes that the risk/return profile of a group of risky assets is much less volatile than the risk/return profiles offered by the individual assets themselves. By holding a pool of assets, unsystematic risk can be diversified away. Unfortunately, although this is a widely recognised concept, there are still numerous examples of investors taking excessive risk by investing in only one or two hedge funds, rather than in a diversified portfolio.

Figure 6: **Hedge Fund Returns by Strategy**



Source: Deutsche Asset Mgt, Datastream, Evaluation Associates

Figure 7: **Hedge Fund Risk by Strategy**



Source: Deutsche Asset Mgt, Datastream, Evaluation Associates

At least 15 to 20 funds are required to achieve the necessary diversification

Extensive research[1] has been carried out on the merits of holding a portfolio of hedge funds. One study[2] argued that a minimum of six funds provided sufficient diversification, but others[3], having studied further empirical evidence, argued that at least a dozen funds is necessary. In fact, when 'survivor bias' and the potential for funds to default are considered, it can be argued that at least 15 to 20 funds are required to achieve the necessary diversification. *(1, 2, 3: see page 15.)*

Research[4] has also shown that investment in a diversified portfolio of hedge funds can provide double-digit returns with bond-level risk. In fact, it has been argued that this is one of the principle reasons fuelling the dramatic growth of the hedge fund industry throughout the 1990s. *(4: see page 15.)*

Table 2 shows the annualised returns for a variety of hedge fund strategies, including the EACM 100 index and the S&P Composite index. The EACM index is an arbitrary constructed index, complied by Evaluation Associates

Inc, comprising 30% relative value, 15% event-driven, 30% equity hedge, 20% global macro and 5% short selling strategies. As the returns show, throughout the 1990s, the EACM 100 index returned an average of 14.8% per annum. Although this is almost 3% less that the 17.7% annualised return generated by the S&P Composite index, it was generated with only one-third the level of risk, 4.3% versus 13.4% and this is the same level of risk as that exhibited by bonds. Thus, it offered double-digit returns with bond-level risk.

Table 2: **Hedge Fund Returns and Risks – 1990-99**

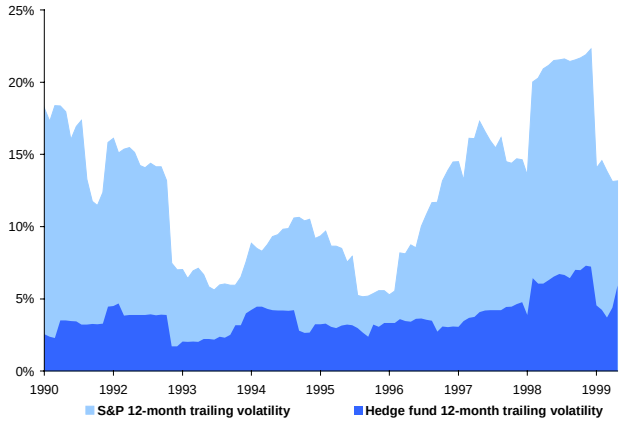
	EACM 100	Relative Value	Event Driven	Equity Hedge	Global Macro	Short Sellers	S&P Composite	Bonds
Returns (%)	*14.8*	*10.2*	*12.9*	*20.4*	*18.4*	*-0.6*	*17.7*	*7.5*
Volatility (Std. Dev) (%)	*4.3*	*3.4*	*5.4*	*9.9*	*11.2*	*22.4*	*13.4*	*4.3*
Sharpe Ratio	2.3	1.5	1.5	1.6	1.2	-0.3	0.9	0.6

Source: Deutsche Bank calculations based on data from EAI and Datastream

The volatility of hedge funds has been consistently lower than that of the S&P Composite

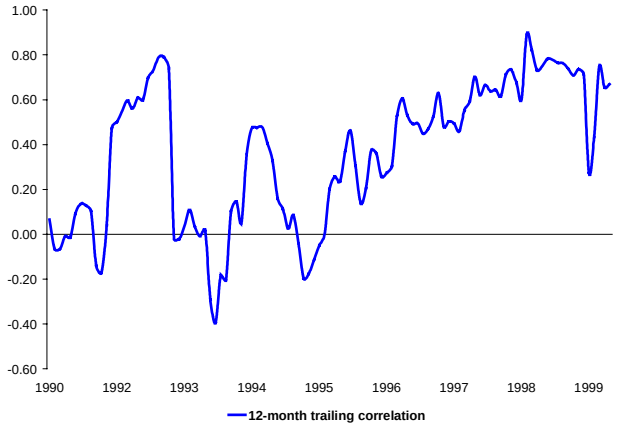
Figure 8 confirms these results, illustrating that the volatility of hedge funds (as denoted by the EACM index) has been consistently lower than that of the S&P Composite index over the past decade. Figure 9, however, shows that over recent years the correlation between the two asset classes has increased. In reality, however, managed portfolios are unlikely to be so highly correlated as the 'unmanaged' EACM index, as managers will actively strive to reduce correlation. A well-diversified portfolio will balance the high risk of, for example, equity hedge strategies, with the low risks of event driven and relative value. Figure 7 also shows that the risk profiles of strategies change over time, thereby highlighting the need for active management. The low correlation of hedge fund portfolios to other asset classes has been another key factor sparking interest in portfolios of hedge funds as, returning to Modern Portfolio theory, they can reduce total portfolio volatility, when combined with traditional equity and bond portfolios.

Figure 8: **Hedge Fund Volatility versus S&P 500**



Source: Deutsche Asset Management, Datastream, Evaluation Associates

Figure 9: **Hedge Fund Correlation with S&P 500**



Source: Deutsche Asset Management, Datastream Evaluation Associates

In our view, even the most conservative investor should have some hedge fund exposure

The extent to which hedge funds should be combined with traditional equities in a portfolio depends upon the investor's risk appetite. However, we believe that even the most conservative investor should have some hedge fund exposure, because hedge fund portfolios offer superior risk-adjusted performance versus bonds.

(1) Henker (1998), Lamm (1998, 1999) and Lamm and Ghaleb-Harter (2000)
(2) Henker (1998)
(3) Lamm and Ghaleb-Harter (2000)
(4) Lamm (1998, 1999, 2000)

Funds of Hedge Funds

Structural Advantages

Investment in a fund of hedge funds is the clear route for small to medium sized investors

We have now argued that investment in hedge funds is best implemented through a diversified portfolio. There are three ways to put this into practice: 1) self-managed, 2) discretionary account, or 3) a fund of funds. With the first option unrealistic for most investors (primarily on the basis of due diligence), and the second too expensive, investment in a fund of hedge funds is the clear route for small to medium sized investors. In addition to the risk diversification advantages, the other main benefits of investing in funds of hedge funds, or multi-manager funds as they are often referred to, can be addressed under a few main headings.

- Diversification of Risk.
- Transparency and Regulation.
- Minimum Investment.
- Access to Hedge Funds.
- Liquidity.
- Portfolio Management and Monitoring.

There are also some potential disadvantages in the multi-manager structure that investors should consider when selecting a fund of funds:

- additional layer of fees;
- level of returns and
- Taxation.

Diversification of Risk

Funds of hedge funds can diversify by number of funds and by strategy

We have discussed the importance of diversification of risk. This is achieved on two levels in funds of funds: by number and by strategy. Funds of funds can diversify in terms of the numbers of underlying holdings (managers) producing a degree of diversification, even if the fund only invests in one strategy. However, many funds of funds also diversify by strategy, which, combined with diversification by numbers, produces an overall greater depth of diversification.

Transparency and Regulation

Levels of regulation are generally higher for funds of funds listed on stock exchanges

This is a relevant point for those funds that are listed (for example, in London, Zurich, Luxembourg or Dublin), where there is increased transparency and where there are controls in terms of regulatory requirements on reporting and documentation. However, we have found that many of the offshore funds also provide a very good level of reporting, often via websites, including full initial documentation, regular portfolio updates and comments from the managers. Offshore funds are generally not permitted to market directly to retail investors, whereas listed funds can, but only in certain jurisdictions. These issues mark a difference between funds of hedge fund and single hedge funds, and can be of particular significance to the retail or less sophisticated institutional investor.

Minimum Investment

Through funds of funds, investors can gain access to multiple hedge funds with a much smaller investment than the minimum required by individual

hedge funds. With minimum initial investment requirements on some hedge funds running into millions of dollars, a significant investment is required in order to build a diversified hedge fund portfolio, beyond the reach of the smaller investor. Typically, minimum investment levels for funds of funds are relatively low. Furthermore, funds that trade on regulated exchanges provide the lowest barriers to entry, where investment is simple and low cost, using familiar trading and settlement mechanisms.

Access to Hedge Funds

Funds of funds can offer access to funds not available to most investors

In addition to potentially high minimum investments, many single-manager hedge funds are closed to new investors, due to capacity constraints. However, funds of funds run by managers with good relationships in the hedge fund industry are often able to invest in these funds, even though they are technically closed. Also, single-manager hedge funds may be prepared to allow a fund of funds to invest on the basis that the fund of funds is likely to be a long-term investor (due to its relatively stable asset base). Finally, a fund of funds may already have investments in single-manager funds that have subsequently closed, therefore being the only way of gaining exposure to those funds.

Liquidity

Dealing tends to be more frequent, with monthly subscriptions and redemptions being commonplace

Hedge funds typically provide monthly or quarterly liquidity through the subscription and redemption of units, in much the same way as a mutual fund. This is also true for most funds of funds, although dealing tends to be more frequent, with monthly subscriptions and redemptions being commonplace. Fund of funds managers typically have more flexibility in satisfying redemptions, particularly when there are a large number of underlying holdings. However, in some cases greater flexibility for the investor can be achieved though listed funds (or those with an OTC secondary market), where dealing is intra-day with market makers, although liquidity can be limited and often on a matched bargain basis (matching buyers and sellers). Closed-end funds of funds, trading in the secondary market, can also trade at discounts or premiums to their underlying NAV.

Portfolio Management and Monitoring

The manager will take responsibility for strategy allocation and investment in underlying funds

It is important to select an experienced manager with the necessary relationships in the sector

A key benefit of investing in a fund of funds is access to the expertise of a professional manager. The manager will take responsibility for strategy allocation and investment in underlying funds, while controlling the risk/return characteristics of the portfolio. The manager must also conduct the necessary due diligence on investee funds and, importantly, continue to monitor the ongoing performance, risk and strategy of investee funds. With an estimated 6,000-plus hedge funds available, many with complex and changing strategies, it is important to select an experienced manager with the necessary relationships in the sector, who is able to make effective investment decisions. It is also important that the manager has sufficient resources to be able to maintain those relationships, many of which may be overseas. Back-up infrastructure with the ability to carry out full due diligence, and continuous performance monitoring, is also an important feature of a fund of funds manager. There are few investors with the ability to carry out all of these functions effectively themselves.

Additional Layer of Fees

These portfolio management skills come at a price. Fees are charged by both the fund of funds manager and the underlying hedge funds. While control is limited on the underlying hedge funds (through the manager's selection criteria), investors should consider the level of both the annual management fee, and any additional performance fees charged by the fund of funds.

However, some fund of fund managers are able to mitigate these fees by obtaining fee rebates from the underlying managers, taking advantage of the substantial allocations they can make to the manager. Typical fund of funds fees many be 1-2% management fee per annum, plus another 0.5% for custodians and other professional services. Performance fees can be up to 20% of NAV performance, some subject to a benchmark-related hurdle rate or high watermark, but are usually around 10%.

Performance of a top-performing fund of funds will tend to be lower than a top performing single-manager hedge fund

Level of Returns

The absolute performance of a top-performing fund of funds product will tend to be lower than a top performing single-manager hedge fund. This is due to the level of diversification in a fund of funds, and is compensated for by the reduced volatility. Also, funds of funds often have similar portfolios of underlying managers, which can exacerbate underperformance during market volatility if several investors try to redeem at the same time.

Taxation

Because of their offshore registration, many hedge funds and funds of hedge funds may be tax-inefficient for certain investors in certain countries. This can vary by country and by a fund's structure, registration, jurisdiction or listing. For instance, in Germany, gains on most hedge funds and funds of hedge funds, are taxed as income. Taxation varies for managed accounts, funds and securitised products. Detailed analysis of this is beyond the bounds of this study and we recommend that investors seek independent advice.

Analysis of Funds of Hedge Funds

We have identified a broad sample of 50 funds of hedge funds that we believe are likely to be of most interest to European investors, on the basis of factors such as assets under management, currency, listing, fund domicile, diversification, strategy and liquidity. This sample of funds, which is by no means intended to be exhaustive, and their main characteristics, are presented in Table 4 on pages 22 to 27.

Characteristics of Funds of Hedge Funds

We now give a broad overview of some of the main, predominantly structural, characteristics of the funds of hedge funds that we have identified.

Most funds are open-ended, where investors buy and sell shares directly with the company

Open or Closed-Ended

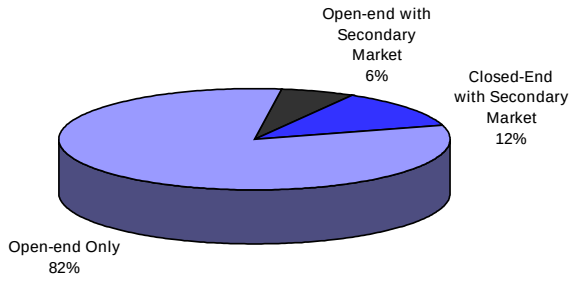
Most of the funds we have found are open-ended, where investors buy and sell shares directly with the company, in much the same way as with a traditional mutual fund. We have, however, identified a small group of funds that are closed-ended, and, as a consequence, have a secondary market by being listed and traded on a stock exchange. There are also quasi-open funds that trade in the secondary market and with the company. Other funds are closed to new subscriptions, due to capacity constraints. This is a self-imposed restriction by the fund, as the manager is unable to invest any more assets without compromising the investment objective or fund performance.

- **Closed-end secondary market traded only:** there are a small number of Zurich-listed funds (including Absolute Europe and creInvest) and one London-listed fund (Alternative Investment Strategies) that are closed-end funds that trade on stock exchanges. These funds have fixed capital and can only be bought and sold on the relevant stock exchange.
- **Open-end, no secondary market:** this is the most common structure for funds of hedge funds. Domicile and other factors may vary, but the basic 'mutual fund' structure remains the same and will be familiar to many investors. Dealing is periodic (with the company) and generally subject to fees. Most funds have the ability to control liquidity (by decree of the directors) but only in extreme circumstances, or when the NAV cannot be calculated for some reason. Some funds also have maximum redemption limits each month (often 5-10% of share capital), which may hinder the exit of large investors. From time to time funds, may close to new subscriptions, due to capacity constraints.
- **Open-end with a secondary market:** this is the most 'shareholder-friendly' structure as it offers investors the greatest amount of flexibility and liquidity. However, only a small group of funds have this structure. In addition to monthly or quarterly liquidity with the company, these funds also trade in the secondary market on a recognised stock exchange or in the over-the-counter (OTC) market. One example is Leverage Capital Holdings, which offers daily subscriptions and monthly redemptions, trades as a share on the Amsterdam Stock Exchange, and also trades OTC in London.

It should be noted that a number of funds have a listing on the Irish Stock Exchange. This is in order to allow certain shareholders to invest in the funds that require investments to be listed, or requires a particular degree of regulation. The Irish Stock Exchange provides this in terms of its listing requirements, but these funds do not actually trade on the exchange. Figure 9

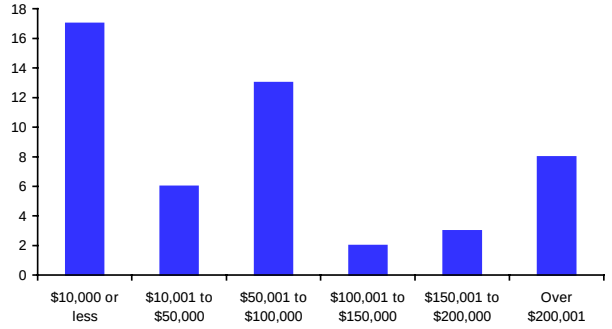
shows how our universe of 49 funds of funds is distributed, in terms of open or closed-end structure.

Figure 10: **Open or Closed-end Structures**



Data calculated on number of funds basis (out of 49 funds)
Source: Deutsche Bank TASS, Company Data

Figure 11: **Minimum Investment Size (US$)**



Data calculated on number of funds basis (out of 49 funds)
Source: Deutsche Bank TASS, Company Data

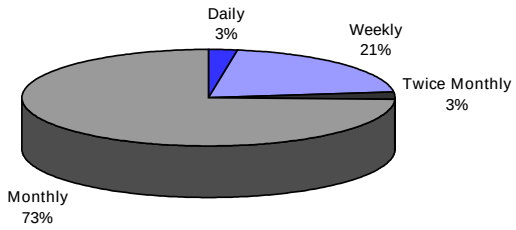
One of the advantages of buying a fund of funds is frequency and size of subscriptions and redemptions

Subscriptions and Redemptions

The frequency, notice periods, settlement periods and costs involved in buying and selling shares of open-ended funds are a very important consideration when making a fund of hedge funds investment. Another key issue is that of minimum investment size. One of the advantages of buying a fund of funds, rather than a direct investment in a hedge fund, is frequency and size of subscriptions and redemptions, which, as we have previously discussed, is typically monthly or quarterly in single manager funds.

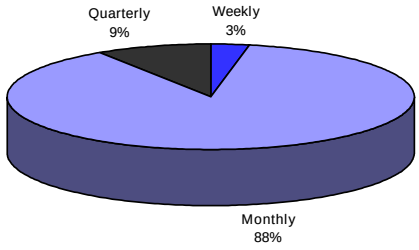
- **Subscriptions:** in our universe of funds, subscriptions are at least monthly. One fund has daily subscriptions; some are weekly and, for the vast majority, monthly. No funds have quarterly subscriptions. Notice periods on monthly subscriptions are generally short, usually same day or day before. Subscription fees are usually up to about 5%. Most stated fees are maximum levels at the board/manager's discretion. However, our study has shown that many subscription fees are zero. However, many funds additionally incur a sales fee, charged by an intermediary (stockbroker or private bank). Information on these fees is limited, but they are flexible and can exceed 5%.
- **Minimum Size:** this is a key issue and can be a deterrent to smaller investors. The most common minimum size is $100,000. However, there is a wide range with the extremes being one share ($100) and $5 million (see Figure 11). There is little else to conclude, other than the important point that minimum investment size for multi-manager products is typically smaller than that for single-manager products.
- **Redemptions:** this highlights another important difference between single and multi-manager products. With redemption frequency for single-manager funds typically quarterly or less, we find that the vast majority of multi-manager funds offer monthly redemptions. Terms vary; for example, notice periods are between one day and over a month, and fees range from zero to 5%. It is difficult to make definitive statements about settlement without actually testing the process, but typically funds state that under normal circumstances settlement takes about one week, but up to a month if circumstances dictate.

Figure 12: **Subscription Frequency**



Data calculated on number of funds basis (out of 39 funds)
Source: Deutsche Bank TASS, Company data

Figure 13: **Redemption Frequency**



Data calculated on number of funds basis (out of 33 funds)
Source: Deutsche Bank TASS, Company data

Fund of funds fees are generally lower than those of the underlying managers

Management and Other Fees

As we have already discussed, one of the few disadvantages to investing in funds of funds is the additional layer of fees. The underlying managers charge fees at the rate of 1-2% per annum, with a performance fee of 15-25%, on top of which investors must pay the fund of funds manager. However, fund of funds' fees are generally lower than those of the underlying managers. Annual management charges vary from 0.5-2.0%, with the average for our universe being 1.4%. Other fees, such as those paid to administrators and custodians, also vary from a few basis points to 0.5%, with no typical fee structure. Most important are performance fees, which in strong markets can have a major effect on total expenses, although as most of these funds are designed to have consistent returns of between 10% and 20% per annum, very large performance fees are unlikely. Typical performance fees are 10% of profits, but they range from zero to 20%, sometimes using a benchmark as a hurdle rate (for example, MSCI, Libor) but generally based on absolute performance. Some funds also have hurdle rates, caps or high watermarks.

Larger funds might have better resources and greater liquidity

Size of Assets

Our sample of funds is quite fragmented, in terms of assets under management. This is a trend that follows the single-manager sector, where there are a great many very small funds (sub $100 million) and a number of very large funds (greater than $500 million), with not much in between. The average fund size in our universe is just over $300 million. The big funds are Leveraged Capital Holdings, GAM Diversity and Haussmann, all of which are profiled in this report. The other funds that we have selected are mainly over $200 million. We do not rule out investments in smaller funds, particularly if the manager has other funds and large assets under management, but larger funds might have better resources and greater liquidity.

We recommend investment in funds broadly diversified by strategy and manager

Fund Strategy and Diversification

Our sample is dominated by multi-strategy funds with a global outlook, as this strategy profile was one of our favoured criteria for construction of the universe. This is reflective of the sector as a whole, although recently more single-strategy funds have been issued. These is due to specialisation in the sector, or as fund managers with a number of multi-strategy funds, broaden the funds they have to offer. However, we recommend investment in funds broadly diversified by strategy and manager (see Diversification of Hedge Fund Investment). In terms of diversification, or number of underlying managers and funds, we do not have complete data for the whole universe. However, typically funds have over 20 investments, with few exceptions.

Small or private investors prefer to be shielded from currency fluctuations

Currency and Hedging

Unsurprisingly, the currency of choice in the fund of hedge fund sector is US dollars. Although the majority of funds are in US dollars, there are a selection of funds in Swiss francs, sterling and euros (for example, those listed in Switzerland) and others that, although dollar-based, have euro (and even Yen) tranches. In some cases, euro funds/tranches hold their underlying holdings in US dollars and employ passive currency hedging into euros, although not all funds do this. Passive currency hedging means the use of instruments to remove the impact of currency fluctuations, not the use of derivatives to gain from currency fluctuations as an investment strategy. The case for currency hedging generally depends on the investor. Although institutional investors often wish to manage their own currency risks (that is, invest in the US dollar assets), many small or private investors prefer to be shielded from currency fluctuations.

Summary of Fund of Hedge Fund Characteristics

Table 3 shows the typical characteristics of funds of hedge funds, based on our analysis of a sample of the fund of hedge funds sector as discussed above.

Table 3: **Characteristics of Funds of Hedge Funds**

Feature	Characteristic
Structure	Open-ended, sometimes listed
Dealing method	Usually through periodic subscription and redemption, occasionally has a secondary market
Minimum investment size	$100,000
Subscription	Monthly, one day's notice with 3% fees, sometimes incurs a sales fee
Redemption	Monthly, up to one month's notice, no fees, one week for payment
Management Fee	1.40%
Performance Fee	10%
Other fees	0.50%
Fund Size	$300 million
Currency	US dollar or euro, sometimes passively hedged

Source: Company data, TASS, Deutsche Bank

Leveraged Capital Holdings

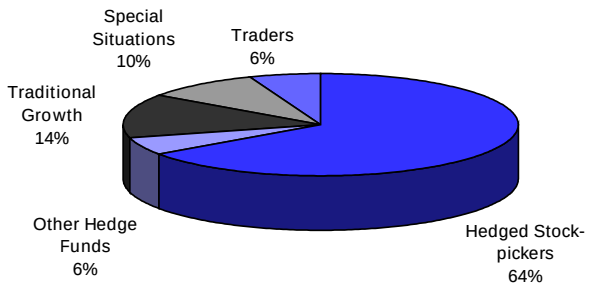
Investment Objective: Long-term capital appreciation while managing risks and reducing volatility. The manager selects a diverse range of aggressive investment managers adopting a variety of techniques, including hedging.

Table 19: **Basic Details**

Management Group:	LCH Invest/LCF Rothschild	**Fund Size:**	US$1.1 billion (30 June 2000)
Manager:	Board	**NAV:**	US$164.66 (30 June 2000)
Website:	www.lcf-rothschild.lu	**Rating:**	1.0% discount
Issue Date:	November 1969	**Reuters/Bloomberg:**	LCHNu.AS
Domicile:	Netherland Antilles		LCHNU NA, RTHLCHA OS <Equity>
Currency:	US$	**Basic Structure:**	Open-ended investment company
Listing:	Amsterdam	**Minimum Investment:**	None
Dealing:	On exchange, OTC in London, with company	**Entry Fee:**	Up to 3% sales fee
		Exit Fee:	1%
Subscription:	Daily	**Annual Fee:**	1%
Redemption:	Monthly with 20 days notice	**Performance Fee:**	3% of net profit
Custodian:	MeesPierson	**Other Fees:**	MeesPierson 0.05%
Basic Strategy:	Multi-strategy/mainly US	**Leverage:**	None
Currency Hedging:	None		

Source: Company Data, Deutsche Bank

Figure 28: **Allocation by Strategy (31 July 2000)**



Source: Company Data

Figure 29: **Largest Managers/Funds (31 Dec 1999)**

Managers	% of Portfolio
Zweig DiMenna	8.5
FLA International Fund	7.6
Wellington Mgt InvestorsQuisset A	7.6
Pequot International	7.4
ACM US Growth Strategies	6.5
Sirus	6.1
Chilton International	5.5
Greensea Offshore	5.4
Gruber & McBaine International	4.4
M Kingdon Offshore	4.4
Other Managers	**36.6**

Source: Company Data

Table 20: **USD Performance (as at 30 June 2000) and Statistics (since 31 December 1995)**

Monthly NAV Returns %

	1996	1997	1998	1999	2000
Jan	3.3	5.9	-0.1	3.5	2.0
Feb	0.8	-1.8	5.2	-2.7	4.9
Mar	2.0	-2.8	5.9	3.2	7.7
Apr	3.9	1.7	1.9	3.8	-11.6
May	2.8	3.4	-2.7	-0.5	-4.2
Jun	-0.4	2.3	4.6	6.0	3.4
Jul	-5.3	7.2	-0.8	-2.1	
Aug	0.5	-0.6	-11.5	-0.8	
Sep	5.6	4.9	-0.8	-0.3	
Oct	1.3	-3.3	-0.9	4.4	
Nov	4.9	1.3	2.1	4.5	
Dec	0.0	2.3	7.7	9.4	
Annual	20.5	21.5	9.7	31.3	0.9

Performance %		
12 Month	16.5	
3 Month	-12.5	
Average Monthly RoR	1.5	
Maximum Monthly RoR	9.4	Dec 1999
Minimum Monthly RoR	-11.6	Apr 2000
Standard Deviation	10.8	
Sharpe Ratio	1.2	

Source: TASS, Deutsche Bank

Leveraged Capital Holdings

This fund is instantly notable, due to its recognition as being the first fund of hedge funds, issued over thirty years ago in 1969. The fund was US$16 million when launched and, despite little net subscription, now has assets over US$1 billion. In addition to its history, we believe Leveraged Capital Holdings is interesting, given its availability in the secondary market. It trades on the Amsterdam Stock Exchange (where it is listed), trades over-the-counter (OTC) in London, and with the manager, with daily subscription and monthly redemption.

Management

The fund is advised by LCH Investments, a joint venture between LCF Rothschild Asset Management and MeesPierson. The company's sole purpose is to manage Leverage Capital Holdings. LCF Rothschild also manages a range of fund of funds, including European Capital Holdings (which is closed to new subscriptions) and Asian Capital Holdings. The funds are managed by teams in London, Geneva and Hong Kong (for the Asian fund). There is a two-tier approach to management. These offices carry out all day-to-day monitoring and due diligence, while each fund's investment board make the investment decisions. The directors of Leveraged Capital Holdings are all very experienced, many being original board members from 1969. Board members of particular note include Gilbert de Botton, founder of Global Asset Management, and Richard Katz, a director of Soros's Quantum fund. We discussed the fund with Rick Sopher, a London-based director of the fund and managing director of LCF Rothschild.

Strategy

The whole board meets regularly, at least once a quarter, to discuss strategy and investment decisions. Most new investments usually go before the full board. All new investments from new managers must go before the board (the board currently has meetings scheduled until 2002). Initial contact with managers will be by one or more board members via a number of visits and presentations, followed generally by a presentation to the full board. Investment decisions are long term and ultimately made on quality of management and track record. The board looks for downside protection, investing in funds that participate in only 20% of a market's fall. The portfolio is therefore constructed in an essentially bottom-up manner. However, there is a top-down overlay, and the board tends to avoid sector specific funds, and currently favours hedged stock-pickers, as denoted by the portfolio's 64% weighting to this sector.

Dominant strategies, driven from the bottom up, have changed significantly over time. For example, the fund was dominated by oils in the 1970s and by CTAs in the 1980s. Hedged stock-pickers have driven the portfolio over the past three years. Portfolio turnover is very low (only 160 different managers in 30 years). The fund currently invests in 28 managers, with a small 'embryo' portfolio of about another 30. Over the past few years, the board has been increasing allocations to smaller managers to 'get a foot in the door' before they close, due to capacity constraints. As discussed above, European Capital Holdings has been closed because of capacity problems with European managers. Recently, the fund has also become more focused on US-based managers.