Hedge Fund Education Series
Part 4: Important Hedge Fund *Strategies*

Reports in this series

Highlights	Page
Part 1: What are Hedge Funds?	
Part 2: Inside the Black Box	
Part 3: Asset Characteristics of Hedge Funds	
Part 4: Important Hedge Fund Strategies	
Equity Hedge	3
Equity Market Neutral	3
Dedicated Short Bias	4
Long/Short Equity	4
Emerging Markets	5
Event Driven	5
Credit Arbitrage	6
Distressed / Restructuring	6
M&A Arbitrage	7
Capital Structure Arbitrage	7
Macro Strategies	7
Global Macro	8
Commodity Arbitrage	8
Relative Value	8
Convertible Arbitrage	9
Fixed Income arbitrage	9
Statistical Arbitrage	10
Part 5: Implementing a Hedge Fund Portfolio	

UBS Financial Services Inc. (UBS FS) is pleased to provide you with information about alternative investments. There are a few points we would like to raise with you at the outset.

This article is for educational and informational purposes only. It does not constitute investment advice. Among other things, it does not take into account your personal financial situation, or your investment goals or strategies. You should not construe any information provided here to be an investment recommendation for you to follow. You should contact your Financial Advisor for information or recommendations that may be useful specifically to you. Although all information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, no representation or warranty, express or implied, is made as to its accuracy or completeness, and it may not be relied upon as such.

Any opinions expressed or information provided in this document is subject to change without notice, and UBS FS has no obligation to update such opinion or information.

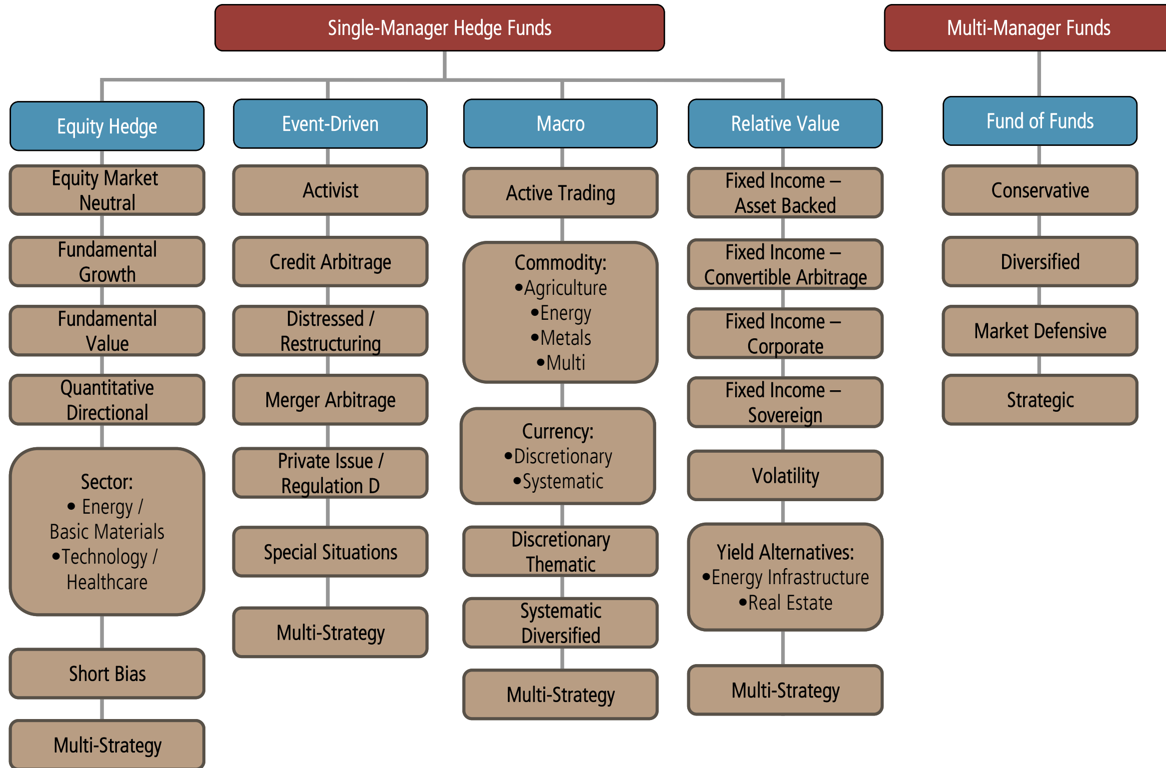
Hedge fund investment strategies tend to be quite different from the strategies followed by traditional money managers. Moreover, in principle every hedge fund follows its own proprietary strategy. This means that hedge funds are a very heterogeneous group. There are, however, a number of "ideal" types that can be distinguished, comprising broad categories.

Figure 1 depicts the strategies as categorized by Hedge Fund Research (HFR).

Having outlined the schematic, such neat classifications by strategy and style type (unlike in traditional investing) are both imprecise and, at times, not entire accurate as most managers have a fairly broad mandate. In the real world, strategy and style crossovers are commonplace. Any number of variations on the classification, or even other strategies, can be implemented by hedge funds.

We then describe in some measure of detail the more important arbitrage strategies within the four broad groups of Equity Hedge, Event Driven, Macro and Relative Value.

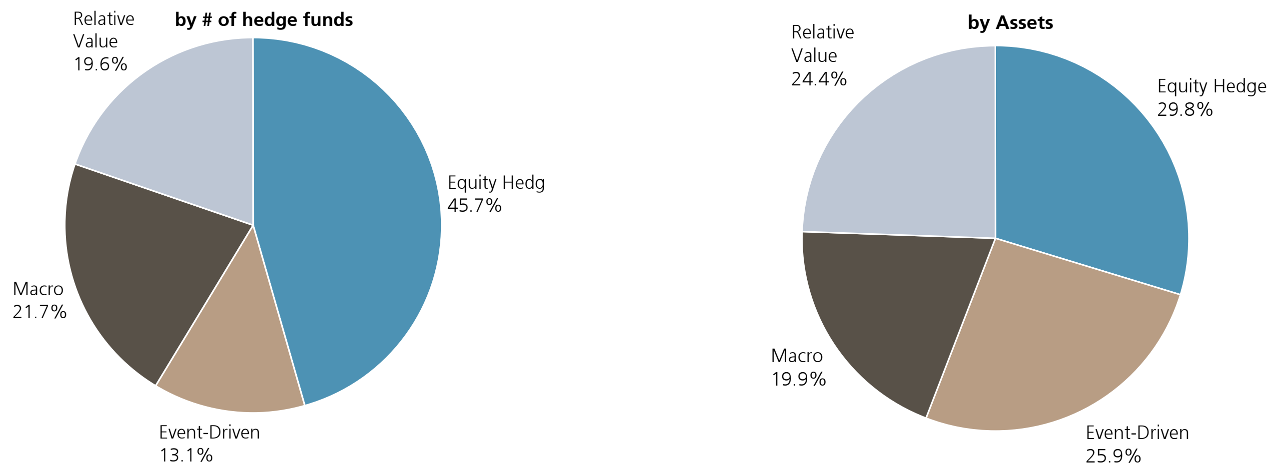
Fig. 1: A heterogeneous industry with many sub-strategies



Source: HFR Industry Reports, © HFR, Inc., www.hedgefundresearch.com[1]

Fig. 2: Industry composition by broad strategy types

As of Q4 2010



Source: HFR Industry Reports, © HFR, Inc., www.hedgefundresearch.com

Equity Hedge

The main objective of equity hedged funds is to seek long-term capital appreciation while maintaining very low net exposure to the overall stock market, individual industry groups, and other proxies of systematic risk, such as measures of value, growth, book leverage, or size. Often, their trading algorithms take into account behavioral biases of investors as well as constraints and competing incentives of institutional money managers. These biases and constraints create opportunities for profitable, risk-controlled equity trading. These managers use their expertise in accounting, valuation, behavioral economics, and empirical finance to identify opportunities and create stock selection models that rank the relative attractiveness of each stock in their investment universe. These rankings are often combined with estimates of risk and trading costs to construct diversified, risk-controlled long/short portfolios.

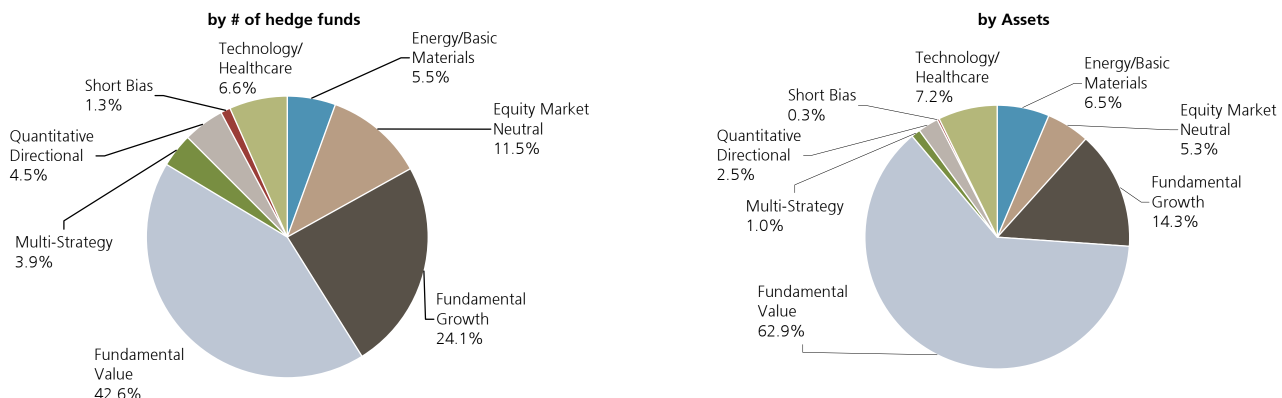
Funds that practice long/short strategies in stock markets account for the largest share of the hedge fund universe. This is not surprising for the equity markets themselves are deep, liquid and large, representing around $50 trillion in assets.

Equity Market Neutral

This investment strategy is designed to exploit equity market inefficiencies and usually involves being simultaneously "long" and "short" matched equity portfolios of the same size within a country. Market neutral portfolios are designed to be either beta[2] or currency neutral, or both. Well-designed portfolios typically control for industry, sector, market capitalization, and other systematic risk exposures. Leverage is often applied to enhance returns.

The main objective of the market-neutral style of investing is to minimize market and sector risk by buying stocks, which are expected to outperform the market, and selling stocks "short", which are expected to underperform the market. For example, hedge fund managers may wish to "long" biotechnology stocks (or any other sector specific) that are expected to outperform and "short" the biotechnology stocks that are expected to underperform. Therefore, what the overall biotechnology market actually does will matter little as the gain/loss is offset by both legs of the trade – hence the low directional exposure or beta. This style thus seeks to achieve positive investment returns in falling markets as well as in rising markets.

Fig. 3: Industry composition: equity hedge strategies
As of Q4 2010



Source: HFR Industry Reports, © HFR, Inc., www.hedgefundresearch.com

Theoretically, when “long” and “short” positions are equally weighted and securities are paired for each sector, then the market-neutral style should render the portfolio insensitive to market risk.

Market neutral strategies suffer less from cyclical patterns than the majority of other hedge fund strategies. Empirical evidence suggests that this strategy is a very powerful risk management tool in periods of market dislocation, e.g., August-September 1998, September 2001 or the 2008 financial crisis. Equity market neutral strategies have a general tendency to be positively correlated with high equity market volatility, and negatively correlated with spikes in equity volatility.

In practice, there are always some uncovered risks, mainly stock selection risk, trade execution risk and market risk of unhedged positions. In addition, hedge positions may not completely eliminate market or sector risk. Therefore, active risk management is required to adjust positions regularly and keep a portfolio in line with acceptable market exposure. Hedge funds tend to rely on sophisticated risk management discipline. This includes relying on risk measurement to dictate position size; building diversified portfolio (often 80-100 individual positions on average); moderate leverage; extensive use of option hedging strategies (both on individual positions and for systemic risk); and rigorous and disciplined stop-loss trading techniques.

Dedicated Short Bias

Dedicated “short” sellers were once a robust category of hedge funds before long bull markets rendered the strategy difficult to implement. A new category, Dedicated Short Biased, has emerged. The strategy is to maintain net “short” as opposed to pure “short” exposure. Short biased managers take “short” positions in mostly equities and derivatives. The “short” bias of a manager's portfolio must be constantly greater than zero to be classified in this category.

Long/Short Equity

This directional strategy involves equity-oriented investing on both the “long” and “short” sides of the market. The objective is not to be market neutral. Managers have the ability to shift from value to growth, from small to medium to large capitalization stocks, and from a net “long” position to a net “short” position. Managers may use futures and options to hedge. Their focus may be regional, such as to be net long or net short U.S. or European equity, or it may be sector-specific, such as “long” and “short” technology or healthcare stocks. They tend to build and hold portfolios that are substantially more concentrated than those of traditional stock funds.

The better hedge fund managers invest in long positions only where they have high conviction. To these longs, such managers add short positions in which they have high confidence. All positions, therefore, require high conviction based on a perceived information edge. Further, hedge funds need not be fully invested long unlike most traditional funds. This allows manager conviction, rather than an institutional mandate, to drive long and short exposure. Because they can vary exposure, hedge fund managers can press their bets when they are idea-rich and reduce exposure when they are not. They can be net short if their short-side ideas appear more promising.

This category has slowly been morphing into two subclasses- High Directional Long/Short Equity where managers can be greater than 10-15% net “long” or net “short” and Low Directional Long/Short Equity where managers cannot be greater than 10-15% net “long” or net “short”. Low Directional managers may sometimes be included in the Equity Market Neutral category too. This is a strategy mainly based on fundamental research. This strategy combines bottom-up fundamental research with secular trend evaluation to create the optimal portfolio of “long” and “short” positions. The process often utilizes small, medium and large capitalization companies to maintain maximum flexibility.

Emerging Markets

This strategy involves equity 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. Due to different international trading patterns of individual countries, economic growth rates, monetary and fiscal policy, securities from different countries have different risk/return characteristics and imperfect correlation. International diversification can improve a portfolio's risk-return characteristics.

But to invest in emerging markets has never been easy. Investors need to pay special attention to country risks, including political uncertainty, imperfect fundamental data and research information, non-standard and limited disclosure requirements, possible enforcement difficulties and limited remedies in the event of default etc. In addition to business uncertainties, such investments may be affected by political, social and economic uncertainty affecting the country or region. Many emerging financial markets are not as developed or as efficient as those in the U.S., and as a result, liquidity may be reduced and price volatility may be higher. Also the legal and regulatory environment may also be different, particularly regarding bankruptcy, corporate reorganization and financial accounting standards

Regardless of the short-term higher returns or loss probability, many investors have reached an agreement that international diversification does increase a portfolio's return to risk ratio. This is evidenced in greater portfolio flows to emerging market (hedge) funds.

Event Driven

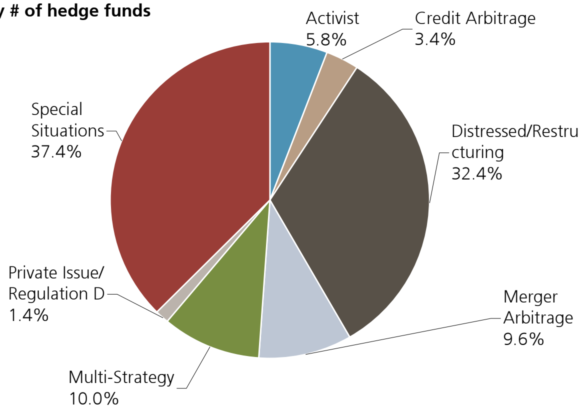
The Event Driven category of hedge funds constitutes the second largest strategy sector. Hedge Fund Research (HFR) defines Event Driven strategies as those that "maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments..."

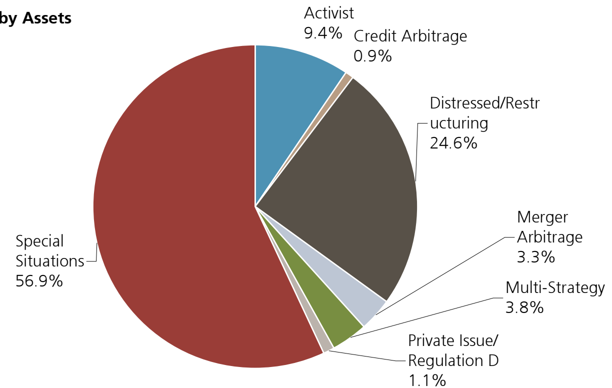
More simply stated, this strategy has as catalyst, an event that either has altered or will alter the status quo of the company or companies in question. Through research, hedge fund managers determine if the marketplace is appropriately discounting the effect of that event on company valuations. If not, they have an opportunity to profit from that event-driven discrepancy.

Event Driven strategies concentrate on the profit potential created by major corporate events, such as mergers, acquisitions, restructurings, bankruptcies, liquidations, etc. Unlike relative value strategies, which emphasize the theoretically-founded or quantitatively-established relationship among different but related assets, event-driven strategies are highly issuer and transaction-specific. They rely more on fundamental research and judgment than on mathematical precision. Hedge funds take positions that are expected to be profitable if a particular event comes to pass, while a variety of techniques are used to mitigate the risk that the event does not happen.

The uncertainty associated with an event is not quantifiable in the same sense as a deviation between a theoretical and an actual price level. This creates an added dimension of risk. Event Driven strategies are dependent on market conditions conducive to major corporate events. For example, the probability of a merger being consummated is generally higher during a "bull" market or when primary debt issuance is very active. A basic distinction among Event Driven strategies is whether a position will be established prior to or only after the announcement of a proposed transaction. "Preannouncement" Event Driven investing involves not only the risk of eventual non-consummation but also the risk that the anticipated "event" will never be announced in the first place.

Fig. 4: Industry composition: event driven strategies
As of Q4 2010





Source: HFR Industry Reports, © HFR, Inc., www.hedgefundresearch.com

Credit Arbitrage

A typical investment is to be "long" one debt instrument and "short" another to take advantage of temporary mispricing caused by corporate credit events.

Distressed/Restructuring

Distressed Securities are "below investment grade" securities and obligations of issuers in weak financial condition, experiencing poor operating results, having substantial capital needs or negative net worth. They may be the securities of companies facing special competitive challenges or product obsolescence problems. They may be involved in bankruptcy or other reorganization and liquidation proceedings. These securities are likely to be particularly risky investments although they also may offer the potential for correspondingly high returns. Among the risks inherent in investments in troubled entities is the fact that it is frequently difficult to obtain information as to the true condition of their issuers. The level of analytical sophistication, both financial and legal, necessary for successful investment in companies experiencing significant business and financial difficulties is unusually high.

Hedge funds attempt to correctly evaluate the value of these assets and take "long" or "short" positions in the debt and/or equity of companies in financial distress and bankruptcy. The securities of companies in need of legal action or restructuring to reemerge from financial distress typically trade at substantial discounts to par value and thereby attract investments when managers perceive a turn-around will materialize. Managers may also take arbitrage positions within a company's capital structure, typically by purchasing a senior debt tier and "short"-selling common stock, in the hopes of realizing returns from shifts in the spread between the two tiers.

In the volatile business climate, with a high number of defaulted bonds and Chapter 11 bankruptcy filings, the market for distressed companies' debt and equity securities continues to capture the interest and imagination of the investment community. The profit-making potential of securities selling at discount prices makes distressed securities very attractive to educated and aggressively inclined investors. When a company is facing bankruptcy, even if it is because of temporary liquidity problem instead of long term insolvency, investors demand a large credit premium. Distressed security returns are a combination of the risk premium from holding low-grade securities and the liquidity premium from holding less liquid securities. Distressed securities are usually considered risky because there is a distinct possibility that the company might not recover. If that happens, the hedge fund may lose part or even all of invested capital.

M&A Arbitrage

Risk arbitrageurs engaged in M&A Arbitrage typically "long" the stock of the company being acquired. They also often "short" the stocks of the acquiring company in stock-swap deals. The principal risk in such events is 'deal risk'- should the M&A deal fail to close. The stock of the company being acquired will in general trade at a discount to the offer price, since all acquisitions take time and there always is risk that the acquisition will not be completed. M&A arbitrage funds make investment profits when they successfully anticipate the outcome of an announced M&A and capture the spread between the current market price and the price at which the stock trades after the M&A is completed.

When a M&A transaction is pending, uncertainty about the outcome creates a pricing disparity between the price of the acquiring company's stock and the price of the target company's stock. If the deal is completed in the way the manager anticipates, profits will be made from the "long" position. M&A arbitrage hedge fund managers often do not attempt to anticipate possible M&As. Instead, they analyze already announced M&A to identify favorable risk/return characteristics.

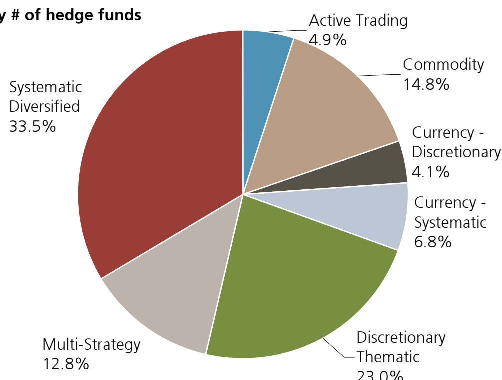
Capital Structure Arbitrage

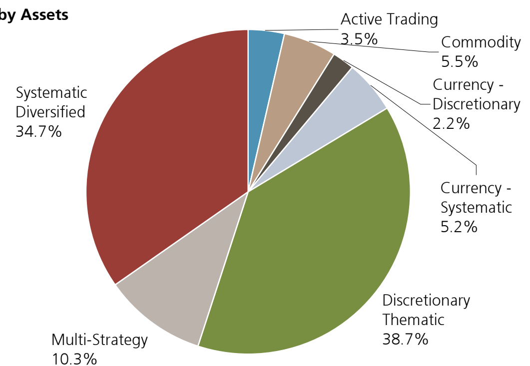
This involves buying "long" and selling "short" different classes of securities of the same issuer in anticipation of profiting from the correction of a relative mispricing among them. One particular form of Capital Structure Arbitrage involves buying "long" a fixed-income security of an issuer and entering into a credit default swap, which calls for payment to the hedge fund of the principal amount of the fixed-income security against that security's delivery in the event that the issuer suffers a "credit event" (essentially, an event tantamount to default on its debt). Another form of capital-structure arbitrage involves buying "long" an issuer's equity and selling "short" that issuer's debt, with the assumption that the equity is underpriced relative to the debt.

Macro Strategies

Macro hedge funds, according to HFR's definition, "trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets..." These managers primarily trade in the most liquid markets in the world, such as currencies and government bonds, typically betting on macroeconomic events such as changes in interest rate policies or currency devaluations. They rely mostly on an assessment of economic fundamentals. This strategy has the smallest share by assets.

Fig. 5: Industry composition: macro strategies
As of Q4 2010





Source: HFR Industry Reports, © HFR, Inc., www.hedgefundresearch.com

Global Macro

These managers carry "long" and "short" positions in many of the world's major capital or derivative markets. Their positions reflect views on overall market direction as influenced by major economic trends and events. The portfolios of these funds can include stocks, bonds, currencies and commodities in the form of cash or derivatives instruments. Most Global Macro funds are large and invest globally in both developed and emerging markets. They aim to generate high total returns by having the flexibility to invest in any asset class, in any geographical area, using any available instrument. They hold positions that reflect not only views on the fortunes of individual companies and/or sectors but also positions on broader world economic trends at the country level. Their positions need not be concentrated and will typically cover a wide range of equity markets, interest rate, currencies and commodities.

Global Macro funds trading may be based on fundamental views or technical trading systems, or a combination of both. Fundamental analysts believe that changes in market prices are due to changes in supply and demand caused by changing economic conditions and that the most appropriate approach to investment decision making is to focus on economic factors. Technical traders generally believe that market prices are the key aggregator of information necessary to make investment decisions. Global Macro investing has traditionally been seen as dominated by a small number of huge players. It also exhibits a low correlation with equity markets suggesting an effective role as a diversifier for equity portfolios.

Commodity Arbitrage

Within this strategy, a typical investment is to be "long" one commodity and "short" another commodity when their historical, mathematical, or fundamental pricing relationship is temporarily distorted. The hedge fund manager identifies the distorted relationship and buys the "cheap" commodity and sells "short" the "expensive" one. By being "long" and "short" at the same time, the manager removes the directional risk of an unfavorable price move.

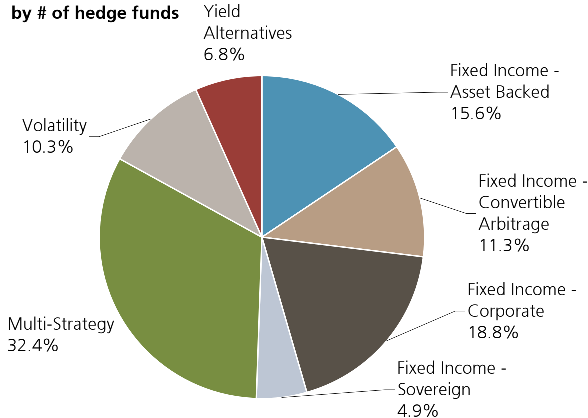
Relative Value

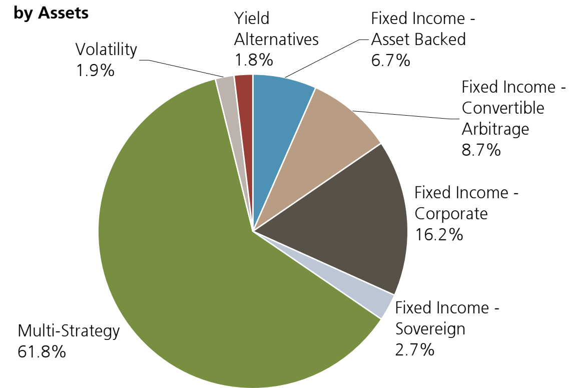
According to HFR, in relative value strategies "the investment thesis is predicated on realization of a spread between related instruments…". Relative value strategies seek to profit from the relative mispricing of related assets- e.g., convertible bonds and the common stock underlying the conversion option; options and futures and their underlying reference assets; debt instruments of the same issuer or of different issuers with different maturities or yields; or the common stock of different issuers in the same sector. These strategies may be highly quantitative and based on theoretical or historical pricing relationships. Because they focus on capturing value from the relative mispricing of related assets, relative value strategies can generate returns that are independent of overall movements in debt or equity prices. Nonetheless, many of these strategies in fact are constructed with a long or short equity or debt bias.

Because the mispricings that these strategies exploit tend to be small in absolute terms, relative value funds frequently use leverage,[3] at times substantial amounts thereof, in an attempt to increase returns. The use of leverage creates risks of "credit squeezes" and the adverse effects of discretionary margin increases by dealers and counterparties to which many other strategies are not subject. Few relative value strategies involve pure arbitrage, in which a profit will inevitably be recognized if the position can be held until maturity.[4] Moreover, it is typical of relative value strategies not to hedge all the risks of each strategy, due to the associated costs and the fact that certain risks cannot be effectively hedged. Relative value strategies are all (even in the case of pure arbitrage) subject to the fundamental risk that aberrational market prices, even if correctly identified, will not revert to fair value during the period over which the hedge fund is able to maintain its positions.

Holding periods depend on the investment type and the duration of the underlying event. For example, risk arbitrage positions may range from one month to eight months and probably average four or five months. Event-driven equity trades too have a similar duration (with exceptions of course). Value-based equity trades

Fig. 6: Industry composition: relative value strategies
As of Q4 2010





Source: HFR Industry Reports, © HFR, Inc., www.hedgefundresearch.com

can have durations of up to two years and average over a year. Distressed security trades average two to eight months, sometimes even longer.

Convertible Arbitrage

Convertible bonds are fixed income hybrid securities that lie between straight bonds and stocks. They are typically listed securities issued by companies and traded on secondary markets. They give their holder the right, but not the obligation, to convert into a fixed number of shares of common stock. These shares are generally the stock of the issuer, but they could very well be of another company as well. A typical investment is to "long" the convertible bond and "short" the common stock of the same company. Positions are designed to generate profits from the fixed income security as well as the "short" sale of stock, while protecting the principal from market moves. Current income is generated by combining the yield of the convertible security with the interest income on the proceeds from the "short" positions, less any dividends on the shares sold "short". Most managers employ some degree of leverage, ranging from zero to 6x. The equity hedge ratio may range from 30 to 100 percent. Convertible arbitrage hedge funds focus on the mispricing of convertible bonds. Their rationale is that:

- Since convertibles are hybrid in nature, they do not attract pure bond and pure stock investors, giving rise to frequent price discrepancies.
- Convertible securities often contain several call, put, or exercise-date options that are often neglected by the market. The credit risk and interest rate risk of the convertible position is also hedged using appropriate instruments.

Fixed Income Arbitrage

Fixed income arbitrage hedge funds seek to profit from price anomalies between related securities and/or bet on the evolution of interest rates spread. Most managers trade globally with a goal of generating steady returns with low volatility. This category includes interest rate swap arbitrage, U.S. and non U.S. government bond arbitrage, forward yield curve arbitrage and mortgage-backed securities arbitrage. The mortgage-backed market is primarily U.S. based, over-the-counter and particularly complex. It involves the purchase of the mortgage-backed securities and the "short" sale of other fixed income securities such as government bonds of the same term.

A variant 'Basis Trading' involves the purchase of a government bond and the sale of a futures contract on that bond. The downside of this strategy is limited to the difference between the price paid for the bond and

the proceeds from the sale of the futures contract. Traders look for price movements in both instruments over the holding period to determine if an arbitrage opportunity arises to realize a profit before final delivery of the bond in satisfaction of the futures contract.

Statistical Arbitrage

One form of statistical arbitrage is buying "long" a security (or basket of securities) and selling "short" a related security, option, or futures contract (or basket of securities, options or futures) when the relative prices of such securities, options or futures deviate from their historical relationship in anticipation of profiting from a reversion in the prices of such securities, options, or futures to their historical relationship.

End Notes

[1] For a detailed description: http://www.hedgefundresearch.com/index.php?fuse=hfrx_strats&1290361374.

[2] Beta is a measure of the volatility of the hedge fund's return performance relative to a benchmark financial instrument usually a broad index that serves as a proxy for the market. Typically a value of greater than 1 implies that the fund is more volatile than the benchmark and a value less than 1 implies less volatility relative to the benchmark.

[3] While leverage presents opportunities for increasing the total return on investments, it has the effect of potentially increasing losses as well. Accordingly, the impact of any event which adversely affects the value of an investment could be magnified to the extent leverage is utilized and may result in a substantial loss.

[4] An example is the mispricing between a stock index future and the underlying stock index, each of which necessarily will have the same value at the expiration of the future.

Alternative Investment Funds Risk Disclosure

Interests of Alternative Investment Funds (the “Funds”) are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of the Funds, and which Clients are urged to read carefully before subscribing and retain. This communication is confidential, is intended solely for the information of the person to whom it has been delivered, and should not be reproduced or otherwise distributed, in whole or in part, to third parties. This is not an offer to sell any interests of any Fund, and is not a solicitation of an offer to purchase them. An investment in a Fund is speculative and involves significant risks. The Funds are not mutual funds and are not subject to the same regulatory requirements as mutual funds. The Funds' performance may be volatile, and investors may lose all or a substantial amount of their investment in a Fund. The Funds may engage in leveraging and other speculative investment practices that may increase the risk of investment loss. Interests of the Funds typically will be illiquid and subject to restrictions on transfer. The Funds may not be required to provide periodic pricing or valuation information to investors. Fund investment programs generally involve complex tax strategies and there may be delays in distributing tax information to investors. The Funds are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits. The Funds may fluctuate in value. An investment in the Funds is long-term, there is generally no secondary market for the interests of the Fund, and none is expected to develop. Interests in the Funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in a Fund. Investors should consider a Fund as a supplement to an overall investment program. In addition to the risks that apply to alternative investments generally, there are risks specifically associated with investing in hedge funds, which may include those associated with investing in short sales, options, small-cap stocks, “junk bonds,” derivatives, distressed securities, non-U.S. securities and illiquid investments.

This document is for educational and informational purposes only. It does not constitute investment advice. Among other things, it does not take into account your personal financial situation, or your investment goals or strategies. You should not construe any information provided here to be an investment recommendation for you to follow. You should contact your Financial Advisor for information or recommendations that may be useful specifically to you. Although all information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, no representation or warranty, express or implied, is made as to its accuracy or completeness, and it may not be relied upon as such. Any opinions expressed or information provided in this document is subject to change without notice, and UBS Financial Services Inc. has no obligation to update such opinion or information.

Options are risky and are not suitable for everyone. Please read the Options Clearing Corporation Publication titled "Characteristics and Risks of Standardized Options Trading". This Publication can be obtained from a Financial Advisor, or can be accessed under the Publications Section of the Option Clearing Corporation's website at optionsclearing.com.

©UBS 2011. UBS Financial Services Inc., a subsidiary of UBS AG.