

in depth **in focus** in front



# The merits of hedge fund investing

A straightforward guide to modern hedge funds

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# Introduction to a growth industry

## Hedge funds have gained increasing popularity in recent years, and have acquired widespread acceptance as diversification tools within investment portfolios

In the early 1990s, hedge funds were taken seriously only by a small number of private and institutional investors. More recently, a wider range of investors has become convinced of their benefits. Part of this new found popularity is due to a shift in culture – today's hedge funds offer greater choice than their predecessors, and managers are more willing to disclose performance attributions. There is also a growing awareness that hedge funds offer strong risk-adjusted performance. This has been emphasised by the way in which hedge funds have preserved, and in many instances grown, capital in the equity bear market that began in 2000.

The combination of strong performance and growing investor awareness of hedge funds has seen industry assets increase significantly. Much of the new money has come from old sources. Wealthy individuals became still wealthier in the 1990s, and had more money to invest either directly or through institutions such as private banks.

Perhaps even more significant is that there have been a number of substantial investments by pension funds. This is an important milestone because pension funds are the largest and often considered the most conservative of institutional investors.

Against this backdrop, we believe it is worthwhile to address the following questions:

- **What are hedge funds and how have they evolved?**
- **What are the merits of modern hedge funds?**
- **Is the current popularity of hedge funds justified?**
- **What are the controversial issues that surround hedge fund investing?**

## Our key observations are outlined below

### **Superior performance**

Independent studies show that an allocation to hedge funds has typically reduced the volatility of a portfolio of stocks and bonds while maintaining or enhancing the level of returns. Additionally, examination of aggregate hedge fund performance data indicates that they can offer superior risk-adjusted performance to traditional equity and fixed income funds on a stand-alone basis. The reputation of hedge funds has strengthened in the last few years when they have broadly succeeded in avoiding losses, and in certain instances produced strong returns, during a period that has seen some sharp falls in equity markets.

### **Investor friendly culture**

Broadly speaking, the hedge fund industry has evolved into a universe that is appealing to a diverse range of investors. In earlier days hedge funds had a reputation for volatility, poor risk management and secrecy. While exceptions remain, hedge funds today offer investment styles, risk profiles and

reporting practices that are increasingly attractive to a greater proportion of mainstream investors.

### **Diversity**

The growth of the hedge fund universe has given rise to greater choice of investment opportunities. There are now many more talented hedge fund managers operating across the spectrum of styles.

### **Current concerns do not undermine the merits of hedge fund investing**

The success of hedge funds has given rise to concerns. Some industry participants feel that, in a rush to gain access to hedge funds, some investors may fail to undertake adequate due diligence. Commentators also question whether capacity constraints particular to certain hedge fund styles may cause an erosion of returns. These concerns are justified, although we would contend that there will always be attractive investment opportunities for carefully selected and well managed hedge funds.



# Defining hedge funds

The hallmark of hedge funds is the pursuit of absolute returns – success in this regard is highly dependent on the skill of the investment manager

There have been many attempts to define hedge funds, and most definitions differ in one way or another. However, the hallmark of hedge funds is the pursuit of ‘absolute’ returns – that is the quest to generate a positive return regardless of whether asset prices are rising or falling. This is the critical difference between hedge funds and traditional funds: while hedge funds seek positive returns through all market environments, traditional ‘long only’ mutual funds and pension funds typically aim to outperform a benchmark index. Even if asset prices fall, traditional fund managers continue to focus on beating a declining benchmark.

The pursuit of absolute returns is highly dependent on the skill of the investment manager. Most hedge fund managers seek to exploit market inefficiencies with identifiable and understandable causes and origins. They may take advantage of pricing anomalies between related securities, engage in momentum investing to capture market trends, or utilise their expert knowledge of markets and industries to capture profit opportunities that arise from special situations.

Hedge fund managers are unencumbered by the sorts of regulatory and methodological restrictions that characterise traditional fund management. They have the flexibility to invest in a range of assets and instruments employing a variety of styles and investment techniques in diverse markets. The ability to use derivatives, arbitrage techniques and, importantly, short selling – selling assets that one borrows in the expectation of buying them back at a lower price – affords hedge fund managers rich possibilities to generate growth in falling, rising and volatile or range-bound markets.

The use of leverage is often cited as a defining feature of hedge funds, although this can be overstated. Leverage tends to be used to varying degrees by a variety of hedge fund managers to transform potential profit opportunities from relatively small price movements into more sizeable profits. Managers of macro and fixed income arbitrage funds are generally known to use more leverage than managers of other styles, such as equity hedged, which is now the single largest style segment in the hedge fund industry.

A key characteristic of hedge funds is that the interests of managers and investors are closely aligned. Given the confidence hedge fund managers must have in their strategy and investment process, they typically commit a significant portion of their net worth to the funds they manage. This means that hedge fund managers and investors not only share similar risk and return objectives, but investors have the confidence of knowing that managers’ actual vested interests are aligned with their own.

# Style categories

While hedge funds share many characteristics, the universe of strategies is vast, as is the range of risk-return profiles they offer

Portfolio construction and diversification opportunities are greatly enriched by the complementary strengths of different hedge fund strategies. Industry participants have tended to group hedge fund strategies that share similar investment methodologies and performance characteristics into style categories. As a result, hedge fund styles have become the dominant way to view and explain the investment activities that take place within the industry space.

There are no industry-standard or universally agreed definitions of different styles. Style classifications and descriptions tend to vary from manager to manager and among institutions. Below we offer the classification used by Man Global Strategies, one of Man Investments' core investment managers which we believe to be a broadly acceptable classification and description of the various hedge fund styles.

## Arbitrage

The arbitrage style includes investment strategies that typically exploit pricing anomalies between related securities within and between markets. By establishing long positions in undervalued assets and short positions in overvalued assets, these strategies aim to capture profit opportunities that arise from the changing price relationship between the assets concerned. Strategies tend to be relative value or event driven in nature, and include convertible bond, fixed income, merger and multi-strategy arbitrage approaches. They are designed to produce positive returns independent of the overall direction of broad market prices with relatively low volatility in all market environments.

Man Global Strategies categorise the following strategies within arbitrage:

### Convertible arbitrage

Convertible arbitrage strategies usually involve buying a portfolio of convertible bonds and hedging these long positions by short selling the underlying stocks. They tend to favour equity market volatility

as they take advantage of stock price movements to adjust their short stock hedge positions. By doing this they maintain a market neutral position and aim to capture profits from changes in the price relationships between convertible bonds and the underlying stocks.

### Credit arbitrage

Credit arbitrage seeks to take advantage of the spread of yields available in the debt markets. Typically a higher yield will be available for what the market perceives to be higher risk. Credit arbitrageurs will tend to be long the higher yielding instruments and short the lower yield, thus accepting some risk while generally hedging out other aspects of interest rate risk

### Event driven

Event driven involves investing in opportunities created by significant transactional events, such as spin-offs, mergers and acquisitions, bankruptcy reorganisations, recapitalisations and share buybacks. The portfolio of some event-driven managers may shift in majority weighting between risk arbitrage and distressed securities, while others may take a broader scope. Instruments include long and short common and preferred stocks, as well as debt securities and options.

### Fixed income arbitrage

Fixed income arbitrage involves exploiting the interest rate spread between related fixed income instruments by taking long positions in a higher yielding fixed income instrument and short positions in the lower yielding instruments. Strategies may arbitrage different maturities on the fixed income yield curve, or different types of fixed income instruments, such as corporate and government bonds.

### Multi-strategy

Multi-strategy arbitrage will use a combination of any or all of the credit convertible or event driven strategies in order to reduce the risk associated with being involved in only one strategy.

Potentially, multi-strategy arbitrage managers may implement strategies in addition to those strategies such as equity derivative arbitrage, statistical arbitrage and volatility arbitrage. It is not unusual for multi-strategy arbitrage approaches to develop in instances where managers initially implement a particular strategy or strategies and then recognise logical opportunities to cross-pollinate trading ideas and insights and apply their arbitrage expertise in associated strategy areas. This allows them to capitalise on a wider range of skill-based arbitrage opportunities and unlock diversification benefits for their overall portfolio.

### **Directional**

The directional style includes investment strategies that employ 'top-down' analysis of macro-economic and financial conditions to uncover pricing inefficiencies that arise in countries as a result of political or economic changes at both a regional and national level. They centre primarily on global macro, opportunistic and discretionary trading approaches, which may include investing in emerging markets. The style may involve significant net long or short exposure to securities, interest rates, commodities and currencies within countries or groupings of countries. Strategies produce returns that are generally uncorrelated to traditional asset classes and other hedge fund styles.

Man Global Strategies categorise the following strategies within directional:

### **Opportunistic**

Managers that implement these strategies rely on a global view to uncover exceptional pricing inefficiencies and are willing to participate in various markets around the world. These strategies look to capitalise on opportunities as they present themselves. Typically these managers trade a range of liquid exchange-listed assets, including stocks, bonds currencies, and commodities, and may trade derivatives and other financial instruments.

### **Global macro**

Global macro involves using leverage to invest in anticipated price movements of stock markets, interest rates, foreign exchange and physical commodities. Macro managers employ a 'top-down' global approach, and may invest in any markets using any instruments to participate in expected market movements. These movements may result from forecasted shifts in world economies, political fortunes or global supply and demand for resources, both physical and financial. Exchange-traded and over-the-counter derivatives are often used to magnify these price movements.

### **Emerging markets**

Emerging markets funds invest in securities or the sovereign debt of developing or 'emerging' countries. Such emerging markets might include countries in Latin America, Eastern Europe, the former Soviet Union, Africa and parts of Asia. Global funds will shift their weightings among these regions according to market conditions and manager perspectives. Some managers however invest solely in individual regions.

## Equity hedge

The equity hedge style includes investment strategies that are relative value and market neutral (either dollar or beta) or high-hedge in nature. It aims to profit from identifying equities deemed to be undervalued or overvalued in relation to other stocks or groups of stocks, often within a sector. Investment decisions are commonly executed within a systematic framework. Stock selection tends to be based on either price based analysis, which is usual in the case of statistical arbitrage models, or various measures of fundamental value. Sometimes multi-factor models combining both technical and fundamental measures are employed. The performance of strategies is typically expected to show relatively low correlation and beta to the markets traded. Equity hedge strategies are often characterised by a relatively high trading frequency. Strategies within this category aim to achieve consistent returns with relatively low volatility in all market environments.

Man Global Strategies categorise the following strategies within equity hedge:

### Statistical arbitrage

Statistical arbitrage covers quantitative techniques which seek to profit from short-term pricing anomalies between highly correlated securities. Reasons for these anomalies can be factors such as liquidity or market timing and typically these investment approaches assume that price relationships tend to revert to historic norms.

### Fundamental market neutral

This category covers long/short managers who typically base their investment decisions on fundamentally driven analysis. However, they do this within a tightly controlled net exposure around zero and may be referred to as high-hedge. There is a tendency to exploit longer term pricing anomalies.

### Systematic multi-factor arbitrage

Multi-factor arbitrage aims to identify pricing inefficiencies of instruments on the basis of their expected return by analysing a number of different investment criteria or factors. Quantitatively driven processes are used to forecast future equity returns and manage portfolio risk. Some of the common factors analysed are value, growth, momentum and earnings (historic/forecast/revisions). A range of trading frequencies is employed.

## Long/short equities

The long/short equities style includes investment strategies that trade long and short without any necessary restriction on the degree of net long or short exposure they adopt. They aim to profit from identifying stocks deemed to be under valued or overvalued on an outright basis – an approach commonly known as ‘stock picking’. The performance of these strategies is typically expected to show higher correlation and beta to the markets traded than equity hedge strategies. Volatility also tends to be higher than for equity hedge strategies. The aim of portfolio construction in this area is to achieve exposure to investment expertise in complementary areas, across geographical and or sector lines.

Man Global Strategies categorise the following strategies within long/short equities:

### Geographical exposure

Geographical specialists will be managers that have a singular expertise in a particular region or country. The strategies aim to be return-enhancing, delivering most of the upside of stock markets with less of the downside. The fund will not necessarily be domiciled in the region of expertise although it will typically invest in securities listed in that region. Specialists concentrate on areas such as Europe, US, UK and Asia Pacific.

### Sector focus

Sector specialists are managers that will seek to concentrate their expertise in ‘stock picking’ within a particular sector. Investment decisions are usually made within a discretionary framework based on fundamental quantitative and qualitative valuation techniques. The manager will have particular knowledge or expertise in the sector possibly having worked directly in that sector previously. The strategies are often characterised by a relatively low trading frequency and therefore longer holding periods.

### Net bias

Some strategies may have a variable or consistent net long or short bias. These funds will be mandated to maintain a level of exposure, positive or negative, on a beta or dollar exposure basis without consideration to market conditions. Strategies such as these can be used to offset any implied beta elsewhere in a portfolio.

## Managed futures

Managers in this style trade derivative instruments such as futures contracts, options, forward contracts, swap contracts and leverage contracts across a range of markets including stock index, fixed income, foreign exchange and commodities. They invest on both the long and short side of the market and usually apply technical analysis and systematic investment processes, although they may also apply fundamental analysis and make discretionary investments. The trading systems employed are generally sophisticated computer-driven systems to identify and follow trends, although certain managers may use non-trend approaches such as trend-reversal, contrarian (counter-trend) and mean reversion approaches. Other advisers engage in active and fast systematic trading approaches that are designed to capture short-term profit opportunities in highly liquid futures markets.

Man Global Strategies categorise the following strategies within managed futures:

### Trend following

Trend following typically uses computer driven trading systems to identify and follow trends resulting in a tendency to thrive when markets exhibit clear upward or downward price movements. Trends are a manifestation of serial correlation in financial markets and can occur across a range of markets, sectors and time frames. The position is exited once the trend breaks down. The strategy will therefore neither enter at the low nor exit at the high but seeks to take advantage of a significant proportion of the move.

### Fast trading

Short-term trading attempts to catch moves in markets that occur in the short term. Triggers for positions can vary from current news to spikes in volume. The trading time horizon is often intra-day, and the trade volume or frequency is high.

### Discretionary trading

Discretionary trading relies on individuals rather than systems and models to make qualitative investment decisions. Based on fundamental decisions the process is labour intensive so trading frequency is generally low and holding periods longer.

### Non-trend systematic trading

Non-trend systematic trading seeks to profit from a reversal of a trend in prices or reversion to the historic norm. The indicators for entry and exit are usually based on a technical model which might typically be based around a concept of mean reversion.

In addition to the styles and underlying strategies outlined above, investors can access a mixture of hedge fund styles and strategies through multi-manager and fund of hedge fund providers.

## Funds of hedge funds

The funds of hedge funds category caters for any investment in a diversified portfolio of underlying hedge fund managers (usually around 30, but sometimes more than 100) and strategies. The basic principle behind the fund of hedge funds concept is to avoid over-exposure to any particular style of investing and prevent the risk of over-reliance on too few managers. Accordingly, a fund of hedge funds manager must employ a clear investment process and methodology to harness the competitive advantages offered by each underlying investment strategy and preserve capital in a wide variety of market conditions. Anticipating potential problems and capitalising on new opportunities as they develop requires expertise in manager due diligence, strategy selection, portfolio construction, and manager monitoring and risk management. The value-added role a fund of funds manager plays often hinges on being able to provide access to the capacity of exceptional hedge fund managers that are sometimes closed to investment.

Funds of hedge funds generally strive to produce consistently attractive risk-adjusted returns - usually by combining double digit annualised growth with low (usually bond-like) volatility. An allocation to a fund of hedge funds within a broader portfolio helps to ensure an inherent level of strategic diversification and lends stability to the broader portfolio.

# A dynamic evolution

Over the last decade most money has flowed into the equity hedge style, but event driven and relative value styles have also come into prominence

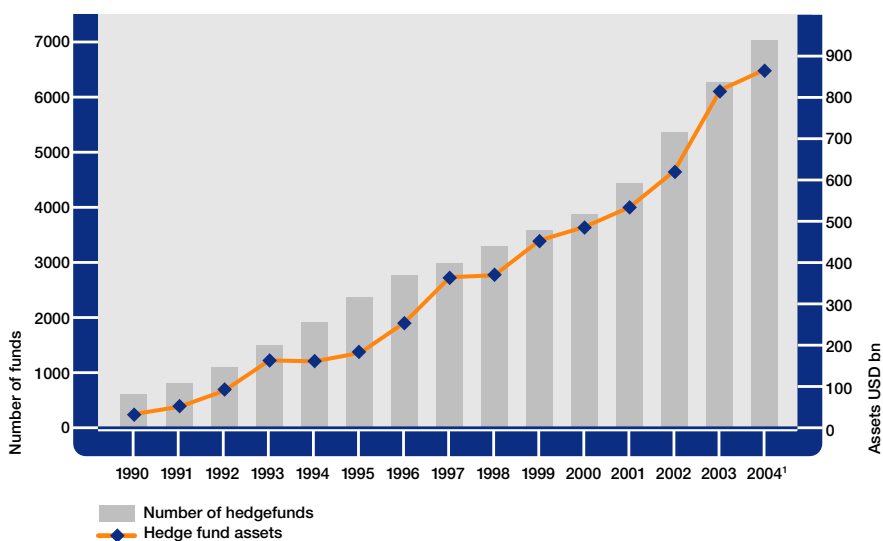
Hedge funds have evolved through a process of natural selection – survival of the fittest. In the 1980s and early 1990s, the hedge fund industry was dominated by a small number of so-called macro hedge funds. Typically headquartered in New York, the most successful of these generated exceptional (if volatile) returns and gathered substantial assets. The managers of these funds employed a variety of investment strategies, but their greatest coups came from executing large trades in G7 bond or currency markets.

Towards the end of the 1990s, the financial environment became less favourable for macro funds as equity hedge and arbitrage approaches became more popular. Wide divergences between the performance of different stocks and sectors

have favoured equity hedged funds. Within the arbitrage style group, event driven investing prospered first with the merger boom, and then with increasing numbers of bankruptcies. Yet the popularity of these strategies is also a result of their conceptually straightforward strategies and relative lack of leverage.

Data collected by Hedge Fund Research, Inc. (HFRI) charts this move away from leverage and complexity towards lower risk and greater simplicity. As hedge fund industry base assets have climbed from less than USD 50 billion at the beginning of 1990 to over USD 860 billion in 2004, so most of this new money has gone to styles like arbitrage, equity hedge and long/short equities.

## Growth of the global hedge fund industry



Source: Hedge Fund Research Inc. As at 30 June 2004.

## The increasing openness of the hedge fund industry is happening in parallel with the changing nature of hedge fund management companies

### A sophisticated return to simple origins

In some ways, this style shift represents a return to the hedge fund industry's roots, albeit in a more advanced form. Depending on whom you talk to, the first hedge funds appeared in the 1930s or 1940s. A.W. Jones, a United States-based investment manager who launched a fund in the late 1940s, is most commonly credited with setting up the first hedge fund. Jones's fund was an equity hedged fund, as were many of those that followed in the 1950s and 1960s.

Today's hedge funds are more highly evolved than their ancestors. Their managers have more tools and possibilities at their disposal. For a start, there is now a wide range of derivative contracts available in equity, fixed income, foreign exchange and commodity markets. Underlying financial markets have also become more liquid. Short selling is easier, as institutions have become more willing to lend stock. And, finally, the investment banks offer extensive facilities for hedge funds through their prime brokerage businesses.

In practical terms, these changes mean that hedge funds have far greater flexibility. They can operate across a wider range of markets, short sell a larger number of stocks, and hedge positions more easily. Further, the technology provided by leading prime brokers has vastly improved the ability of hedge fund managers to monitor performance and manage risk.

### Investor relations

One other aspect of the dynamic evolution that has taken place in recent years is that these funds have become considerably more 'investor friendly'. As mentioned earlier in this paper, there is increasing transparency. Until the mid-1990s, hedge funds were notably reticent about performance attribution, with some justification: hedge fund managers do not wish to reveal their positions to competitors. While there remain exceptions, hedge funds are now generally prepared to disclose greater detail about their performance.

Another illustration of the accessibility of hedge funds today is the move towards greater liquidity. A growing number of hedge funds now offer monthly liquidity, rather than the quarterly liquidity that was more typical in the early 1990s. Again, however, there are exceptions in the cases of particularly sought after funds and strategies that require longer-term commitment of capital.

The increasing openness of the hedge fund industry is happening in parallel with the changing nature of hedge fund management companies. As equity hedge funds have begun to dominate the industry, so a large number of hedge fund managers now come from an investment management background. Previously, perhaps the most common background was investment bank proprietary trading. Culturally, investment managers are far more open than investment bankers. In addition, the increasing involvement of mainstream institutional investors and investment management houses has pushed hedge funds towards improved investor relations.

Some types of institutional investors, like endowments, foundations, and insurance companies, have invested in hedge funds for many years, but are now doing so in increasing numbers. There is also a growing acceptance of hedge funds by pension funds, the most conservative of all their peers.



# Performance characteristics

## Performance provides the greatest justification for investment – hedge funds have considerable merits, both as diversification tools and as stand-alone investments

Examination of hedge fund data shows that investment across a spectrum of hedge fund styles would have achieved compelling results over the past decade or so. In the appendix we show the performance of the Hedge Fund Research, Inc. (HFRI) Fund of Funds Composite index, a widely accepted industry benchmark, against world markets. The exhibits in the appendix illustrate some of the advantages hedge funds have over traditional investments. Broadly speaking, studies on hedge fund performance have reached the following conclusions:

- Hedge funds have offered superior risk adjusted performance compared with competing equity investments. Their ability to produce returns in both rising and falling markets has highlighted the potential hedge funds have to enhance the risk/return profile of an investment portfolio (see [Appendix](#), Exhibit 1).
- For institutional investors, like pension funds, which are already owners of portfolios of traditional securities, there is a clear argument for investing in portfolios of hedge funds. As diversification tools, hedge funds have proven ability to enhance an overall portfolio's risk-return characteristics. This is because hedge funds typically show low correlation with traditional markets (see [Appendix](#), Exhibit 2), yet similar levels of percentage return. Most studies place the optimum allocation to hedge funds at 10-20% (see [Appendix](#), Exhibit 3).

- The attractions of hedge funds increase in hostile market conditions. Hedge Funds Demystified, a study co-authored by Goldman, Sachs & Co. and Financial Risk Management Ltd. shows that in extreme market conditions, hedge funds have an even greater beneficial effect on the balance of return and risk. Statistics show, for example, that long/short equity hedge funds offer downside protection in periods when equity markets are falling.

In practical terms, these findings demonstrate that hedge funds have considerable merits – both as diversification tools and stand-alone investments. Care should be taken, however, when interpreting these studies. There are two caveats. The first is that while the broad hedge fund universe has done well, there is a wide variation in hedge fund performance, and a few have performed extremely badly. Secondly, hedge fund industry benchmark performance data tends to reflect a flattering 'survivorship bias' as hedge fund managers that disappoint may stop reporting to industry databases.

# Controversial issues

## Despite growing acceptance of hedge funds, some difficult issues remain

Hedge funds have historically been criticised for excessive leverage, high fees, a lack of liquidity and a lack of transparency. Much of the reason for the success of modern hedge funds in attracting assets has been the fact that they have become less controversial in most of these areas. What follows is a summary of these issues, starting with the most topical, capacity.

### Capacity

After the flood of money into hedge funds over recent years, there is talk of a 'bubble'. By this commentators mean that the returns of certain hedge fund types may be stifled by sheer weight of money. This is a legitimate anxiety. In particular, there are definite capacity constraints on both individual hedge fund groups and, at certain times, generic hedge fund strategies. Merger arbitrage is an example of a strategy that has limited capacity, as the balance between the weight of assets chasing mergers and the number of mergers impacts the magnitude of returns. Should merger activity dwindle at a time of high investment in this strategy, then returns will logically suffer. Further, there is a fear that dwindling returns in some areas will lead to groups using more leverage and therefore introduce greater risk. While there is some merit to this concern, prudent hedge fund investors can avoid such difficulties. The key to successful hedge fund investment is not new: diversification across different investment styles implemented by strong managers with established track records.

### Leverage

Leverage is often integral to the hedge fund investment process, although the degree to which it is used varies across and within different investment style segments. Many of the investment strategies that are currently most popular, such as equity hedge, employ relatively low leverage – similar to UK investment trusts. In other areas of hedge fund investment, however, greater leverage is required to magnify relatively small arbitrage opportunities.

The greatest amount of leverage tends to be used by macro and fixed income arbitrage funds. While funds in these areas would not have been able to generate significant returns without leverage, this practice has caused a few notable failures. Best known is Long-Term Capital Management, the fixed income arbitrage fund that collapsed towards the end of 1998. In recent years, investors have tended to avoid highly leveraged funds.

### Liquidity

A growing number of hedge funds now offer monthly liquidity, but there are examples of particularly sought after managers imposing far longer redemption periods or 'lock-ups'. This is also sometimes true of managers practising strategies that require long-term commitment of capital. In some cases, investors may only be able to redeem once a year.

### Transparency

As the hedge fund industry has become more mainstream, so transparency has improved. Hedge funds generally offer more in-depth information about performance than was the norm five years ago. However, in some areas, instances of limited disclosure still occur. Some equity hedged funds still take currency positions, for example, yet are reluctant to reveal exactly what these are.

### Fees

Fees in the hedge fund industry remain high compared with traditional investment management. Hedge fund management companies typically charge private investors a 1-3% annual management fee and a 15-20% performance fee. The performance fee is charged only on profits that exceed the 'high watermark' of a fund's net asset value and is sometimes levied on performance in excess of a benchmark such as monthly Treasury-bill rates. Such fees are justified by the fact that hedge fund management companies strive for absolute performance and limit assets under management.



# Summary

Following the expansion and evolution of the hedge fund industry over the past decade, hedge funds present a compelling investment opportunity for institutional and private investors alike. Performance must be at the core of any justification of hedge funds. But the increased size and diversity of the industry, and its growing awareness of basic investor relations issues, have made it far more acceptable to mainstream investors.

Of course, as with any type of investment, there remain some hazards to be aware of. The main one is that the increased popularity of hedge funds can compound capacity problems in some hedge fund styles at certain times. Also, it can be difficult to find skilled hedge fund managers that are still taking in new money. However, experience and an analytical approach (such as is practised by the best funds of funds) should counter these problems.

In summary, the following are the main merits of modern hedge funds:

## **Performance**

Academic research suggests that portfolios of hedge funds can add value both as diversification tools and as stand-alone investments, presenting an opportunity to improve the overall risk-adjusted return of an investment portfolio.

## **Diversity**

With in excess of USD 860 billion of base capital invested across more than 6,000 hedge funds (source: HFRI), the hedge fund industry has reached critical mass. There is now a sufficient number of serious hedge fund management groups for investors to be able to assemble portfolios of hedge funds diversified by both style and manager.

## **Maturity**

Hedge funds have evolved. They now have characteristics of transparency, liquidity, and reduced leverage and volatility that are more appealing to mainstream investors. The majority of hedge funds have far more stable returns today and their management groups tend to disclose more detail about how performance has been achieved.

## **Important information**

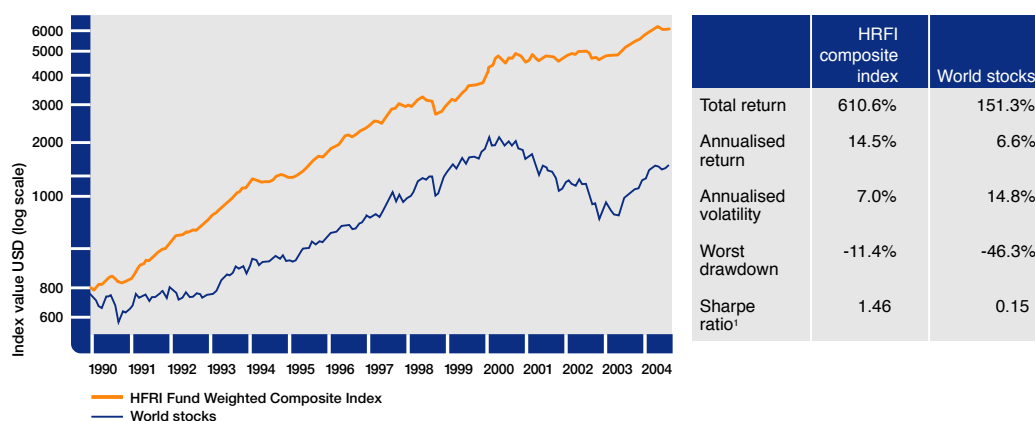
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# Appendix

## Exhibit 1: Risk adjusted returns

Hedge Fund Index vs world stocks  
1 January 1990 to 30 June 2004



Source: Man Investments, Hedge Fund Research, Inc. (HFRI) and Standard & Poor's. Hedge fund composite index: represented by the HFRI Hedge Fund Weighted Composite Index. World stocks: MSCI World Stock Index (Total Return). <sup>1</sup> Sharpe ratio is calculated using the average risk-free rate in the appropriate currency over the period analysed. There is no guarantee of trading performance and past or projected performance is not necessarily a guide to future results.

## Exhibit 2: Correlation matrix

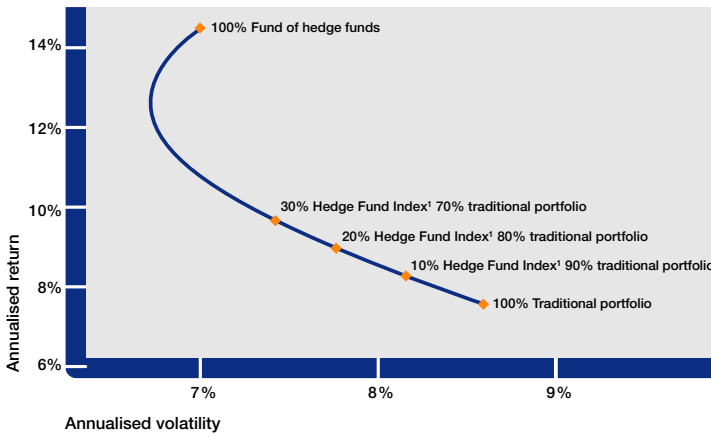
Hedge Fund Index vs traditional investments  
1 January 1990 to 30 June 2004

	US stocks	European stocks	World bonds	World stocks	Hedge Fund composite index
Hedge Fund composite index	0.76	0.59	-0.01	0.67	1.00
World stocks	0.86	0.56	0.21	1.00	
World bonds	0.06	-0.45	1.00		
European stocks	0.62	1.00			
US stocks	1.00				

Source: Man Database, Hedge Fund Research, Inc. (HFRI) and Standard & Poor's. Hedge fund composite index: represented by the HFRI Hedge Fund Weighted Composite Index. World stocks: MSCI World Stock Index (Total Return). World bonds: Citigroup World Government Bond Index (Total Return). European stocks: MSCI European Stock Index (Total Return). US stocks: Russell 3000 Total Return Index (dividends reinvested). There is no guarantee of trading performance and past or projected performance is not necessarily a guide to future results.

### Exhibit 3: Portfolio efficient frontier

Hedge fund index on a traditional portfolio  
 1 January 1990 to 30 June 2004



★ While this analysis suggests investors with portfolios of stocks and bonds should allocate more than 30% to hedge funds, 10-20% is likely to be a better yardstick. The current strength of relative hedge fund performance has flattered the data somewhat, while adoption of a high allocation by large numbers of institutional investors would cause capacity problems.

Source: Man database, Hedge Fund Research, Inc. (HFRI) and Standard and Poor's. \*Hedge Fund Index: represented HFRI Hedge Fund Weighted Composite Index  
 Traditional portfolio: 50% World stocks, 40% World bonds & 10% US cash. World stocks: MSCI World Stock Index (Total Return). World bonds: Citigroup World Government Bond Index (Total Return). US cash: represented by the US Treasury Bill Index. There is no guarantee of trading performance and past or projected performance is not necessarily a guide to future results.

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