AIMA and ASSIRT

Hedge Fund Booklet

Contents

Introduction

The AIMA/ASSIRT Hedge Fund Report is an educational paper designed to assist the financial community and investors in their understanding of hedge funds, including the state of the hedge fund market in Australia, characteristics of hedge funds, different strategies employed and the risk/return characteristics of hedge funds. It also aims to assist financial planners and investors in approaching the decision of allocating to hedge funds within an already diversified portfolio.

With the steady rise in hedge funds offered to the Australian marketplace over the past ten years, many Australian superannuation funds have already identified the benefits of investing in hedge funds. ASSIRT believes the current growth trend in the hedge fund market is set to continue.

Who is AIMA?

The Alternative Investment Management Association (AIMA) was established in 1990 in the UK as a non-profit organisation for the alternative investment industry. It specifically includes hedge funds, managed futures and managed currency funds.

AIMA's objectives are to increase investor education, transparency and promote due diligence and related best practices and to work closely with regulators and interested parties in order to better promote and control the use of alternative investments

Local industry participants formed the AIMA Australian Chapter in 2001. Originally 12 members, it has quickly expanded with the current membership standing at 43. Very early on, committees were formed which included Regulatory, Marketing and PR, Education and Member Services. Damien Hatfield, of Colonial First State was elected the inaugural Chairman whilst Kim Ivey of Vertex Capital was elected Deputy Chairman. David Zobel of DB Absolute Return Strategies chairs the Education Committee, Paul Cheever of Access Economics chairs the Regulatory Committee, Andy Perry of the CBA chairs the Members Services Committee and Josh Goben of Absolute Capital chairs the Marketing and PR Committee. In addition, Mark O'Sullivan of Ernst & Young is AIMA Treasurer and Martin Jamieson of Phillips Fox Lawyers is AIMA's Legal Counsel.

AIMA Australian Chapter Members

Single Hedge Fund Managers

American Express Asset Management

Barclays Global Investors

Basis Capital

Blue Sky Capital Management

Ebisu Portfolio Management

Eclectic Capital Management

FX Concepts (Asia Pacific), Ltd

GMO Australia Ltd

GoldLink Capital

Grinham Managed Funds Pty Ltd

Highland Capital Management Pty Limited

K2 Asset Management

Kaiser Trading Group

Monterrey Investment Management

Obno Pty Ltd

Optimal Fund Management

PM Capital

Sutton Managed Futures

Tactical Global Management

Vertex Capital Management

Fund of Hedge Fund Managers

Absolute Capital

Colonial First State Investments

DB Absolute Return Strategies

Everest Capital

Financial Risk Management

Gottex Australia Pty Ltd

Granite Capital Australia

Investor Select Advisors

Macquarie Bank

Momentum Australia Ltd

Sagitta Wealth Management

Service Providers

Access Economics

AFMA

Blake Dawson Waldron

CITCO Fund Services (Australia) Limited

Clayton Utz

CMC Group Pty Limited

Commonwealth Bank

Ernst & Young

Goldman Sachs Australia Pty Limited

Henry Davis York

Merrill Lynch (Australia)

Phillips Fox Lawyers

UBS Warburg Australia

Zurich Capital Markets Australia Ltd

1. Background

1.1 History of the Hedge Fund Industry

Over the past 50 years, the hedge fund industry has grown and extended from US based managers and investments to Europe, Asia, Australia and even some emerging markets. The growth in the hedge fund industry was accelerated through the 1980s and 1990s during which time the increase in the number of new financial vehicles and a change in technology facilitated the development of sophisticated investment strategies without the need for backing by large investment houses[1]. In addition, the performance based incentive fee and low barriers to entry for new funds has led to highly-skilled entrepreneurial investment professionals leaving large investment houses to start up their own hedge funds, some with initial backing from their former employer and many with their own funds.

Both the amount invested in hedge funds and the number of funds on offer has increased substantially over the past 10 years. From around 300 funds in 1990, current estimates are of 4000+ hedge funds around the globe.

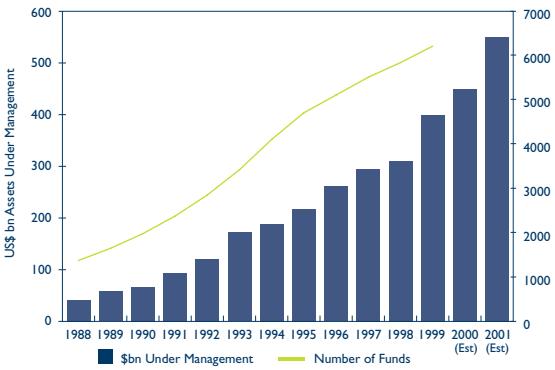
[1] *Editorial: Dealing with Myths of Hedge Fund Investment, Thomas Schneeweis; The Journal of Alternative Investments, Winter 1998*

1.2 The size of the Hedge Fund Industry (US focus)

Estimates on the size of the hedge fund industry vary, as many private accounts are not included in the various hedge fund indices and surveys. Global hedge fund investment consulting firm Hennessee Group first introduced their Hedge Fund Manager Survey in 1994. The 2002 survey includes 766 hedge funds with over US$141 billion assets, equating to 25% of assets in the hedge fund industry by their estimates. The survey results indicate that the hedge fund industry grew by 38% in 2001 to a total estimated size of US$563 billion, from US$408 billion in 2000. Charles Cradante, President & CEO of Hennessee Group LLC notes that "2001 was a pivotal year for the hedge fund industry as it was the first time a bear market has been met by a mature hedge fund industry." He also highlights that the strong growth into hedge funds reflects investor recognition of hedge funds as a "realistic alternative investment for the purpose of diversifying portfolios, capital appreciation, and managing downside risk."

TASS Research estimates the current size of the industry to be between US$450 billion and US$500 billion. This is a not far off Hennessee's estimate. The rapid growth in the hedge fund industry over the past 7 years is evident from the following chart, which depicts the growth in the size of hedge funds since 1988.

Chart 1.1: Growth in Hedge Funds $US



Source: Van Hedge Fund Advisors (actual $ under management and no. of funds). KPMG/RR Capital Management Corp (estimate $ under management)

1.3 Who invests in Hedge Funds?

Historically, high net worth individual investors, who wanted to protect their investments at a desired level of risk, have been the main investors into hedge funds. The landscape is now changing with institutional investors and pension funds increasing their allocation to hedge funds, as they seek out alternative investments that offer low correlations to traditional portfolios of cash, bonds and equities. Strong demand has also seen the type of investor broadened to retail investors with hedge funds making their funds more accessible with low minimums (in one case as low as A$1000).

In their latest Hedge Fund Investor Survey, the Hennessee Group reports that the largest investors in hedge funds in the US continue to be individuals with family offices, representing 56% of capital in the industry. The largest increase in hedge fund investments over the past year was from fund of hedge funds, soaring from 3% of the hedge fund market to 15%.

The amount of total assets investors are willing to allocate to hedge funds has risen steadily, reaching 41% in Hennessee's 2002 Hedge Fund Investor Survey. Despite this rise, just over half of investors indicated they plan to increase the allocation of their assets in hedge funds in the future, with 40% of respondents looking to increase exposure in 2002.

1.4 The landscape of hedge funds and investing in Australia

During the late 1980s, several hedge fund managers (mostly Commodity Trading Advisers) commenced operations in Australia, with offshore fund of fund managers allocating capital to them as early as 1990. By the mid 1990s approximately 11 hedge funds or managers were operating in the Australian market place. Following a period of consolidation and the collapse of LTCM in 1998 leading to a dampening of interest in hedge funds on a global basis, a large number of hedge fund managers have emerged in the past 3 years. ASSIRT estimates 26 single managers and 14 fund of fund managers were launched during 1999-2001, including the launch of the first fund of hedge funds to the Australian market in 1999. The Australian Chapter of the Alternative Investment Management Association (AIMA) was formed in 2001, and currently represents 43 members with Damien Hatfield as Chairman and Kim Ivey as Deputy Chairman.

While several hedge funds have been operating in Australia for well over 10 years, the local hedge fund industry is considered to be still in its infancy as many hedge funds are yet to establish track records that are usually required by investors and institutions prior to investing.

A number of superannuation funds have recently announced allocations to hedge funds, including Commonwealth Superannuation Scheme/Public Sector Superannuation Scheme Australia's second largest superannuation fund, REST, Amcor, Westscheme and the Reserve Bank Officers Fund. Several global funds of hedge funds have taken this as a sign that the time is right to enter the Australian market place. ASSIRT believes the current growth trend is set to continue as managers from the US and Europe increasingly visit our shores and realise the opportunities for growth prevalent in the Australian market place. Several large, brand name managers have also shown interest in launching hedge funds to the retail market in the near future.

The Australian Hedge Fund Industry is currently worth nearly A$5.4 billion, comprising A$3.47 billion in fund of hedge fund assets, A$1.62 billion in single manager strategies and approximately A$300 million allocated to offshore hedge funds and offshore fund of hedge funds. After adjustment for double counting, total assets equate to approximately A$5 billion.

2. What are Hedge Funds?

A hedge fund may be described as a fund that offers an absolute return investment objective, defined as a targeted rate of return that is not index or benchmark based. The approach utilised to achieve the absolute return objective typically involves the manager investing in similar asset sectors as traditional managers but incorporating different skill based strategies. It is for this reason the term 'alternative investment strategies' has become synonymous with hedging.

The term 'hedge' is generally associated with the practice of covering an investment position (long) with an investment that will act as an opposite position (short), thereby nullifying any market risk imbedded in the original investment decision. The hedge may be in the form of a similar asset type to hedge market risk (eg. equities) or a different security of the same issuer (eg. equity/bond). The degree by which a fund is 'hedged' in the traditional sense varies markedly across managers.

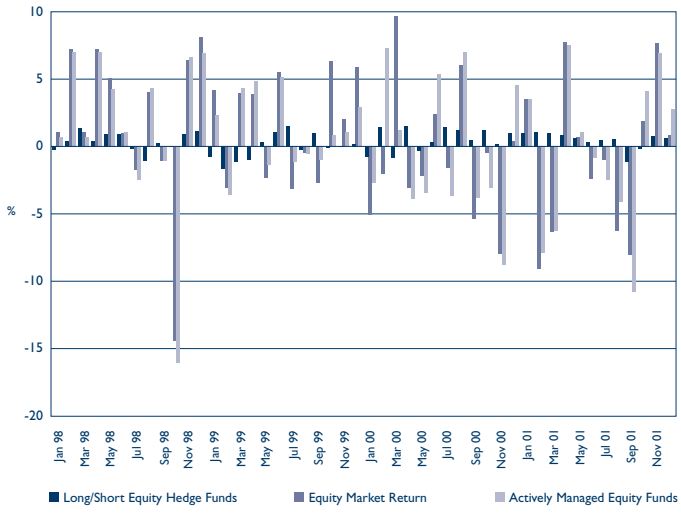
2.1 How do hedge funds differ on a risk/return basis from traditional managed funds?

Hedge fund managers differ from traditional active managers in a number of ways. The two most significant are the approaches to risk and return.

1. Risk: Most hedge fund managers define risk in terms of potential loss of invested capital whereas traditional active managers define risk as the deviation (tracking error) from a stated benchmark. The risk associated with hedge funds is therefore highly dependant on the skills of the individual manager, both in implementing the chosen strategy successfully and in the running of their business.
2. Return: Hedge fund managers aim to deliver a total return unrelated to a benchmark or indice that is therefore independent of the general direction of markets. A traditional active manager largely aims to deliver relative returns (returns above a related benchmark). This relative return may be negative if the benchmark return is negative. Therefore, the generation of returns by hedge funds is reliant on the skill of the manager, whereas traditional strategies primarily reflect the return of the underlying asset class.

These points are best illustrated by Chart 2.1 that shows the monthly return of US long/short equity hedge fund managers, an equity market return and the average total return of all actively managed US equity funds over the 3 years to December 2001. It demonstrates that returns generated by hedge funds can deviate substantially from the general equity market and traditional active equity managers. Note also the general equity market and active managers have tended to move in the same direction over time.

Chart 2.1: Monthly Returns over 3 years to December 2001



Source: Hennessee Group LLC

2.2 Characteristics of single manager hedge funds

★ Hedge fund managers are typically organised as limited partnerships, limited liability companies, unit trusts or listed entities as investment pools with the primary function of investment management.

★ Many are domiciled offshore to neutralise tax effects and consequently for Australian investors FIF legislation may apply.

★ Performance related compensation is prevalent, typically with a high water mark and hurdle rate to ensure a manager will only take incentive fees on profit generated by positive investment performance above a certain level.

★ Typically, a proportion of the partners or principals wealth is invested in the funds, hence aligning their interests with the performance of the fund.

★ Limited in size to preserve investment returns.

★ High minimum investment levels, typically $500,000 or higher. Funds with high minimums are typically regulated as excluded offer funds by ASIC.

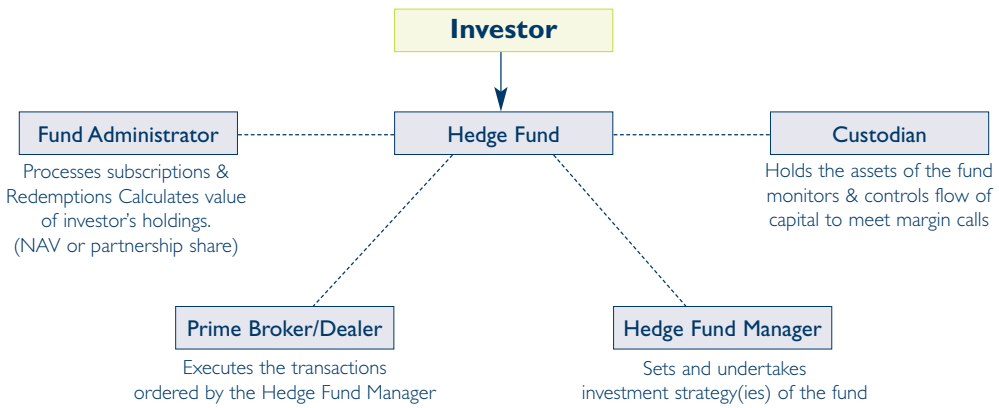
★ High expected risk-adjusted returns

★ Low correlation with traditional asset classes and other skill based strategies.

2.3 Structure of Hedge Funds

The structural make-up of a typical hedge fund is depicted in Chart 2.2. This diagram displays the component service providers of hedge funds and their roles and relationships.

Chart 2.2: Typical Structure of a Hedge Fund Offering



2.4 Some Practicalities of Investing in Hedge Funds

★ Many hedge funds will value assets monthly or quarterly. Therefore unit prices will only be available when assets are re-valued. This makes it difficult for master funds and wrap accounts that require daily unit pricing to include hedge funds on their menus.

★ A lock-up period may apply, restricting the liquidity of investors' assets. Monthly and quarterly unit pricing also impacts fund liquidity. Some quarterly redemption policies may also require a long notice period (eg, 60 days notice).

★ The investor should be aware of the level of gearing permitted within a fund.

★ Some hedge funds may distribute income infrequently (annually) or in some cases not at all.

★ While many well run hedge funds stay open to new investment for many years, some hedge funds may close to new investors although remain available through fund of hedge funds operators.

3. Strategies & Examples

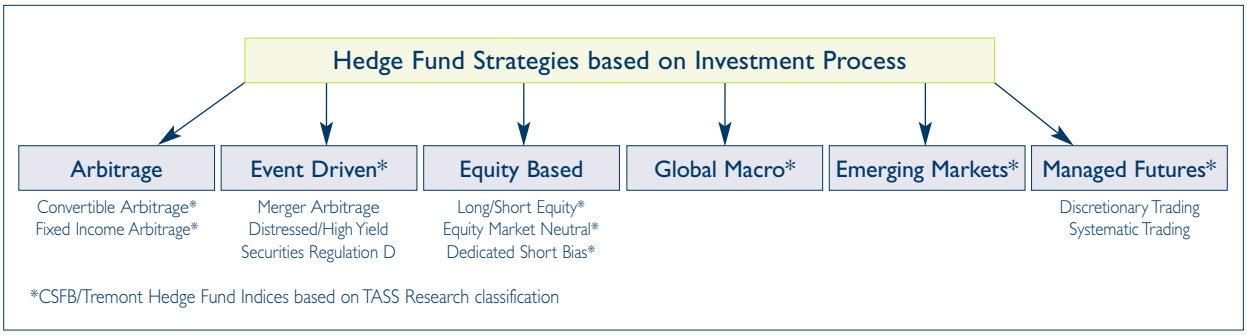
There are many varied strategies that can be used by hedge fund managers. They are limited only by accessibility to markets and instruments by which to trade, as well as technological developments where quantitative based strategies are utilised.

Classification of hedge funds can be attempted from various angles; via process/strategy, asset class, geographical location or industry basis. Given the variability by which hedge funds can be categorised, the industry is yet to agree on a common classification. Indeed, there are currently around 7 indices created by consulting groups across the globe each with a different classification methodology and outcome.

AIMA and ASSIRT both believe the most consistent classification would occur via the process or strategy that a fund employs and the asset class used. While this classification has limitations and difficulties when comparing across regions or industries, we believe that the returns generated in hedge funds are primarily driven by the skills of the investment managers in the particular strategies/processes employed. Process describes the methodology that managers follow when creating positions and managing their portfolios and investment risk. The methodology used by TASS Research in its classification is largely in line with our view. The classification is based on the investment style of each fund in the TASS Research database.

We have grouped hedge fund strategies into broad categories, some with subcategories, in line with the TASS Research approach.

These strategies are explained in more detail below.



3.1 Arbitrage Strategies

In using arbitrage hedging strategies a manager generally seeks to profit from perceived mispricing in a specific asset of a market or security. With each position held in the portfolio, the manager attempts to isolate and capitalise on a feature of an asset or combination of assets that is mispriced according to a theoretical fair value or equilibrium relationship. The assets most commonly traded based on arbitrage strategies include convertible bonds, convertible preference shares and fixed income. The degree of leverage used in arbitrage strategies will vary with the composition of long positions and portfolio objectives, usually between 2x and 10x equity. Convertible Arbitrage and Fixed Income Arbitrage strategies are detailed below.

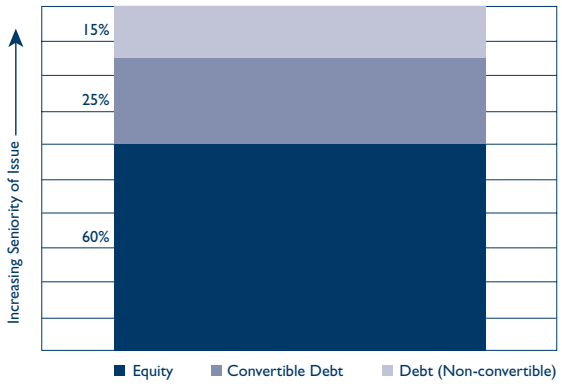
3.1.1 Convertible Arbitrage

This strategy aims to profit from mispricing opportunities within convertible bonds and other hybrid debt/equity securities. These securities are a combination of various instruments and the parcel as a whole may be a different price to the sum of the component parts. If the price is different there exists an opportunity to buy (sell) the parcel and sell (buy) the various component parts to lock in a profit. Therefore the generation of 'alpha' is independent from the general direction of markets. A typical investment is to be long (buy) the convertible bond and short (sell) the common stock of the same company to take advantage of the price volatility of the stock. Positions are designed to generate profits from the fixed income security as well as the short sale of stock, while protecting principal from market moves.

Convertible Bond Example:

Here the manager believes a convertible bond to be undervalued relative to its current market price and at the same time views equity of the company to be overvalued, expecting the market price of equity to fall. The manager will buy the convertible bond and short the stock of the same issuer to eliminate the stock price risk embedded in the convertible bond. Chart 3.1 below depicts the ranking of capital within a company. When executing a strategy of long convertible bonds and short equity, the manager will need to consider the credit risk associated with the trade. Asset swaps can be used to strip out the credit risk from convertible bonds.

Chart 3.1 Illustrative capital structure of a company



3.1.2 Fixed Income Arbitrage

The fixed income arbitrageur aims to profit from price anomalies between related interest rate securities. Most managers trade globally with a goal of generating steady returns with low volatility. This category includes interest rate swap arbitrage, US and non-US government bond arbitrage, forward yield curve arbitrage, and mortgage-backed securities arbitrage. The mortgage-backed securities market is primarily US-based, over-the-counter and particularly complex. Leverage will depend on the types of positions taken in the portfolio. Positions such as basis trades that are more simple and stable will be leveraged higher than trades that have yield curve exposure and are therefore considered to be higher risk. Types of positions can include basis trading, intermarket spreads, yield curve trading, relative value options strategies and financing strategies.

Fixed Interest Arbitrage Example:

A simple example of a fixed income arbitrage strategy is a basis trade. A basis trade involves the purchase or sale of a futures contract and the concurrent offsetting purchase or sale of an instrument that is deliverable into the futures contract. This can be illustrated with the following transaction:

Simultaneously	**Purchase** a government bond **Sell** a futures contract on that bond
Profit opportunities	Uncertainty in the composition of bonds required in the delivery option of the bond futures Shifts in the supply and demand for the underlying bonds.

3.2 Event Driven

This strategy is designed to capture price movement generated by a significant pending corporate event such as a merger, corporate restructuring, liquidation, bankruptcy or reorganisation. Three sub-categories in event-driven strategies are: merger arbitrage, distressed/high yield securities, and Regulation D.

3.2.1 Merger Arbitrage

Merger arbitrageurs exploit merger activity to capture the spread between current market values of securities and their values in the event of a merger, restructure or other corporate transaction. Managers consider the transaction once the announcement has been publicly made. Before entering into a merger arbitrage strategy, the manager will analyse the probability of the deal closing, the likelihood of it closing at or above the bid price, and the timeframe to the closing date. The probability of success of the takeover directly influences the size of positions the manager will take as the profitability of the trade depends on the success of the merger. If the deal involves a regulated industry (such as banking), they factor in regulatory risk. Most merger arbitrage managers look at both cash and stock deals.

Merger Arbitrage Example:

In mergers where shareholders in the target company are offered stock in the acquiring company, the spread is the difference between the current values of the target company's stock and the acquiring company's stock. The spread is captured where the arbitrageur buys the stock of the target company and shorts the stock of the acquiring company. This is depicted in the following illustration;

Takeover Announcement	Company A →	**Company B**
Offer		20% premium of current market price
Market Reaction		No change
Manager Expectation	Stock price Decline	Stock price **Rise**
Manager Response	Short (sell) Company A stock	Buy Company B Stock
Profit Where	Takeover completed successfully and stock prices converge so that Company A stock price declines and Company B stock prices **rise**.	
	OR An alternative suitor, Company E makes a bid for Company B for a higher price than offered by Company A. The manager then switches the short position from Company A to Company E.	

3.2.2 Distressed/High Yield Securities

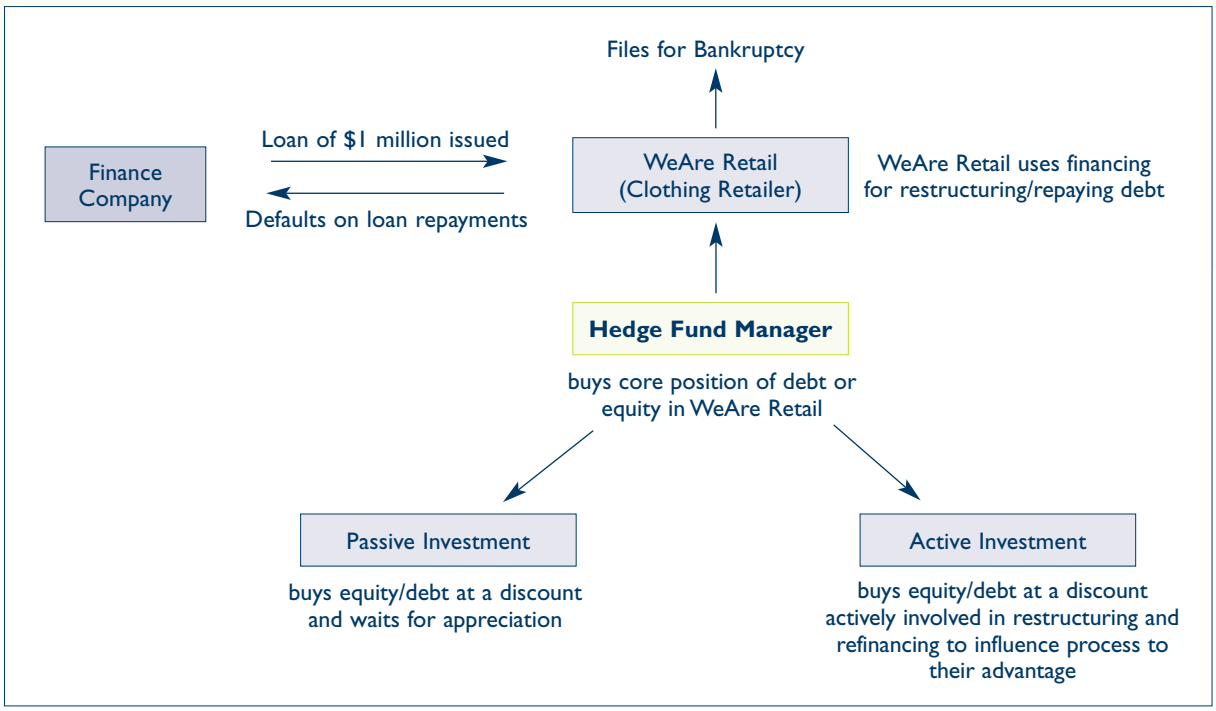
Managers are active in fixed interest and equity markets basing their strategies on the actual or anticipated occurrence of a particular event such as a bankruptcy announcement or corporate reorganisation as a result of severe operating or financial difficulties such as defaulting on debt. Distressed or high yield securities are generally below investment grade and require a high level of due diligence to take advantage of the inexpensive prices at which they are trading.

Performance depends on how well the managers analyse event-specific situations, rather than on the direction of the stock or bond markets. Managers investing in distressed or high yield securities will vary in terms of the level of capital structure in which they invest (debt or equity and ranking of the security), the stage of the restructuring process and the degree to which they become actively involved in negotiating the terms and management of the restructuring.

Distressed Debt Example:

In a typical situation depicted below, a financial institution (Finanz Company) makes a loan to a borrower (WeAre Retail). WeAre Retail then finds itself in financial difficulty, resulting in bankruptcy or being close to it. WeAre Retail has defaulted on its debt resulting in a fall in the value of the loan. A Distressed Debt specialist analyses the situation for possible investment either in the debt or equity of the company considering questions such as: Does the business have value? Is the company in trouble because of problems, such as over-leveraging, that can be rectified? What class of debt will have the most power in the restructuring?

Investors in distressed securities are seeking capital appreciation of the debt rather than an income stream.



3.2.3 Regulation D

Regulation D is a form of capital raising, essentially representing investments in micro and small capitalisation public companies that are raising money in private capital markets. A manager will make a short term or medium term investment in companies that are in need of large capital injection within a relatively short time frame. This allows small firms to raise capital quickly and relatively cheaply and managers aim to benefit from free equity options embedded in the financial transaction. Investments usually take the form of a convertible security with an exercise price that floats or is subject to a look-back provision that insulates the investor from a decline in the price of the underlying stock.

Regulation D Example:

Buy	A floating convertible instrument in a small company listed on the stock exchange
Option	The option in the security is to convert to the small company stock at say 15% discount to the company's stock price after a minimum holding period of 18 months.
Profit Opportunity	To purchase the company stock at a discount and the ability to sell at a higher price, that is the market price.

3.3 Equity Based Strategies

Managers will base the investment decision on their view of the degree by which individual securities are under or over valued relative to current market prices. These strategies are heavily reliant on the skill of the manager in discerning the value of a security. The manager may use quantitative tools, however the final investment decision is usually a subjective one.

Strategies combine long and short positions thereby reducing or eliminating (in the case of market neutral strategies), directional market risk and generating returns based on the price movements in securities. This may involve borrowing securities the manager considers to be overvalued then selling them on the market in the expectation that the price will be lower when the fund has to buy the securities back to be able to return them to the brokers.

These funds take positions along the whole risk-return spectrum and try to distinguish their performance from that of the asset class as a whole. Returns will therefore deviate substantially from the underlying market return. Portfolios will also tend to be more concentrated than those of traditional long-only managers.

3.3.1 Long/Short Equity

Managers employing this strategy will hold both long and short positions with a net long exposure. The objective is not to be market neutral. This means that at all times more than 50% of assets should be held as long (buy) positions. This category excludes long only portfolios. To be considered a hedge fund, the manager's strategy must include short positions while maintaining an absolute return objective. Managers have the ability to shift from value to growth and from small to medium to large capitalisation stocks. Managers may use futures and options to hedge. The focus may be regional, such as long/short US or European equity, or sector specific, such as long and short technology or healthcare stocks.

Long Bias Example:

The manager will take both long and short positions, depending on their market outlook. Portfolios may shift between, large cap and small cap, and across sectors within a particular market. The following example highlights some typical trades that may be present in a portfolio that trades within and across sectors. The portfolio will usually consist of many more trades than displayed here.

The portfolio has a net long position of 60% with 40% held in short positions.

Industry Sector	Expected Price Change	Position	Stock	Position size as % of Portfolio*
Healthcare	↑	Long	Astrazeneca	15%
	↓	Short	Merck Sharp & Dohme	13%
	↑	Long	Novartis	16%
Technology	↓	Short	Compaq	13%
	↓	Short	Dell	14%
Consumer	↑	Long	Target	15%
Discretionary	↑	Long	Wal Mart	14%

** The percentages used here are for illustrative purposes only, to the effect that 100% of portfolio is invested in the stocks shown. In reality, a long/short equity portfolio will typically be more diversified and will not be heavily concentrated with such large weightings in each stock.*

3.3.2 Equity Market Neutral

This investment strategy is designed to exploit equity market inefficiencies and usually involves simultaneously long and short matched equity portfolios of the same size. The manager will aim to position the portfolio to be cash or beta neutral, or both. Typically the portfolio will exhibit a small or nil net market exposure. Well-designed portfolios typically control for industry, sector, market capitalisation, and other market factors. This translates to a near 50:50 balance to long and short positions. Leverage is often applied to enhance returns.

Equity Market Neutral Example:

A pair trade in a dual listed company is a good example of an equity market neutral strategy. This involves the purchase of one share category and the sale of another on the same stock. For example the manager -

Buys shares in one class	Company A, Class C, listed in the UK
Sells shares in another class	Company A, Class D, listed in France
Profit Opportunity	The manager expects Class C stocks to rise in price and Class D stocks to fall based on some change to Company A's capital structure.

There is no market or sector risk as the two stocks are based on the same economic entity, but happen to deviate in price.

3.3.3 Dedicated Short-Bias

In employing this strategy, a hedge fund manager will maintain a net short bias against the market. Managers look for securities that they perceive to be overvalued and short those stocks or use derivatives to profit from a declining share price. They may achieve better results in bearish markets.

Dedicated Short Bias Example:

The following portfolio is an illustration of the characteristics of a net short hedge fund. The manager has taken a larger bet on the short positions, as indicated by both the number of short versus long positions and the total portfolio value of short positions versus the value of long positions.

Number of **Short** Positions	32	Total Value of **Short** Positions	$400,000
Number of **Long** Positions	4	Total Value of **Long** Positions	$20,000

Portfolio Bias: Net short

3.4 Global Macro

This strategy involves opportunistically allocating capital among a wide variety of strategies and capital or derivative markets. Strategies or themes may be directional or non-directional, traditional or hedged. This is the most flexible of investment strategies, with the manager often taking a top-down thematic approach and investing on an opportunistic basis, moving between countries, markets and instruments based on the manager's forecasts of changes in factors such as interest rates, exchange rates and liquidity. A number of different trading strategies are often used depending on the opportunities identified. Most funds invest globally in both developed and emerging markets.

Global Macro Example:

A manager will attempt to exploit global trends and market movements by entering into irregular, directional positions that are highly leveraged. If for example a manager expects interest rate spreads between Australia and the USA to widen as a result of interest rates rising in Australia. Hedge positions may be taken in interest rates or currencies of the two countries;

Bet on $A/USD with the expectation that the $A will rise against the USD following the increase in Australian interest rates.

3.5 Emerging Markets

Broadly defined, an emerging market is a country making an effort to change and improve its economy with the goal of raising its performance to that of the world's more advanced nations. The World Bank classifies economies with a Gross National Income per capita of $9,266 and above as high-income countries. Emerging markets however are not necessarily small or poor. China, for example, is considered an emerging market even though it has vast resources, has launched satellites into space and a population of more than a billion people.

The emerging markets strategy used by hedge funds involves equity or fixed income investing in emerging markets around the world. Because many emerging markets do not allow short selling, nor offer viable futures or other derivative products with which to hedge, emerging market investing often employs a long-only strategy. As the currency of many emerging markets cannot be hedged through the use of derivatives, an investment in an emerging market results in exposure to the movements in currency of the underlying country.

3.6 Managed Futures

This strategy is based on speculation of the direction in market prices of currencies, commodities, equities and fixed interest and on spot or futures markets across the globe. The managers are usually referred to as Commodity Trading Advisors, or CTAs. Trading disciplines are generally systematic or discretionary. Systematic traders tend to use price and market specific information (often technical) to follow trends while discretionary managers use a less quantitative approach, relying on both fundamental and technical analysis.

3.6.1 Systematic Trading

Proprietary, quantitative models are typically used to identify market opportunities and establish positions, including the size of positions and the risk control. As a group, these managers are trend followers. They seek to identify a trend or pattern and position themselves to stay invested as long as it persists. Systematic trading differs from statistical arbitrage in that each position is essentially an independent directional trade that is intended to produce a profit, not a relative position.

3.6.2 Discretionary Trading

A manager will use fundamental analysis or computer systems or a combination of the two to identify profitable trades. In general, this tends to be the highest risk and highest return strategy within the universe of hedge funds, with concentrated positions held for very short periods of time. The main difference between these strategies and systematic trading is that the investment decision is not automated. The manager will make the final investment decision.

Typical Trades of Managed Futures strategies include:

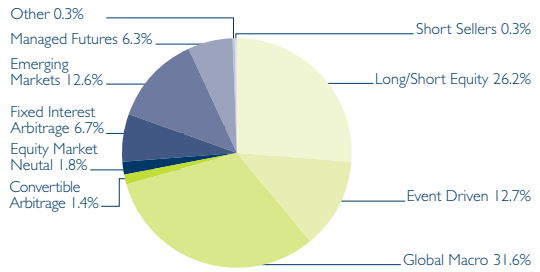
- ★ Trend following using technical analysis with stop-losses in place. Instruments used include currency futures, forwards, exchange traded and over-the-counter options and warrants.
- ★ Long term directional trading based on market fundamentals
- ★ Short term spot trading based on flow information.

3.7 Dominance of Strategies

3.7.1 Global Marketplace

The growth of strategies and composition within the industry has changed dramatically over the past few years. Charts 3.7.1 and 3.7.2 demonstrate the change in composition of strategies within the global hedge fund industry since 1994.

Chart 3.7.1 Breakdown of Total Assets by Strategy as at December 1994



Source: TASS Research

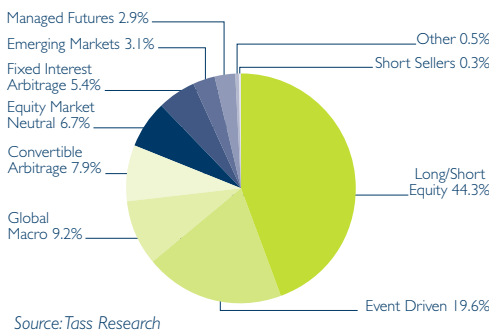
In 1994, as shown in Chart 3.7.1 global macro and long/short equity strategies dominate the market place, with a combined representation of 57.8%. The large allocation to global macro is due to asset flows into this strategy on the back of strong returns in 1992 and 1993. While event driven and emerging market strategies also feature strongly, each with greater than 10% of assets, the remaining strategies are not heavily represented.

The Strategies that currently dominate the hedge fund industry are shown in Chart 3.7.2. Notably, Long/Short equity funds have increased in market share from 26% to 44%. The rapid growth in assets held in long/short equity funds is attributable in part to the raging bull market of the 1990s, which has attracted inflows and new managers in this strategy. The demise of global macro as a percentage of total assets within the industry reflects funds outflow following poor performance of the strategy (particularly 1994 and 1998) and the closure and subsequent return of capital of two large and dominant global macro managers in the industry.

3.7.2 Australian Marketplace

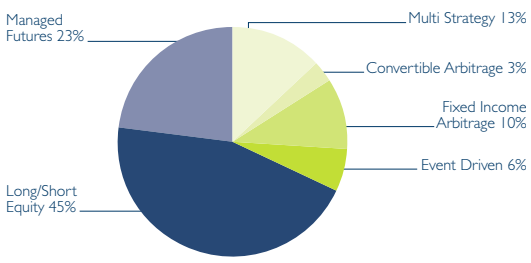
The breakdown of single fund managers and fund of hedge funds by strategy type currently offered in the Australian market place are depicted in Charts 3.7.3 and 3.7.4. These charts highlight the diversity across the market and the opportunities for further diversity as the industry grows. The current dominance of the long/short equity strategy within single manager offerings is in line with the global market environment. The dedicated short bias strategy does not feature for either single manager or fund of hedge funds in the Australian market place. This is not surprising since this strategy exhibits the highest volatility in returns over time and it is hard to consistently add value in a strategy that relies on falling share prices.

Chart 3.7.2: Breakdown of Total Assets by strategy as at December 2001



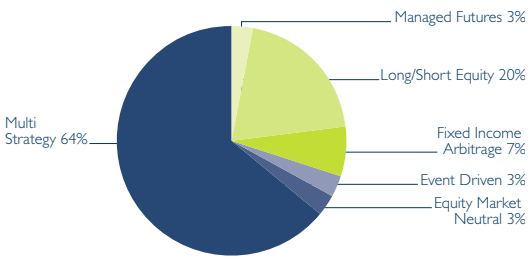
Source: Tass Research

Chart 3.7.3 Breakdown of Single Manager offerings by Strategy type



Source: ASSIRT

Chart 3.7.4 Breakdown of Fund of Hedge Funds* offerings by Strategy type



Source: ASSIRT

** 30 Funds offered through 14 different managers*

The multi strategy dominates the fund of hedge funds universe, a trend ASSIRT believes will continue as large brand name fund managers continue to enter the market place and investors look for diversity across strategies and managers.

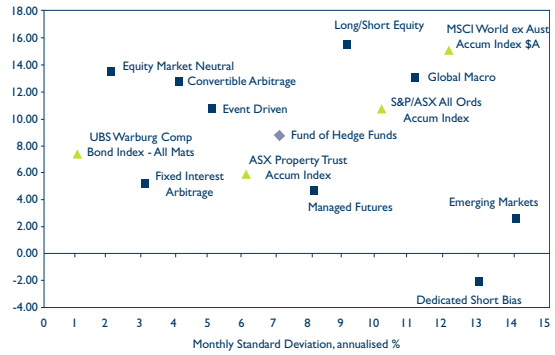
It is important to note that while funds of hedge funds currently have nil allocation to some strategies, these may be extensively used within the multi strategy category by fund of hedge funds, in particular Convertible Arbitrage and Global Macro strategies.

The popularity of each strategy is driven in part by the risk/return possibilities of each strategy. In the next section we outline the differences in strategies based on risk/return drivers.

4. Return/Risk Drivers

An important measure for an investor to consider is the degree of exposure to the broad movements of the market and the impact on risk/return. Funds are generally constructed with specific targets and strategies, such that the investor knows to anticipate a certain risk/return profile. In general, the higher the degree of 'directionality,' or investing in market direction, the higher will be the potential return and volatility. An example of the risk/return delivered by a range of strategy-based indices and the broader market indices for the five years to December 2001 is shown in Chart 4.1. This analysis is at one point in time and as such the risk/return delivered by a strategy and market will move around this point over time.

Chart 4.1 – Return and Risk of Hedge Fund Strategies and Market Indices



Source: CSFB/Tremont, HFR & ASSIRT

That hedge fund strategies differ substantially from each other and more importantly from the broader bond, property and equity markets is highlighted in Chart 4.1. The MSCI World ex Australia Accumulation Index ($A) has delivered the highest return at the highest level of risk than the other broader market indices. A number of hedge fund strategies have delivered returns largely in line with the Australian equity market but at a lower risk. These include event driven, convertible arbitrage and equity market neutral strategies.

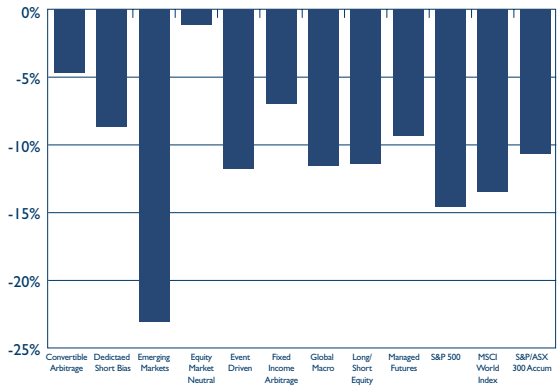
Short selling as a security selection strategy has delivered the lowest return at the highest level of risk of all strategies and market returns analysed. This is in line with the view that it is difficult to deliver consistent outperformance from trading strategies that solely rely on falling stock prices, as markets have generally risen over time.

It is interesting to note that a large number of hedge fund strategies deliver higher return opportunities than those achieved from Australian bonds (as measured by the UBS Warburg Composite Bond Index – All Maturities) or Australian property securities (ASX Property Trust Accumulation Index). The trade-off for this higher return in some cases is a higher volatility in returns. This volatility is in most instances however, much lower than that of Australian or international equities.

The HFRI fund of hedge funds index sits in the middle range of risk/return outcomes from both hedge fund strategies and broader market indices. This highlights the diversification benefits that can be achieved through utilising a range of hedge fund strategies. It is important to note that this index comprises a number of fund of hedge funds, each with unique characteristics. Each fund of hedge fund will have distinct risk and return objectives and will diversify across managers and strategies to varying degrees.

For hedge funds with absolute return objectives, it is more meaningful to measure correlations and risk which evaluate both the upside and downside deviations relative to each fund's specific objectives, than performance relative to an index or peer group. The worst monthly return for each strategy within the CSFB/Tremont universe and some equity market returns over the eight years to December 2001 is shown in Chart 4.2. The emerging markets strategy exhibits the greatest negative monthly return throughout the period. Not surprisingly, the smallest negative return for a month occurred within the equity market neutral strategy that nullifies any market risk through holding a portfolio of overall equal long and short positions.

Chart 4.2: Worst Monthly Return by Strategy for Jan 1994 to Dec 2001



Source: CSFB/Tremont & ASSIRT

The variability of returns for different strategies is also highlighted in Chart 4.2. While all strategies and equity market returns have delivered at least one negative monthly return during the period, the majority of hedge fund strategies have delivered substantially smaller negative returns than traditional equity markets. It is important to note here that while an absolute return objective implies a positive return over the long term, short-term volatility can result in negative monthly returns for hedge fund strategies through the market cycle.

The risks associated with each strategy will depend on the type of strategy and the degree to which it is exposed to market factors. The most common risks associated with each strategy are detailed in the table below.

Strategy	Risks
Arbitrage	Interest rate risk; sector, country and currency exposure.
Event Driven	Chance that event will fail or not occur in the expected time frame. The existence of opportunities will depend on the level of deal activity in the market place.
Equity Based	Long or short biases will expose the investor to equity market movements.
Global Macro	High volatility will depend on the level of gearing and the degree of concentration of positions within the fund.
Emerging Markets	Difficulty in getting information about a company, poor accounting, unsophisticated local investors, political and economic turmoil, inefficient markets and illiquid securities.
Managed Futures	Market risk, counterparty risk.

Other risks of investing in hedge funds are non-quantifiable risks specifically including liquidity issues, transparency, key person risk, fraud and leverage. These risks are more pronounced in hedge funds due to the fact that hedge funds are based on the skill of the manager more than the market return of an asset class.

5. Investing In Hedge Funds

5.1 Why invest in hedge funds?

As noted in Section 1, the types of investors who are attracted to hedge funds varies from superannuation funds to retail investors. Throughout a market cycle, there will be periods during which equity and bond markets will offer both attractive and unattractive investment opportunities. The difficulty with investing in any market is identifying when these opportunities will rise and positioning an investor's portfolio to take advantage of favourable market conditions. An equity market bull-run can be followed by a bear market with lower returns from market based strategies, price/earnings contraction and the delivery of lower returns by traditional managers. However it is difficult to predict the duration and extent of a bull or bear market.

Therefore hedge funds present an attractive opportunity for inclusion in an investor's diversified portfolio due to the possibility of enhanced risk adjusted returns (as demonstrated in section 4 above) and the low correlation in returns that many hedge funds have to traditional asset classes. A lower correlation between asset classes within an investor's portfolio, will result in a reduction in the overall level of risk within the portfolio. The correlation of returns that some hedge fund strategies exhibit with those of traditional equity markets is shown in Table 5.1.

Table 5.1: Correlation of Hedge Fund Indices with US equity and world equity markets.

Correlations from January 1994 to April 2002	S&P 500	MSCI World $
S&P 500	1	0.93
MSCI World $	0.93	1
Convertible Arbitrage	0.12	0.09
Equity Market Neutral	0.45	0.44
Event Driven	0.55	0.58
Fixed Income Arbitrage	0.07	0.06
Global Macro	0.28	0.21
Dedicated Short Bias	-0.77	-0.75
Long Short Equity	0.63	0.63
Managed Futures	-0.14	-0.08

Source: CSFB/Tremont Index

The lowest correlation of returns occurs with dedicated short bias and managed future strategies where these strategies are based on taking profit as a result of opposite movements in the price of securities from that of the broad equity market. Those strategies that are implemented through investment in equities demonstrate the highest correlation of returns with equity markets, notably equity market neutral (0.45 correlation to S&P 500) and long/short equity (0.63 correlation to S&P 500) strategies. However the correlation in returns of these strategies with the US market (S&P 500) and the global market (MSCI World $) is significantly lower than the correlations these markets exhibit with each other (0.93). Correlations will however change over time and may rise in certain market conditions.

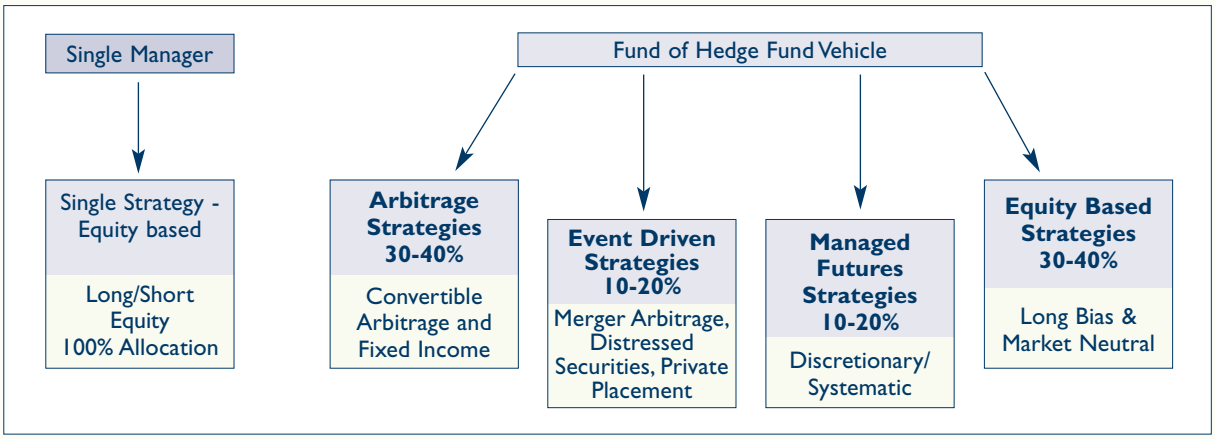
The question has emerged as to whether hedge funds should be treated as a separate asset class, in a similar way to equities or bonds. ASSIRT believes that to be considered a separate asset class, the securities within an asset class need to be more highly correlated with each other than with assets outside this class, which is not the case for hedge funds. This belief comes from the diverse nature of hedge fund strategies and consequently low correlation with each other.[2]

5.2 Single Strategy Funds and Fund of hedge funds.

An investor has several options for accessing hedge funds. One is to directly invest in one or several hedge funds. Another is to purchase an interest in a fund of hedge funds, also known as a multi-manager fund. The investment manager of a fund of hedge funds selects and invests in multiple hedge funds, numbering anywhere from 5 to over 40, often through an offshore corporation or similar privately placed vehicle.

A single strategy manager will focus on a particular asset class or trading strategy to generate returns. A fund of hedge funds manager will combine various strategies and seek out the 'best of breed' hedge fund managers to diversify across strategies and managers.

[2] *Cottier: Hedge Funds and Managed Futures, Performance, Risks, Strategies and use in investment portfolios, 2000.*



A fund of hedge funds incorporates single strategies that are broadly available. Several long-term investors may gain broad exposure through a fund of hedge fund and seek to add single hedge funds to their portfolio. Observations indicate that a sophisticated investor may be able to compile their own fund of hedge funds.

Using a single manager will result in lower fees than a fund of hedge funds vehicle, where the investment selection and monitoring fees of the fund of hedge funds manager are additional to the fees of the underlying hedge fund manager. If the investor is successful in selecting a strategy and manager, the potential return generation can be greater than a fund of hedge funds albeit with a more concentrated level of risk by only investing in one strategy with one manager. For a fund of hedge funds, the return to the investor is a combination of the performance of the underlying funds minus applicable fees. Using advanced financial engineering techniques and optimisation analysis to achieve targeted asset and risk combinations, the fund of hedge funds manager creates a new product that seeks to maximise the advantages and minimise the disadvantages of the underlying holdings.

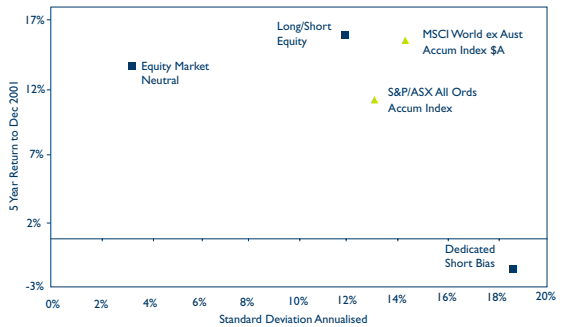
In an analysis of more than 1000 randomly generated hedge fund portfolios, Morgan Stanley Dean Witter concluded that portfolios with as few as 20 hedge funds typically preserve the desirable properties of the indexes that cover the entire hedge fund universe. (Why Hedge Funds Make Sense, Morgan Stanley Dean Witter, Nov 2000).

5.3 What portion of an investor's portfolio should be allocated to hedge funds?

An investor's portfolio will exhibit certain return and risk characteristics based on their investment objective, time horizon and overall 'comfort' with short-term return volatility. There are many questions and debates as to the appropriate amount an investor should allocate to hedge funds. Even if a fixed allocation of say '10%' is used as a starting point, which assets should be redeemed to accommodate this investment? Hedge funds are not necessarily a separate asset class that is as easily definable as equities, fixed interest or cash as the risk/return profile of a hedge fund will vary according to the strategy used, the assets invested and the geography.

However a hedge fund investing in equity markets or fixed income markets will not necessarily take on the characteristics of that particular market. As an example, within the equity based category of hedge fund strategies a long/short equity portfolio or an equity market neutral portfolio or a short bias portfolio may deliver risk/return characteristics over time that are quite different to those of broader equity markets and therefore cannot always be considered an appropriate replacement for equities. The return/risk profile of the Australian share market and global share markets can differ substantially from those of the equity based hedge fund strategies, as demonstrated in Chart 5.1.

Chart 5.1: Return/Risk of Equity Based Strategies and equity markets



Source: ASSIRT

When using portfolio modelling (such as mean variance optimisation) to make asset allocation decisions, it is best to use the expected risk/return characteristics of different asset classes that are based on market factors and not a particular manager's ability to add value over the market. Given manager capability is removed from all other asset class returns (namely equity, property, fixed interest and cash) it is not appropriate to use manager based hedge fund benchmarks as proxies for the return of all hedge funds. These benchmarks provide an indication of the average manager skill available rather than passive (market based) returns available from this form of investing. However there is no data available to forecast hedge fund returns given there is no passive benchmark. Therefore, ASSIRT believes that there are limitations to portfolio modelling of hedge funds, and this form of analysis should be used only as a tool, not a driver of the decision.

The question of allocating a portion of a client's portfolio to hedge funds therefore becomes one of a market specialisation within the portfolio. Market specialisation categories include active versus passive, value versus growth, large cap versus small cap and now market based versus skill based strategies. ASSIRT would therefore argue that the choice of investing in skill-based strategies (hedge funds) is part of the active versus passive manager selection decision, rather than part of the traditional asset allocation decision.

Two examples of allocating hedge funds within an investor's portfolio are illustrated below.

Consider the portfolios of two investors with differing risk/return objectives that invest in traditional asset classes. The first is a 'defensive investor' with 25% invested in growth assets of equities and listed property and 75% invested in fixed interest assets. The second is a 'growth investor' with 25% invested in fixed interest assets and 75% invested in growth assets. The 5-year historical returns and risk generated by the portfolio of each investor to May 2002 is set out in Table 5.2.

Table 5.2: Defensive and Growth Investors 5-year Risk/Return to May 2002 from a portfolio of investment in traditional asset classes

	5 year Returns	5 year Risk (Standard Deviation)
Defensive Investor	7.61%	2.76%
Growth Investor	9.60%	7.12%

Example 1: Fund of Hedge Funds

If each investor had allocated 10% their portfolio during the 5-year period to a fund of hedge funds, the change to the return and risk generated through the period differs, depending on which asset classes the 10% allocation was sourced from. A defensive investor allocating 10% from equities or 10% from fixed interest assets to a fund of hedge funds would have experienced increased returns to the portfolio with a reduction in risk for the allocation from equities (Chart 5.2 & Table 5.3). In this case replacing equities had a greater impact in risk reduction than improving the portfolio returns. This is because the volatility in returns of the diversified fund of hedge funds is lower than the volatility of equity markets. In replacing fixed interest, the result would have been a slightly increased risk but substantially higher returns, due to the higher returns available through the fund of hedge funds and by maintaining the same exposure to equities within the portfolio.

Chart 5.2: Return/Risk outcome of 10% Allocation to Hedge Funds for a Defensive Investor

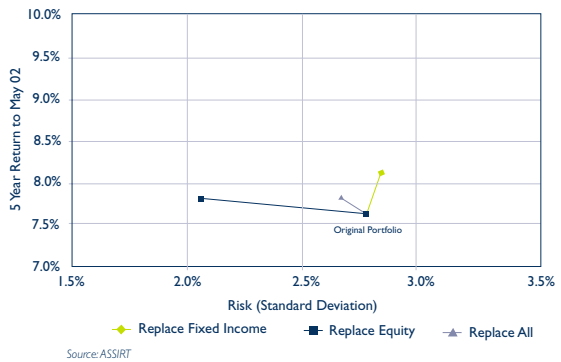


Table 5.3: Return/Risk Outcomes of a Defensive Investor's portfolio

Defensive Investor	5 year Returns	5 year Risk (Standard Deviation)
Traditional Asset Classes	7.61%	2.76%
Replace Equities	7.80%	2.05%
Replace Fixed Interest	8.10%	2.82%

A growth investor allocating 10% from equities or fixed interest assets to a fund of hedge funds would have also experienced increased returns to the portfolio as seen in Chart 5.3 & Table 5.4. Once again an allocation from equities had a greater impact in risk reduction than improving the portfolio returns. In replacing fixed interest, the result would have resulted in a slightly higher risk but substantially higher returns.

Chart 5.3: Return/Risk outcome of 10% Allocation to Fund of Hedge Funds for a Growth Investor

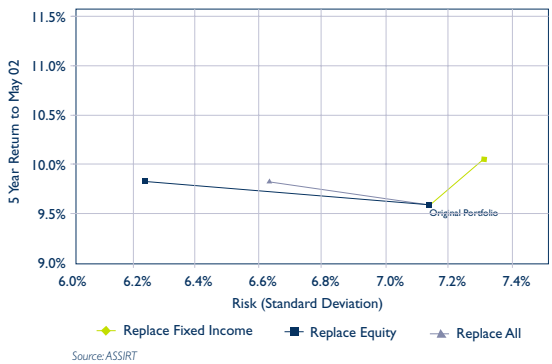


Table 5.4: Return/Risk outcome of a Growth Investor's Portfolio

Growth Investor	5 year Returns	5 year Risk (Standard Deviation)
Traditional Asset Classes	9.60%	7.12%
Replace Equities	9.83%	6.22%
Replace Fixed Interest	10.06%	7.29%

Example 2: Long/Short Global Equity Fund

If each investor had allocated 10% of their portfolio during the 5-year period to a long/short global equity fund, the change to the return and risk generated through the period differs, depending on which asset classes the 10% allocation was sourced from. A defensive investor allocating a total of 10% equally from Australian and international equities or 10% from all asset classes to a hedge fund would have experienced increased returns to the portfolio with a reduction in risk for the equity allocation (Chart 5.4 & Table 5.5). In this case replacing equities had a small impact in risk reduction and a significant improvement to the returns of the portfolio. In replacing all asset classes, the result would have been slightly higher returns than replacing equities but at a substantially higher risk, therefore representing a less favourable solution for an investor that wishes to maintain a similar level of risk.

Chart 5.4: Return/Risk outcome of 10% Allocation to a Long/Short Equity Fund for a Defensive Investor

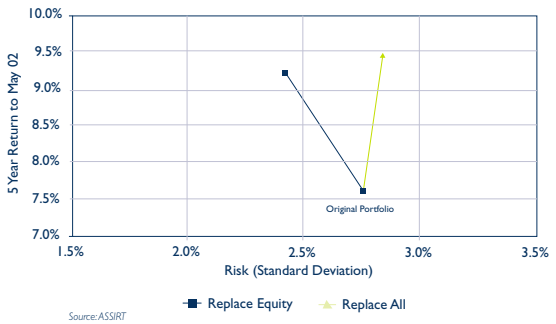


Table 5.5: Return/Risk outcome of a Defensive Investor's Portfolio

Growth Investor	5 year Returns	5 year Risk (Standard Deviation)
Traditional Asset Classes	7.61%	2.76%
Replace Equities	9.21%	2.42%
Replace All Asset Classes	9.45%	2.84%

A growth investor allocating 10% from all asset classes to a long/short global equity fund would have experienced increased returns to the portfolio with a reduction in risk (Chart 5.5 & Table 5.6). An allocation from Australian and international equities had significant impact in risk reduction, with a similar improvement to portfolio returns as the allocation from all asset classes over this long time period.

Chart 5.5: Return/Risk outcome of 10% Allocation to a Long/Short Equity Fund for a Growth Investor

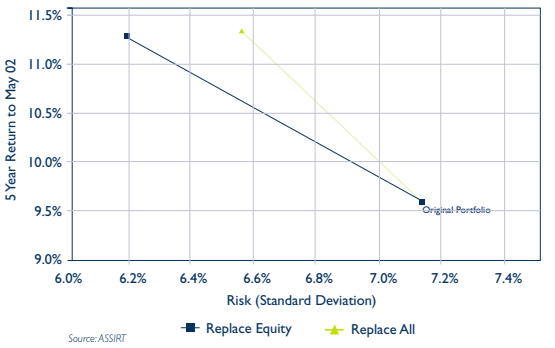


Table 5.6: Return/Risk outcome of a Growth Investor's Portfolio

Growth Investor	5 year Returns	5 year Risk (Standard Deviation)
Traditional Asset Classes	9.60%	7.12%
Replace Equities	11.27%	6.19%
Replace All Asset Classes	11.28%	6.56%

It is important to note that each hedge fund and fund of hedge funds will generate different returns and risk over time depending on strategies and managers utilised. Care should be taken in assessing the appropriateness of particular hedge funds and funds of hedge funds for particular client needs.

These examples suggest that most multi strategy fund of hedge funds with low levels of volatility are better suited to conservative investors rather than aggressive investors in that they can improve the return potential without significantly increasing risk when replacing fixed interest assets in a defensive investor's portfolio. In using a single manager hedge fund, it is more appropriate to allocate funds from the asset class that exhibits similar risk/return characteristics to that fund. In this example use of a long/short equity fund that has a large market exposure (long bias) the allocation should be sourced from the investor's equity component, not across all asset classes.

5.4 Factors to consider before investing

The decisions of whether to invest in hedge funds and how much of the investor's portfolio to allocate require consideration of the following factors;

- ★ The investor's investment objective, incorporating their return objective and risk tolerance. This will necessarily consider whether the investor's aim is to improve the return profile or reduce the risk profile of their existing portfolio position. As demonstrated above in general terms, where an investor aims to substantially improve the return profile of their portfolio, an allocation from fixed interest to a fund of fund hedge fund may be appropriate. As an improvement to the return expectation implies taking on additional risk, the opposite case applies for a reduction in the return expectation.
- ★ Which asset class to allocate funds from, for investment in hedge funds will depend on the return/risk objective of the hedge fund being considered.
- ★ Whether the investor has the time and knowledge to research individual hedge fund managers offering single strategies to bring together their own 'fund of hedge funds' hedge fund
- ★ The time frame to invest, considering any lock up period the hedge fund manager may impose.
- ★ Fund of Hedge Funds offerings may be more suited to conservative investors in improving the return profile at a slightly lower risk.
- ★ An appropriate allocation to a single manager will depend on whether the hedge fund has fixed interest or equity like characteristics.
- ★ An investor's income and taxation position should be considered. Generally income distributions from hedge funds will be treated as ordinary income with very little or no capital gains or dividend imputation. This is a result of frequent trading employed by most hedge funds.
- ★ The need for professional guidance in manager/ fund selection and the appropriate allocation within an investor's portfolio.

6. Glossary

Alpha A numerical value indicating a manager's risk-adjusted excess rate of return relative to a benchmark. Measures a manager's "value-added" in selecting individual securities, independent of the effect of overall market movements.

Arbitrage To take advantage of disparate pricing between two similar instruments in the same or different markets.

Benchmark A reference (security or index) against which a comparison and evaluation of performance of an investment portfolio can be made.

Beta Measures the sensitivity of the manager's returns to the market return. It is the extent to which the manager's returns have varied in line with movements in benchmark returns. A manager with a Beta greater than 1.0 is more volatile than the market, while a manager with a Beta less than 1.0 is less volatile than the market.

CTA Commodity Trading Advisor. CTA's generally trade commodity futures, options and foreign exchange and most are highly leveraged.

Correlation A measure of how variables tend to move in relation to one another. Variables that rise or fall in parallel on average are positively correlated and those that move in opposite directions are negatively correlated. Correlations range from –1 to +1.

Credit Spread The spread between Treasury securities and non-Treasury securities that are identical in all respects except for quality rating. For example, the difference between yields on Treasuries and those on single A-rated industrial bonds.

Derivatives Financial instruments whose value is derived from the value of an underlying security, asset or variable. Examples include options, warrants, futures, forwards and swaps.

Diversification Minimising of non-systematic portfolio risk by investing assets in several securities and investment categories with low correlation between each other.

Duration The duration of a bond is a measure of how interest rate changes affect a bond's price. It is also a measure of how long, on present value money-weighted basis, the holder of a bond has to wait before receiving coupon payments and final repayment.

FIF Foreign Investment Fund

Forward Contract Agreement between two parties to buy or sell an underlying asset at a specified future date for a specified price. Not traded on an exchange, but between specific parties.

Fund of funds An investment partnership that invests in a series of other funds. A portfolio will typically diversify across a variety of investment managers, investment strategies, and subcategories.

Futures Contract Standardised, exchange traded contract for the future delivery or receipt of a specified amount of an asset at a specified price

Hedging Transactions entered into (usually opposite transactions within the same asset class or market) that protect against adverse price movements and limit the exposure to a specific risk.

High Watermark The assurance that a fund only takes fees on profits once past losses are recovered. If an investment is made and subsequently falls in value, the fund will only take incentive fees if the investment grows above the initial level of investment made.

Hurdle Rate The minimum investment return a fund must exceed before a performance allocation/incentive fee can be taken.

Long Position Holding a positive amount of an asset.

Market Neutral Strategy Taking long and short positions in related assets (such as spread trades) in order to offset directional market risk.

Multi Strategy Investment philosophy allocating investment capital to a variety of investment strategies, although the fund is run by one management company.

Pairs Trading Non-directional relative value investment strategy that seeks to identify two companies with similar characteristics whose equity securities are currently trading at a price relationship that is out of their historical trading range. Investment strategy will entail buying the undervalued security, while short-selling the overvalued security.

Prime Broker The principal brokerage firm an investment fund does business with.

Options A financial instrument that gives the holder the right but not the obligation to buy (call option) or sell (put option) the underlying asset up to (American option) or on (European option) a defined expiration date for a defined price.

OTC Over-the-counter trading. Trading of products between two parties outside of exchanges.

Risk Risk in a portfolio sense refers to the variation or volatility of returns. It is generally measured by the standard deviation of the portfolio returns.

Sharpe Ratio Demonstrates the reward to risk generated by an asset. It is the difference between the return on the portfolio and the risk free rate, divided by the standard deviation of the portfolio.

Short Position Holding a negative amount of an asset, whereby assets are sold without owning them.

Standard Deviation Standard deviation is a statistical measure of the absolute variability of returns. It is the most commonly used measure of the volatility of returns or investment risk.

Swap An agreement between two parties to exchange cash flows over time according to a predetermined formula.

Warrant An option in the form of a security. Banks or companies issue warrants and can either be traded on exchanges or OTC.

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