Greenwich Global Hedge Fund Index Construction Methodology

The Greenwich Global Hedge Fund Index ("GGHFI" or the "Index") is one of the world's longest running and most widely followed benchmarks for hedge fund performance. The Index measures the average performance, net of fees, of both the overall hedge fund universe as well as of various constituent groups of hedge funds as defined by their investment strategies. The Index is used to construct investable index and derivative products in addition to being used for benchmarking purposes. The Index is produced as a service to institutions, plan sponsors, consulting firms, individual investors and the financial services industry.

This paper describes the Index, the construction methodologies used to create it, its history, and the database.

Introduction

About Greenwich Alternative Investments

Founded in 1992, Greenwich Alternative Investments ("GAI") was the first to collect data and perform large-scale research on the broad universe of hedge funds. Today, GAI is recognized as an alternative investment expert with one of the most comprehensive hedge fund databases available and is the provider of the Greenwich Global Hedge Fund Index, an industry-standard benchmark of the hedge fund asset class.

About the Greenwich Database

GAI has one of the oldest and most extensive hedge fund databases in existence, tracking more than 7,000 funds worldwide. This number includes only hedge funds as they are generally defined, and excludes fund-of-funds as well as certain other types of investments such as private equity funds, venture capital funds, separately managed account strategy composites, etc. Both quantitative and qualitative information is included for each fund in the database. In addition to the Greenwich Indices, the database is used to conduct general research on the hedge fund industry, such as studies on the size and characteristics of the hedge fund universe. The quality of our hedge fund information is well recognized internationally as a frequent source of industry information and is widely used in media, business and academic publications.

About the Greenwich Indices

Institutional investors, hedge fund managers and media worldwide recognize GAI as an authoritative source for hedge fund indexing. GAI's flagship indices, the Greeenwich Global Hedge Fund Indices, are considered among the financial industry's oldest and most widely utilized composite benchmarks of global hedge fund performance. Initially compiled in 1994 and published in 1995, the Greenwich Global Hedge Fund Indices provide more than 18 years of aggregate risk and return history that represent the average performance of hedge funds around the world, tracking the performance of the overall hedge fund universe. The indices, updated monthly, are based on underlying hedge funds returns, are net of underlying manager fees, and are simple averages (not dollar-weighted averages). They do not include Fund-of-Funds.

The Greenwich Global Hedge Fund Index

Index Constituents

The Index is designed to reflect the dynamic nature of the hedge fund universe and does not have a fixed set of constituent funds. Instead, GAI bases its Index on samples of funds which best represent the size and strategy composition of the hedge fund universe. Funds are not excluded on the basis of size, location, or other factors. Only one share class per fund is included in the calculation of the Index. For example, if a fund offers three currency classes (e.g., USD, Euro and Yen), only one currency class will be represented. Fund of funds are not included in the Index.

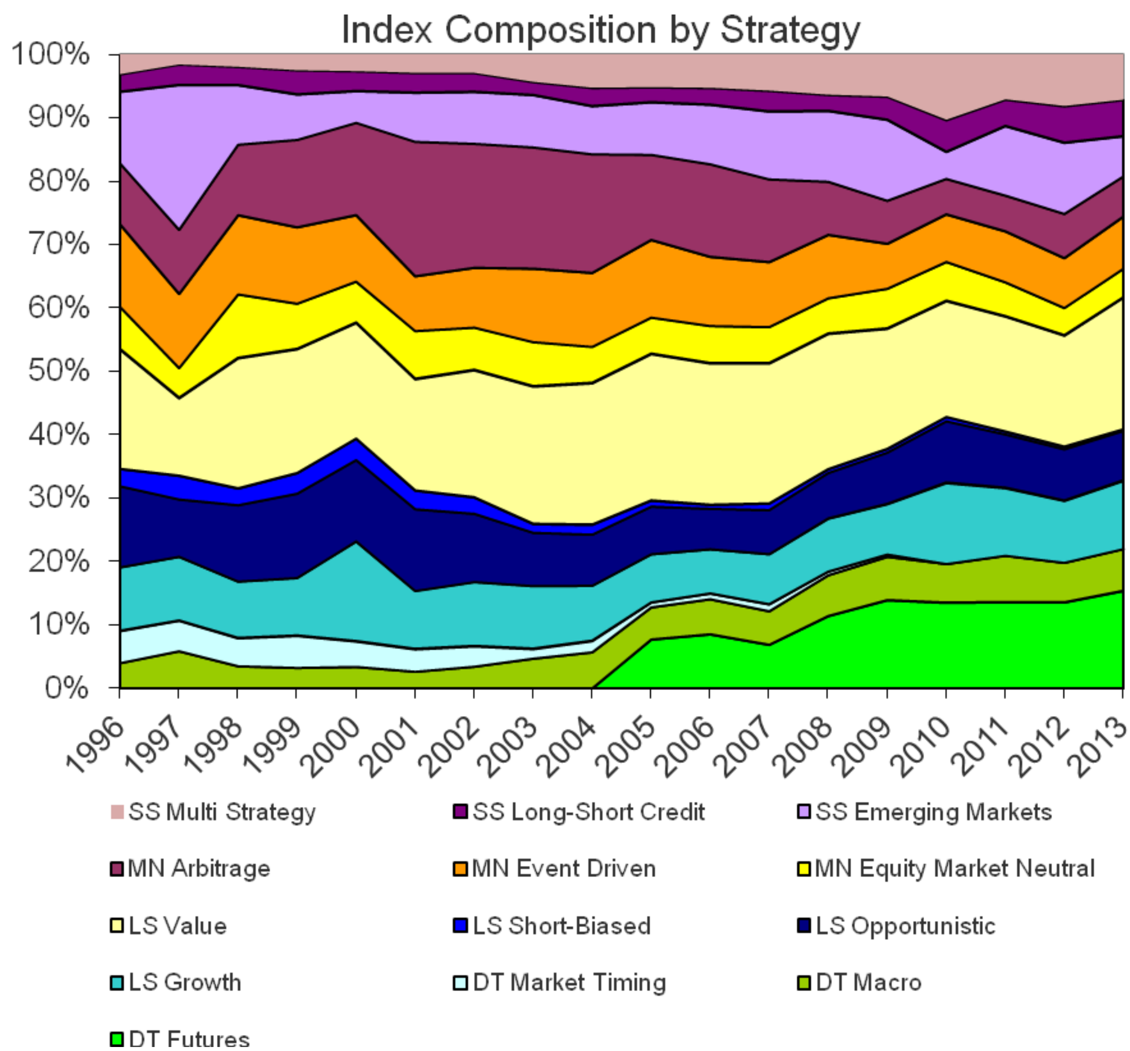
The Index represents the performance of funds which have reported to GAI by the required publication deadlines and which have a track record of 3 months or greater. A minimum of 500 funds is required for the preliminary index and a minimum of 1,000 funds for the finalized index. The actual number of index constituents typically exceeds these requirements.

Strategy Composition

Strategy composition of the GAI Index is dynamic based on market conditions, adjusting over time to reflect the changing composition of the broader hedge fund universe. The GAI Index evolves with time to reflect changes in composition of the hedge fund universe. A "static" index (i.e., one with a fixed group of funds), on the other hand, grows increasingly unrepresentative over time.

The following graph illustrates the change in strategy weightings of the Index for the year-end indices over the last decade.

Strategy Composition of Greenwich Global HF Index



The Index responds to changes in hedge fund universe composition and properly reflects and measures the underlying population. An index with a fixed set of hedge funds would not change organically with the hedge fund universe and therefore tends to be unrepresentative.

Index Calculation

All Index returns are simple equal-weighted averages and are calculated on a monthly basis based on the following formula.

$$\frac{\Sigma R_i}{N}$$

R_i = Return of Fund i

N = Number of Funds in the Index

The Index is reported net of all underlying manager fees and expenses.

Publication

Each month, Greenwich calculates the Greenwich Global Hedge Fund Index and its sub-strategy indices for the most recent two months.

Estimated Index Results

A preliminary estimated return for the Index and hedge fund strategies is published on the 12th business day of each month. This estimated return provides an indicator of hedge fund performance for the prior month.

Finalized Index Results

Index returns for the second month prior are finalized on the 12th business day of each month. They are calculated using a larger sample size, supersede the estimated returns calculated during the previous month and are "Final". They will not be revised in the future as more managers report to GAI.

Quarterly returns since January 1988 and monthly returns since January 1995 can be downloaded in Excel format at www.greenwichai.com

History of the Indices

Calculation Frequency of Official Index

GAI first published the Index in 1995. Returns from 1988 through 1994 were calculated on a quarterly basis because many funds reported returns only in a quarterly format during that time period. From 1995 through 2002, Index returns were calculated on both a quarterly and monthly basis as monthly reporting of returns became more common among hedge funds. The quarterly returns, however, are the official Index results because a significant number of funds continued to report returns only on a quarterly basis. Beginning with the January 2003 Index, returns were calculated on a monthly basis as the number of funds that reported quarterly became insignificant.

In August 2004, GAI restated the official Index returns, after removing funds of funds from the historical calculations. Since then, funds of funds have not been included in the Index.

Annual Return Calculation

From 1988 through 2002, annual returns for the Index were calculated by compounding the four underlying quarterly returns for the year. When the year-to-date return was calculated for the Index in the middle of the year, quarterly returns were used where possible and then monthly returns thereafter. For example, the year-to-date return as of August 2000 was calculated by compounding the quarterly index returns for 1Q00 and 2Q00 with the monthly index returns for July and August.

Quarterly Index returns were used between 1988 and 2002 as they accounted for the majority of fund reporting for that time period. Starting in 2003, once the vast majority of hedge funds started reporting on a monthly basis, annual returns have been calculated by compounding monthly results.

Month-End Index Calculation

Starting with the January 2003 Index, the Index returns were calculated on the last business day of the month (now 3rd business day of the following month) to allow for the inclusion of a larger sample of funds. Prior to this, the official monthly returns were determined several weeks earlier in the month.

Strategy Group Indices

In 2004, the four broad Strategy Groups were introduced in the Global Index: Market Neutral Group (consisting of three strategies: Equity Market Neutral, Event-Driven, and Market Neutral Arbitrage), Long/Short Equity Group (consisting of four strategies: Aggressive Growth, Opportunistic, Short-Biased, and Value), Directional Trading Group (consisting of two strategies: Futures and Macro), and Specialty Strategies Group (consisting of two strategies: Long-Short Credit and Multi-Strategy). With the exception of the Directional Trading Group Indices, the Strategy Group Indices were calculated from historical index information and by averaging together the returns of all the funds in their underlying strategies.

Individual Strategy and Sub-Strategy Indices

The index inception date for each individual strategy is January 1988 with some exceptions for additional indices introduced since then to allow the GAI Index to accurately reflect the evolving universe of hedge funds. These exceptions are noted below:

> The Greenwich Global Futures Index was constructed in January 2004. Prior to July 2005, Futures funds were not included in the overall Index returns. Due to the growth in the number of Futures funds and their rising use by hedge fund investors, they were added to the calculation of the Greenwich Global Hedge Fund Index in July 2005 to better represent the overall hedge fund universe.
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> In the January 2004 Index the following three sub-strategy indices within Market Neutral Arbitrage were added: Convertible Arbitrage, Fixed Income Arbitrage, and Statistical Arbitrage. The Greenwich Global Other Arbitrage Index was introduced in July 2005. Returns from January 2003 to June 2005 were calculated from the managers that reported for the relevant Month-End Index. Prior to this, the funds in the arbitrage sub-strategies did not represent all of the funds in the broader Market Neutral Arbitrage strategy.
>
> In January 2005, GAI introduced the Greenwich Global Event-Driven Index. Historical returns were created for the index on a monthly and quarterly basis by averaging together the Distressed Securities and Special Situations funds from the original Index files. Initially, Distressed Securities and Special Situations were the only sub-strategies. Merger Arbitrage became a sub-strategy in July 2005.

Regional Indices

In January 2010, ten regional indices were introduced as a result of an increasing number of funds focused exclusively on specific geographic regions. The indices were created in two sets, Developed Markets and

Emerging Markets. Each set contains five indices: Composite, Global, Asia, Europe, and Americas. Funds must report that they are holding over 70% of investments in the designated region in order to be included in its index.

All Regional Index returns with the exception of Emerging Markets Composite were backfilled for the period of January 2009 -December2009 based on the historical data in the database at the time of the month-end Regional Index calculation for January 2010.

Strategy Reclassifications

Prior to July 2005, Equity Market Neutral was a strategy in the Long-Short Equity Group and Short-Biased was a strategy in the Specialty Strategies Group. Beginning in July 2005, Equity Market Neutral became a strategy in the Market Neutral Group and Short-Biased became a strategy in the Long-Short Equity Group. Historical returns for the Market Neutral Group, Long-Short Equity Group, and Specialty Strategies Group were restated.

From January 1997 to June 2005, Merger Arbitrage was a Market Neutral Arbitrage sub-strategy. In July 2005, it became an Event-Driven sub-strategy. Historical returns for the Event-Driven and Market Neutral Arbitrage indices were not restated.

Prior to January 2010, Emerging Markets was a strategy in the Specialty Strategies Group. Beginning with the introduction of regional indices in January 2010, the Greenwich Global Emerging Markets Index was reclassified as a regional index and renamed the Greenwich Emerging Markets Composite Regional Index. The Specialty Strategy Group historical returns were not restated.

Name Changes

Beginning with the January 2004 Index, Several Strategies was renamed Multi-Strategy. In July 2005, the Market Neutral Securities Hedging strategy was renamed Equity Market Neutral.

Beginning with the January 2010 Index, the following three indices were renamed: Short Selling became Short-Biased, Fixed Income became Long-Short Credit, and Special Situations became Diversified Event-Driven. Also beginning with the January 2010 Index, the Greenwich Global Emerging Markets Index became known as the Greenwich Emerging Markets Composite Regional Index, as noted above.

Discontinued Indices

Until January 2010, Statistical Arbitrage was calculated as sub-strategy of Market Neutral Arbitrage. This index has been discontinued and constituent funds rolled into the Equity Market Neutral strategy. Also until January

2010, Market Timing was calculated as a strategy of the Directional Trading Group. As fewer funds reported this strategy, it has been discontinued and remaining constituent funds reclassified as appropriate.

Index Value Calculation

In 2004, index values for the Greenwich Global Hedge Fund Index as well as the Global strategy indices were introduced. Index values show the growth of $1,000 since each index's inception at January 1, 1988. Index values are based on quarterly index returns from 1988 through 2002 and monthly returns thereafter.

Validation of the Greenwich Global Hedge Fund Index

Survivorship Bias

Survivorship Bias is defined as the tendency for poor performers to drop out of an index while strong performers continue to exist. This results in an overestimation of past returns.

Index returns from 1988 to 1994 are subject to survivorship bias. They were calculated in 1994 and those hedge fund managers that may have existed over that time period but subsequently went out of business prior to the initial calculation of the Index are unlikely to be included. Survivorship bias has been mitigated on all strategy index returns thereafter. Index returns for periods since 1994 include the returns of managers who were operating at the time and reported to GAI even if they subsequently ceased trading and became defunct.

Exceptions include the returns of the Futures, Directional Trading Group, and Market Neutral Arbitrage sub-strategy indices. Returns for the Greenwich Global Futures Index were backfilled to January 1995 based on the historical data in the database at the time of calculation (January 2004). This impacted the calculation of the Directional Trading Group indices, as Futures funds represent a portion of this index. The Greenwich Global Market Neutral Arbitrage sub-strategy indices were backfilled with information prior to 2003 based on the historical data in the database at the time of calculation (January 2004). Monthly returns for these indices in 2003 were calculated from the managers that reported for the Month-End Index. The Other Arbitrage Index returns are not impacted because returns were only calculated back to January 2003. Additionally, all Regional Index returns with the exception of Emerging Markets Composite were backfilled for the period of January 2009 - December2009 based on the historical data in the database at the time of the month-end Regional Index calculation for January 2010.

Self-Selection Bias

While its extent cannot be measured, self-selection bias may be a factor in the GGHFI. Self-selection bias, however, potentially depresses returns. Poorly performing managers generally use all means available to attract clients, including reporting to databases, and are then included in hedge fund indices. By contrast, managers who are performing well often cease reporting because they either no longer need assistance raising capital or are closed to new investors.

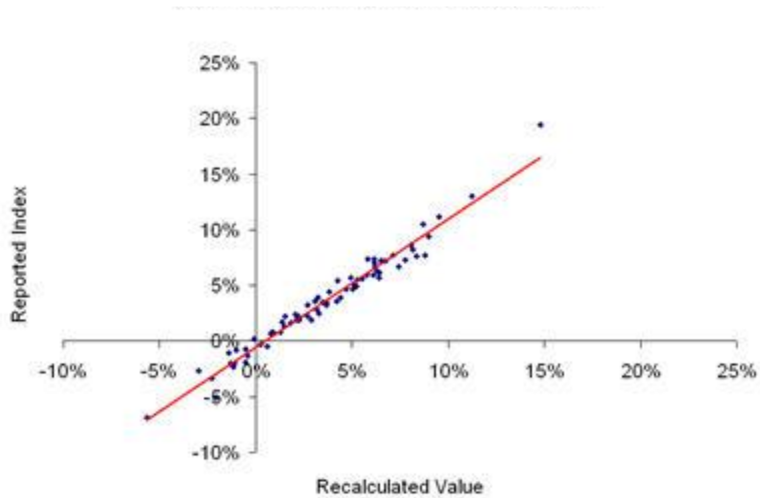
Early Reporting Bias

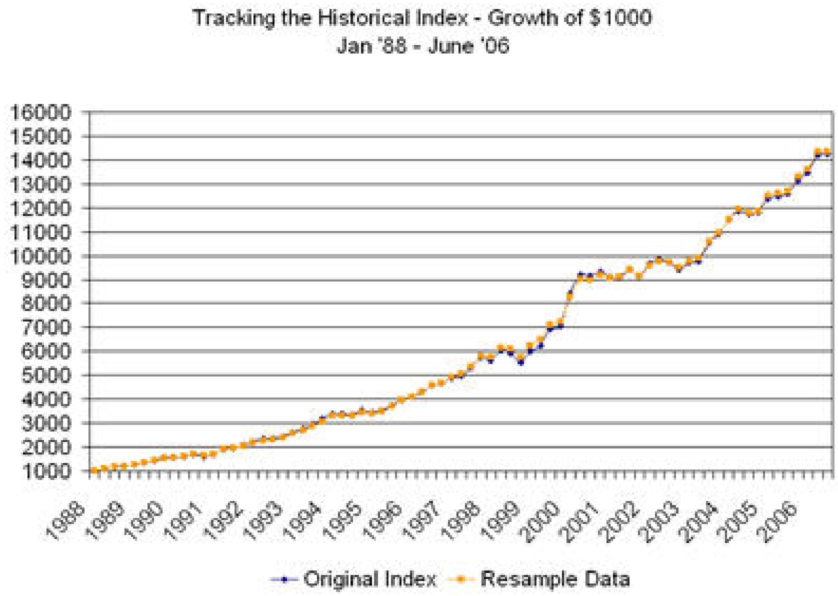
GAI has performed subsequent testing to assess the accuracy of the previously reported indices from January 1988 through June 2006, taking into account self-reporting bias as well as reliability of past results, given the sample size on which those results are based. The study was designed to determine whether the larger, more robust sample of funds would provide a different measurement of the historical returns of the hedge fund industry.

A linear regression analysis was performed to determine the extent to which GAI's historically published indices correlate to the returns produced by all funds in the GAI database that reported over the same periods. This re-sampling process yielded sample sizes averaging more than three times the number of funds used in the published indices.

Based on the close statistical relationship between the published Index and the average historical returns of a significantly larger sample of funds, the Index accurately reflects the larger hedge fund universe. More specifically, the published Greenwich Indices show a 0.98 correlation to the re-sampled data. Further regression testing has indicated that the GAI published indices have a beta of 1.15 against the larger sample size, suggesting that the Index returns are slightly more volatile than the entire population, most likely due to the smaller sample size of underlying funds used for the Index.

Greenwich Global Index vs. Recalculated Values





The aggregate growth of a $1,000 investment indicates the extent of tracking error.

The Database

Introduction

The Index is calculated from hedge funds that report to the GAI database. As of March 2015 there were approximately 17,500 funds in the GAI database, including about 5,200 funds known to be defunct. (Note: Defunct funds are kept in the index to mitigate survivor bias and in the database for research purposes.) This number includes only hedge funds, as they are generally defined, and excludes other types of investments such as private equity funds, venture capital funds, separately managed account strategy composites, etc. Both quantitative and qualitative information is included for each fund in the database.

Not only is the database used to create the Index, it is also used to conduct general research on the hedge fund industry, such as studies on the size and characteristics of the hedge fund universe. The quality of GAI's information is well recognized and widely used in business and academic papers as well as in the general international media and financial publications. Through the years the database has been used for various studies published by third parties and as a frequent source of information.

Database Construction

GAI uses various sources in the industry to identify established and newly formed hedge funds for inclusion in the database. Due to its industry recognition, GAI also is actively contacted by managers who wish to be included in the database and tracked by GAI. Any and all legitimate hedge funds are eligible for inclusion in the database regardless of size, strategy, domicile, performance history or other characteristics. The database is intended to be truly representative of the hedge fund universe, and no fees are charged to hedge funds for inclusion.

For quality control, GAI requests receipt of primary source documentation directly from the fund manager or the appointed representative (e.g. administrator, third-party marketer, sub-advisor, etc.). Managers are asked to provide the fund's offering memoranda, net monthly performance since inception, monthly fund assets since inception, marketing materials, and pre-prepared due diligence questionnaires. GAI creates a record for the fund based on the supplied information and contacts the fund to obtain any necessary information which cannot be ascertained from the aforementioned documents.

Strategy Classification

Upon entry into the database, funds are categorized by investment strategy based on the information supplied by the fund and according to GAI's hedge fund strategy definitions. GAI currently classifies managers in four broad strategy groups, eleven primary strategies, and six sub-strategies. Managers may also be classified according to geographical specialization (region and/or country) and sector specialization.

Strategy Definitions

GAI formulated the majority of its definitions prior to launching the Index and has adjusted them over time to best fit the range of trading strategies as expressed by hedge fund managers. Below are the definitions of each strategy, which are sorted by strategy group.

Market Neutral Group

Equity Market Neutral**:** The manager invests similar amounts of capital in securities both long and short, maintaining a portfolio with low net market exposure ($\pm$20%). Long positions are taken in securities expected to rise in value while short positions are taken in securities expected to fall in value. Often, quantitative multi-factor models are used to identify investment opportunities based on factors such as the underlying company's fundamental value, its projected rate of growth, or the security's pattern of price movement (e.g., momentum). Due to the portfolio's low net market exposure, performance is generally insulated from equity market volatility.

Event-Driven: The manager invests in the securities of companies which are expected to change in price over a short period of time due to an unusual event, for example bankruptcies, corporate restructurings (e.g. divestitures, mergers, acquisitions), stock buybacks, bond upgrades from credit agencies, and earnings surprises. The three sub-strategies in the Event-Driven category are Distressed Securities, Merger Arbitrage and Special Situations.

> Distressed Securities: The manager invests long or short in the debt and/or equity of companies likely to declare bankruptcy in the near future, currently in the bankruptcy reorganization process or emerging from bankruptcy. Because of their distressed situations, the manager can buy such companies' securities at deeply discounted prices, especially from lenders looking to improve their own balance sheet. The manager stands to make money on such a position should the company successfully reorganize and return to profitability. Also, the manager could realize a profit if the company is liquidated, provided that the manager had bought senior debt in the company for less than its liquidation value. "Orphan equity" issued by newly reorganized companies emerging from bankruptcy may be included in the manager's portfolio. The manager may take short positions in companies whose situations he deems will worsen,

rather than improve, in the short term. Another strategy used by managers is to buy the distressed debt and simultaneously short the company's common stock. Managers can profit regardless of changes in the firm's financial position. If it improves, both the stock and bonds of the firm will likely increase in value and the investor generates gains from the interest income on the short rebate and the distressed debt. If the financial condition worsens, the stock value generally declines more than the value of the bonds because the bonds have higher priority in the bankruptcy process.

Merger Arbitrage: The manager invests in companies involved in announced or rumored mergers. A typical investment includes a long position in the company that is being acquired and a short position in the company that is acquiring the other company. The likelihood of the merger occurring and the time until completion are important factors to consider.

Diversified Event-Driven: The Manager follows either a multi-strategy event-driven approach or an Event-Driven strategy that is neither Distressed Securities nor Merger Arbitrage.

Arbitrage: The manager seeks to exploit specific inefficiencies in the market by trading a carefully hedged portfolio of offsetting long and short positions. By pairing long positions with related short positions, market risk is greatly reduced, resulting in a portfolio that bears a low correlation and beta to the market. The paired long and short securities are related in different ways depending upon the arbitrage strategy, but in each case, the manager attempts to take advantage of pricing discrepancies and/or projected price volatility involving the paired long and short security.

Convertible Arbitrage: The manager buys a convertible security and shorts the common stock of the company in similar proportion and attempts to profit from a perceived mispricing of the conversion option in the convertible security. This strategy is highly dependent upon volatility, an important factor in option pricing. Managers may also profit from changes to interest rates and credit spreads depending on the nature of the hedges in the portfolio.

Fixed Income Arbitrage: The manager takes offsetting positions in fixed income securities and their derivatives in order to exploit mispricings between interest rate securities, for example, interest rate swaps, government and corporate debt, mortgage-backed and asset-backed securities, etc.

Other Arbitrage: The manager employs an arbitrage strategy that is not convertible arbitrage, fixed income arbitrage or statistical arbitrage (e.g., capital structure arbitrage) or employs a multi-strategy arbitrage approach.

Long/Short Equity Group

Aggressive Growth: The manager invests in companies experiencing or expected to experience strong growth in earnings per share. The manager may consider a company's business fundamentals when investing and/or may invest in stocks on the basis of technical factors, such as stock price momentum. Managers employing this strategy generally utilize short selling to some degree, although a substantial long bias is common.

Opportunistic: Rather than consistently selecting securities according to the same investment style, the manager's investment approach changes over time to better take advantage of current market conditions and investment opportunities. Characteristics of the portfolio, such as asset classes, market capitalization, etc., are likely to vary significantly from time to time. The manager may also employ a combination of different approaches at a given time.

Short-Biased: The manager maintains a consistent net short exposure in her portfolio, meaning that significantly more capital supports short positions than is invested in long positions (if any is invested in long positions at all). Unlike long positions, which one expects to increase in value, short positions are taken in those securities the manager anticipates will decrease in value. In order to short sell, the manager borrows securities from a prime broker and immediately sells them on the market. The manager later repurchases these securities and returns them to the broker. If the stock price falls, the manager profits by keeping the difference between the price at which he sold the stock and the price at which it was repurchased. In this way, the manager is able to profit from a fall in a security's value. Conversely, if the stock price rises, the manager is forced to make up the difference between the price at which he sold the stock and the price at which it was repurchased. Short selling managers typically target overvalued stocks, characterized by prices they believe are too high given the fundamentals of the underlying companies. This strategy was moved from the Specialty Strategies Group effective the July 2005 Index.

Value: The manager focuses on the price of a security relative to the intrinsic worth of the underlying business. The manager takes long positions in stocks that he believes are undervalued-and short positions in stocks believed to be overvalued. Possible reasons that a stock may sell at a perceived discount could be that the company is out of favor with investors or that Wall Street analysts do not correctly judge its future prospects. If the manager is correct and the market comes to better understand the true value of these companies, the manager anticipates the prices of undervalued stocks in his portfolio will rise while the prices of overvalued stocks will fall. The manager often selects stocks for which he can identify a potential upcoming event that will result in the stock price changing to more accurately reflect the company's intrinsic worth.

Directional Trading Group

Futures: The manager utilizes futures contracts to implement directional positions in global equity, interest rate, currency and commodity markets. Managers either use systematic models or their own discretion to identify investment opportunities in various markets.

Discretionary: The manager utilizes futures contracts to implement trades based on his judgment on the direction of futures prices.

Systematic: The manager employs quantitative models to identify investment opportunities using historical prices of and relationships between futures contracts. One popular systematic strategy is based on trend-following analysis, which assumes the direction of a futures contract will continue over the short-, intermediate-, or long-term.

Macro: The manager constructs his portfolio based on a top-down view of global economic trends, considering factors such as interest rates, economic policies, inflation, etc. Rather than considering how individual corporate securities may fare, the manager seeks to profit from changes in the value of entire asset classes. Views are generally implemented using derivatives in equity, interest rate, currency and commodity markets.

Specialty Strategies Group

Long-Short Credit: The manager invests primarily in yield-producing securities with a focus on current income.

Multi-Strategy**:** The manager utilizes investment strategies from more than one of the four broad strategy group indices. Although the relative weighting of the chosen strategies may vary over time, each strategy plays a significant role in portfolio construction.

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Explanatory Notes

- All information provided for various managers or indices is from sources believed to be reliable. Data are not necessarily audited or independently verified.
- All statistics, unless otherwise specified, are for the period January 1, 1988 to June 30, 2006.
- As with any investment, hedge fund investors are subject to a risk of loss.
- Past results are not necessarily indicative of future performance.
- Compound annual returns are calculated using geometrically linked quarterly average returns by strategy and in aggregate.
- Information on hedge funds is based on a sample of funds in the Greenwich Alternative Investments database and may not be representative of all hedge funds. GAI attempts to provide accurate information on hedge funds but does not guarantee completeness or accuracy of information.
- All information provided is accurate to the best of GAI's knowledge and belief. Opinions and estimates constitute our judgment and are subject to change without notice. The information herein should not be construed as investment or legal advice. GAI does not assume responsibility for the interpretation, accuracy or completeness of the information. Each reader is solely liable for any use such reader may make of this information.
- Different statistics may be based on different numbers of funds, for technical reasons. Some numbers may have been adjusted due to the effects of rounding. If a manager's performance history began at any time other than the beginning of a quarter that manager's statistics were calculated assuming the manager's performance history began at the beginning of the quarter.
- Greenwich Global Hedge Fund Index returns are based on the performance of funds reporting returns by a given time and represent a subset of the GAI database. As a result, funds becoming defunct in that reporting period are unlikely to be included in the Index for that period. The sample of managers will differ from period to period. 1995 Index numbers were adjusted as of January 2000.
- Hedge Fund averages are equal-weighted. Hedge Fund returns reported are net of fees and performance allocations. The timing of the deduction of such fees and performance allocations may affect the reported performance.