

# **Generating Absolute Returns in Stressful Market Environments**

24 January 2013
Prashant Sundararajan, CFA
Portfolio Manager
Hedge Fund Strategies Group

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SSARIS Advisors, LLC • Wilton Corporate Centre • Courtside Building, Suite 2C • 187 Danbury Road • Wilton, CT 06897 Client Service: (203)328-7200 | Fax: (203)328-7299 | Internet: www.ssaris.com | email: info@ssaris.com

#### **Introduction and Firm Summary**

- Majority owned by State Street Global Alliance II, LLC and minority owned by SSARIS' Executive Management
- State Street Global Alliance II, LLC is a wholly owned subsidiary of State Street Corporation



- Approximately \$2.6 billion\* in assets under management
- Clients include pensions, endowments, institutional and other types of investors



- \$1.9 trillion\*\*† in assets under management
- The investment management division of State Street Corporation



- \$22.4 trillion\*\* in assets under custody (State Street Bank and Trust Company)
- Leading hedge fund service provider with front-to-back office administration and risk solutions

<sup>\*</sup> As of December 31, 2012. All values expressed in USD unless otherwise noted. The SSARIS assets under management are estimated as of the date indicated, are subject to change, and are net of any accrued liabilities. The firm's accounts that are not fully funded are represented by their notional value. † This AUM includes the assets of the SPDR Gold Trust (approx. \$65.7 billion as of June 30, 2012), for which State Street Global Markets, LLC, an affiliate of State Street Global Advisors, serves as the marketing agent. \*\*As of June 30, 2012.

#### **Asset Class Diversification**

#### **Equities**

**Convertible Arb Distressed Equity Hedge Equity Non-Hedge Market Neutral Event Driven Relative Value Arb** 

**Fixed Income** 

**Convertible Arb Distressed Event Driven Fixed Inc. Arbitrage Mortgage Backed Relative Value Arb** 

**Currencies** 

**Commodities** 

**Managed Futures / Global Macro / Commodity Trading Advisors (CTAs)** 

SSARIS.

#### **Journal of Alternative Investments, January 2004**

### Hedge Fund of Fund Allocations Using a Convergent and Divergent Strategy Approach

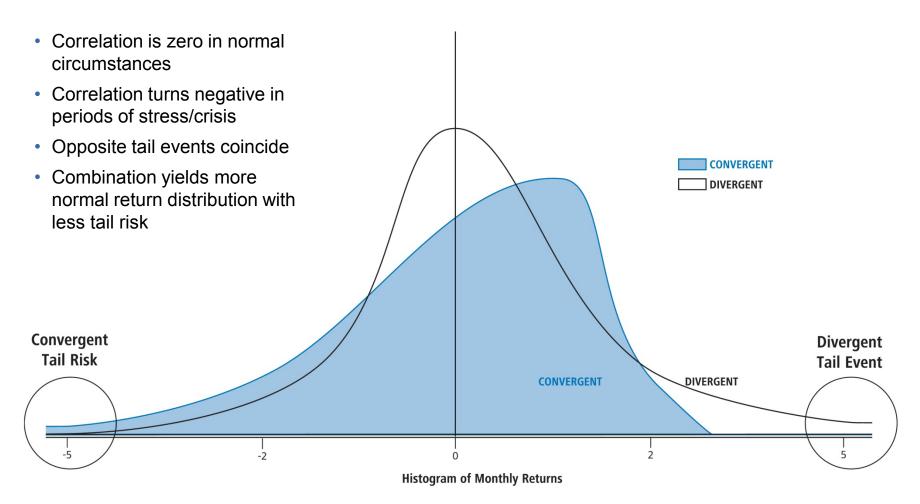
SAM CHUNG, MARK ROSENBERG, AND JAMES F. TOMEO

hile there exists a number of different strategies in hedge fund investment, most of the individual strategies may be grouped into the two competing categories: convergent strategy and divergent strategy.

A convergent strategy is based on the notion that every security has an intrinsic value. For divergent hedge fund strategies has given new insights into the theory known as the efficient market hypothesis (EMH). EMH states that financial asset prices fluctuate randomly around their respective intrinsic values. Intrinsic values, in turn, rationally reflect all relevant publicly available information and perhaps even privately available information as well. Prices

### **Balancing Convergence & Divergence**

## Combining convergent and divergent exposures can lead to a better probability of absolute return



The information contained above is for illustrative purposes only.

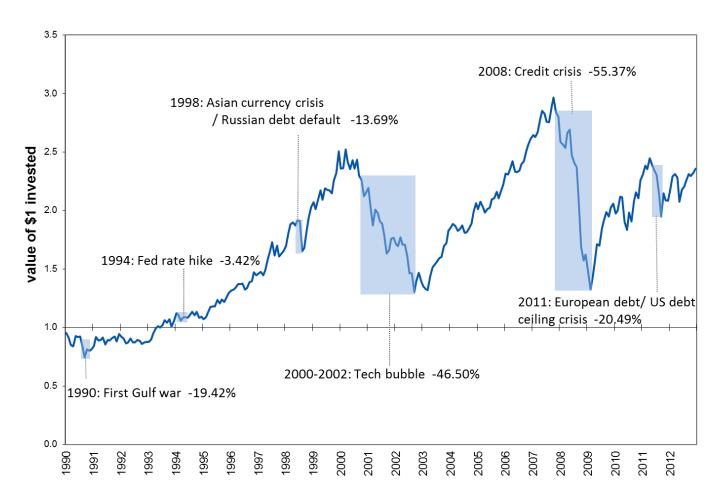
#### **Data Sources**

- Hedge fund indices:
  - Hedge Fund Research Inc. ( www.hedgefundresearch.com )
- Benchmark portfolio (50% stocks / 50% bonds)
  - Bloomberg
    - MSCI World Index
    - Citi World Government Bond 5-7 Year Index
- CTA returns
  - Bloomberg
    - Barclay CTA Index
    - Barclay BTOP 50 CTA Index
- Time period is 23 years (Jan 1990 through Dec 2012)

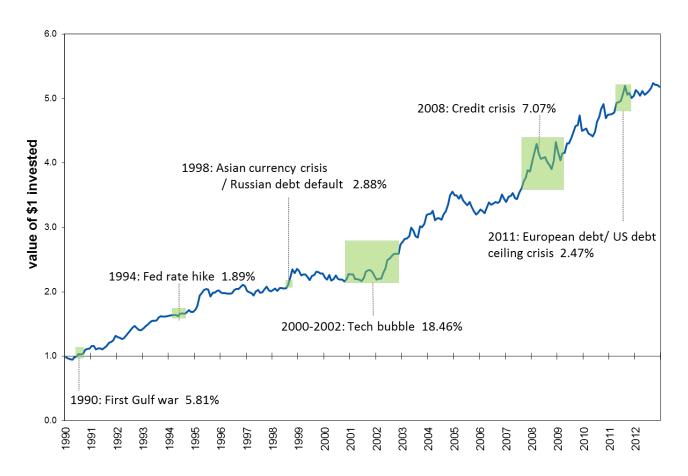
#### Benchmark 50/50 Portfolio

- Benchmark is:
  - 50% MSCI World Index
  - 50% Citi World Government Bond 5-7 Year Index

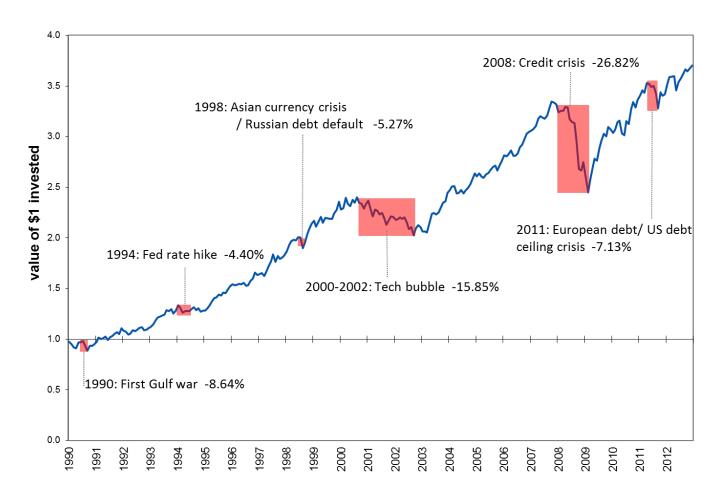
#### **Benchmark - MSCI World Index**



#### **Benchmark – CITI WGBI 5-7 Year Index**



### Benchmark - 50%/50% MSCI World & CITI WGBI 5-7 Year Index



#### **Benchmark Performance Characteristics**

### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012

5.93 % annualized return

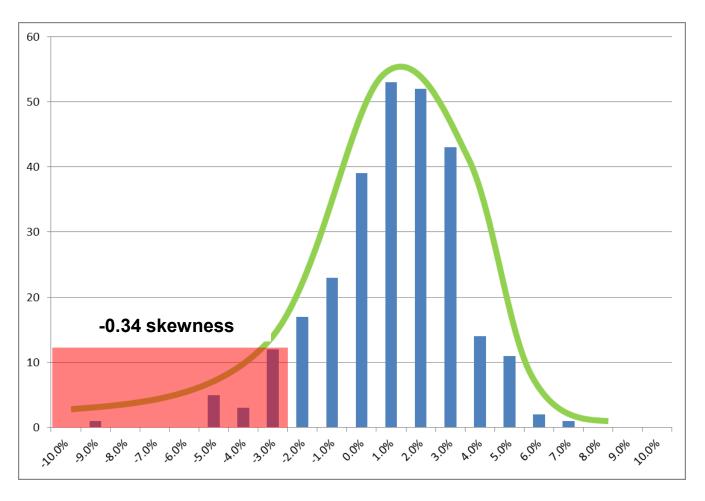
9.37 % annualized standard deviation

0.63 return / risk ratio

Maximum drawdown: -29.87 % (in 2008 financial crisis)

Average drawdown: -4.46 %

## Benchmark Distribution of Monthly Returns 50%/50% MSCI World & CITI WGBI 5-7 Year Index



#### **Data Sources**

Equity: HFRI Equity Hedge (Total) Index

HFRI Equity Market Neutral Index

**HFRI Quantitative Directional** 

Emerging Markets: HFRI Emerging Markets (Total) Index

Event driven: HFRI Event-Driven (Total) Index

HFRI Distressed/Restructuring Index

HFRI Merger Arbitrage Index

Relative value: **HFRI Relative Value (Total) Index** 

HFRI Fixed Income-Convertible Arbitrage Index

HFRI Fixed Income-Corporate Index

FOF: HFRI Fund of Funds Composite Index

Macro: HFRI Macro (Total) Index

CTA Macro: Barclay CTA Index

Barclay BTOP50 CTA Index

Sample Divergent CTA\*

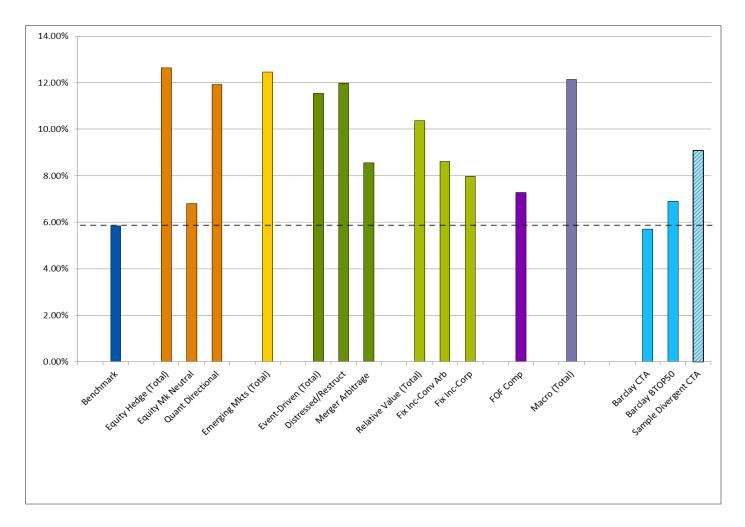
Benchmark: MSCI World Index / Citi WGBI 5-7 Year Index (50%/50%)



\* SSARIS Diversified Trading Program (DTP)

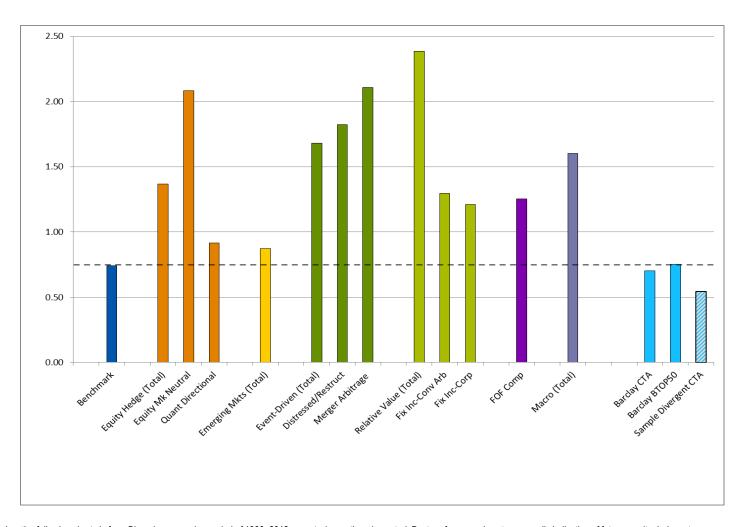
#### **Hedge Fund Returns**

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



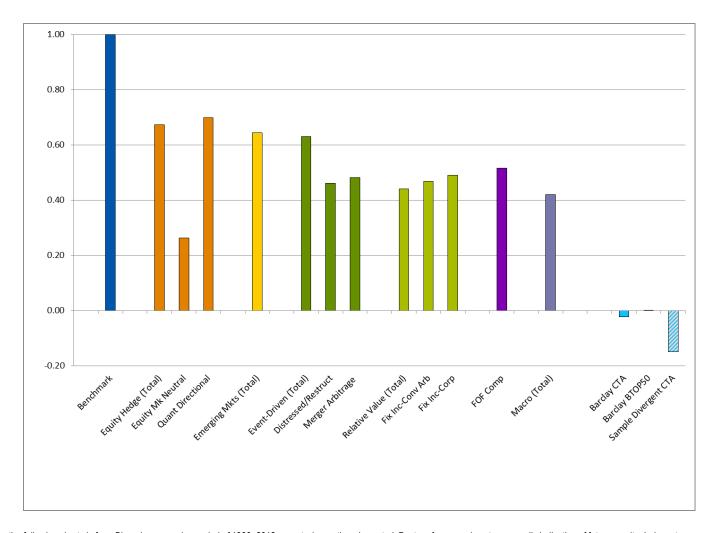
#### **Hedge Fund Return / Risk Ratio**

### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



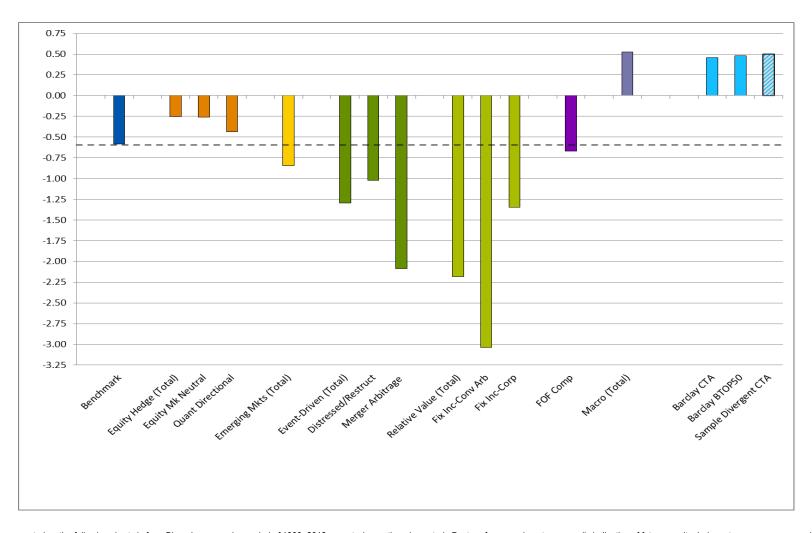
#### **Hedge Fund Correlations to Benchmark**

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



### **Hedge Fund Skewness of Monthly Returns**

### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012

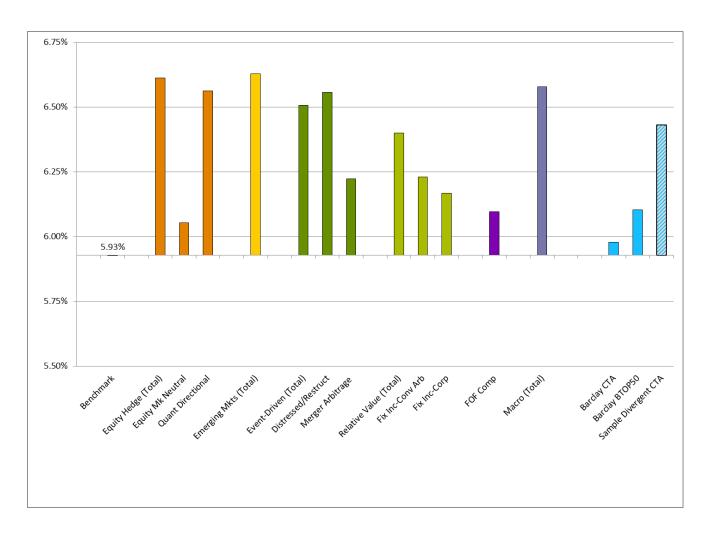


#### Benchmark 50/50 Portfolio vs. 45/45/10

- Benchmark is:
  - 50% MSCI World Index
  - 50% Citi WGBI 5-7 Year Index
- Comparison is to:
  - 45% MSCI World Index
  - 45% Citi WGBI 5-7 Year Index
  - 10% Hedge Fund Strategy

#### **Annualized Return Relative to Benchmark**

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012

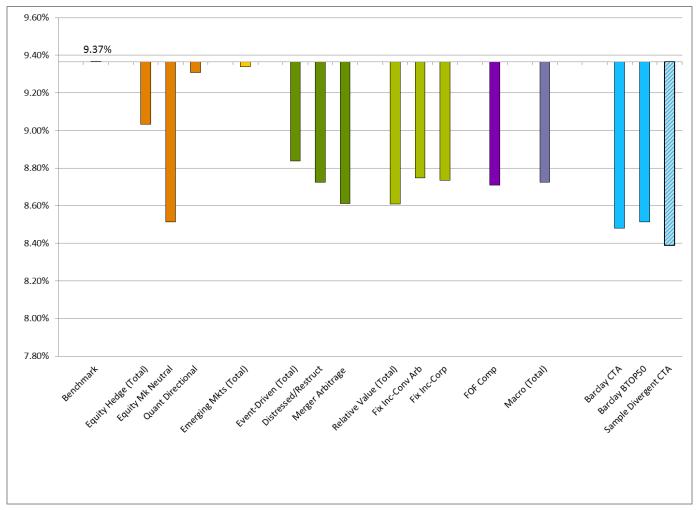


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All data presented on the following charts is from Bloomberg covering period of 1990–2012 except where otherwise noted. Past performance is not necessarily indicative of future results

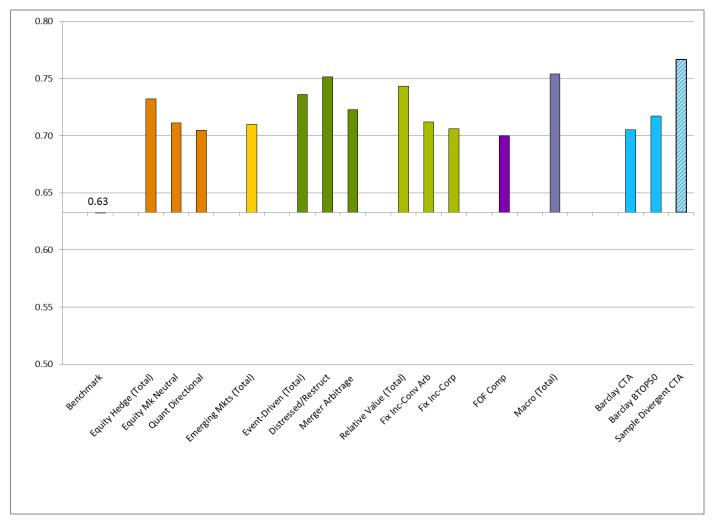
#### Reduction in Standard Deviation vs. Benchmark

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



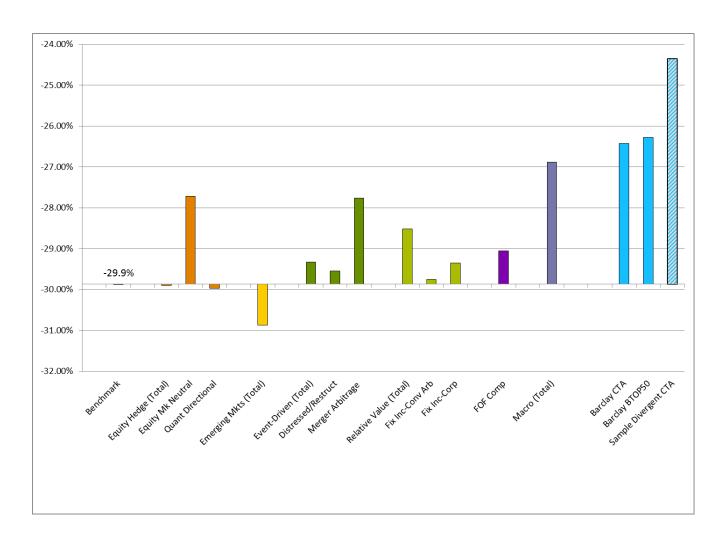
#### Increase in Return / Risk Ratio vs. Benchmark

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



#### **Maximum Drawdown Relative to Benchmark**

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012

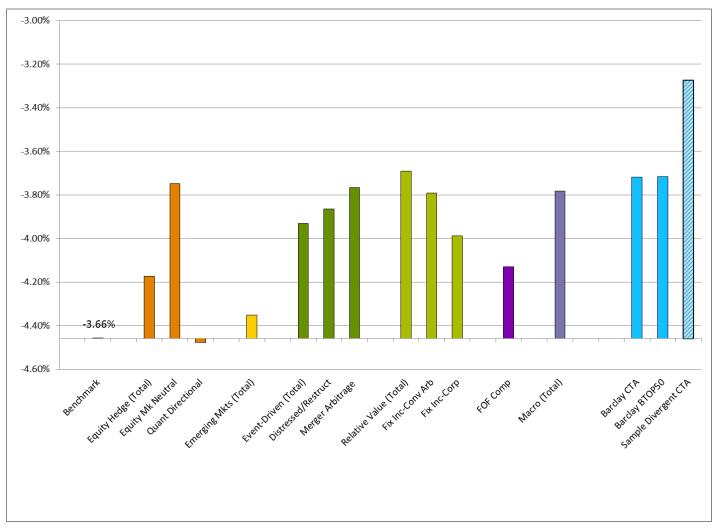


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All data presented on the following charts is from Bloomberg covering period of 1990–2012 except where otherwise noted. Past performance is not necessarily indicative of future results

#### **Average Drawdown Relative to Benchmark**

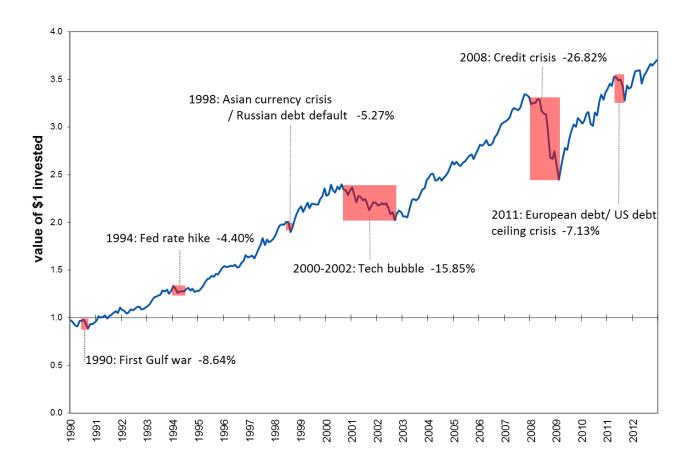
### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



All data presented on the following charts is from Bloomberg covering period of 1990–2012 except where otherwise noted. Past performance is not necessarily indicative of future results. Worst decile (worst 10% of all months) is the worst 26 out of 264 monthly returns of the benchmark.

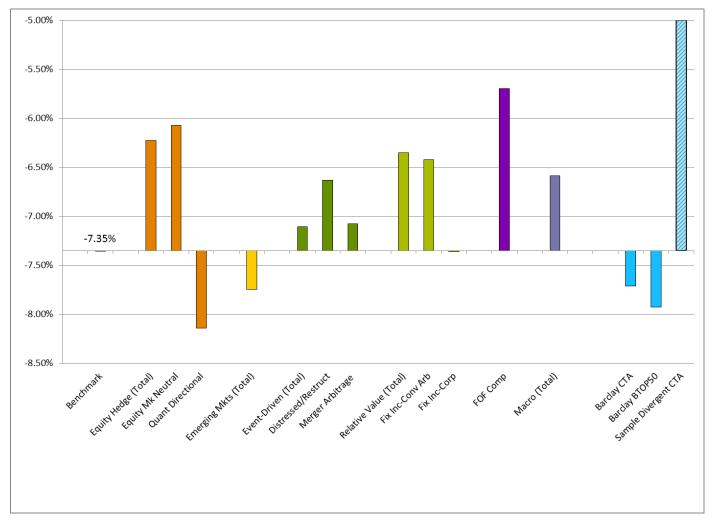
#### **Benchmark Drawdowns**

### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



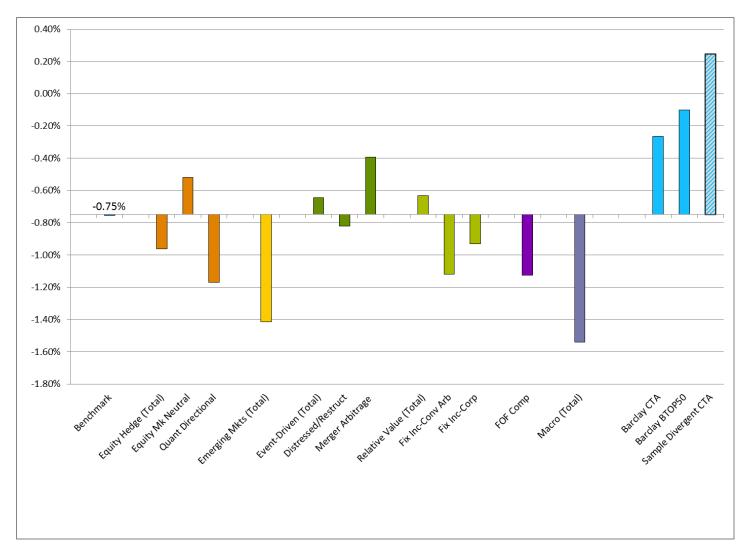
### Relative Performance June 1990 through September 1990

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS



### Relative Performance January 1994 through May 1994

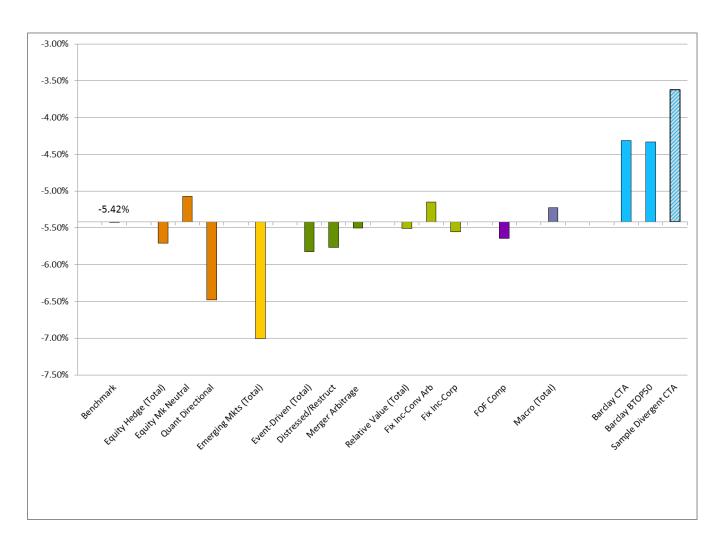
#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS



All data presented on the following charts is from Bloomberg covering period indicated. Past performance is not necessarily indicative of future results

### Relative Performance July 1998 to August 1998

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS

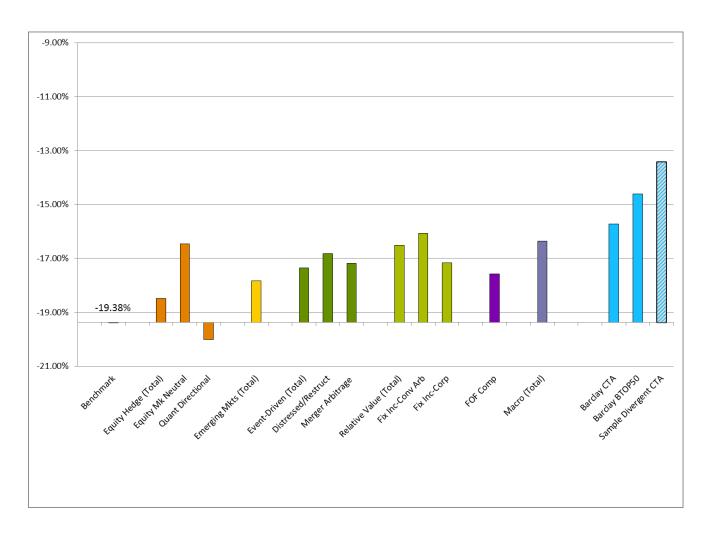


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All data presented on the following charts is from Bloomberg covering period indicated. Past performance is not necessarily indicative of future results

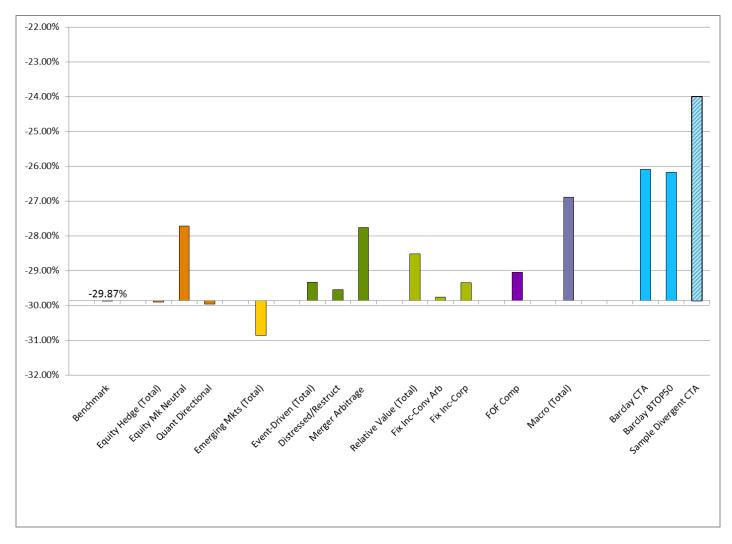
### Relative Performance April 2000 through September 2002

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS



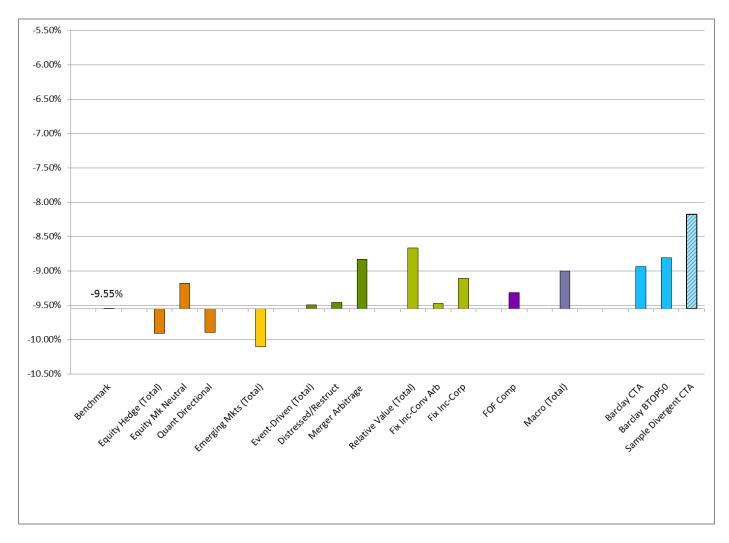
#### **Relative Performance in 2008**

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS



#### **Relative Performance in 2011**

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS



#### Why Can CTAs Have Such Beneficial Effects on Tail Risk?

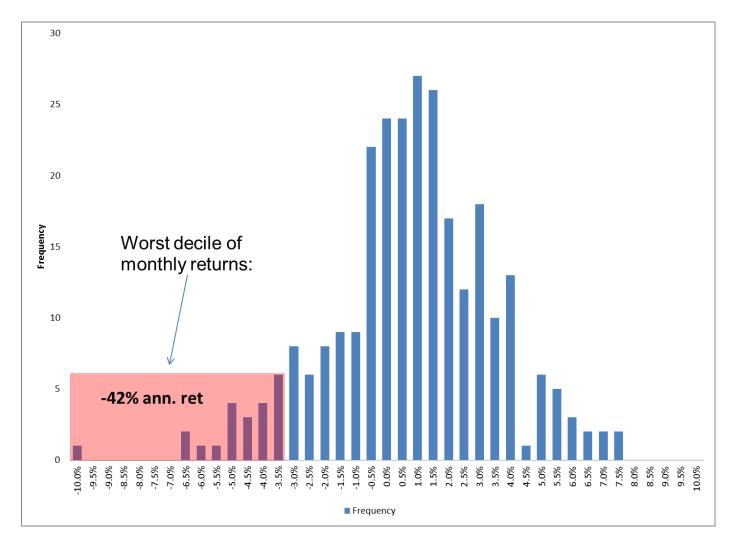
- Early academic foundation and continued research
- Significant positive skewness characteristics
- Unusually good performance in period of negative benchmark performance

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#### Early Academic Foundation – 1983

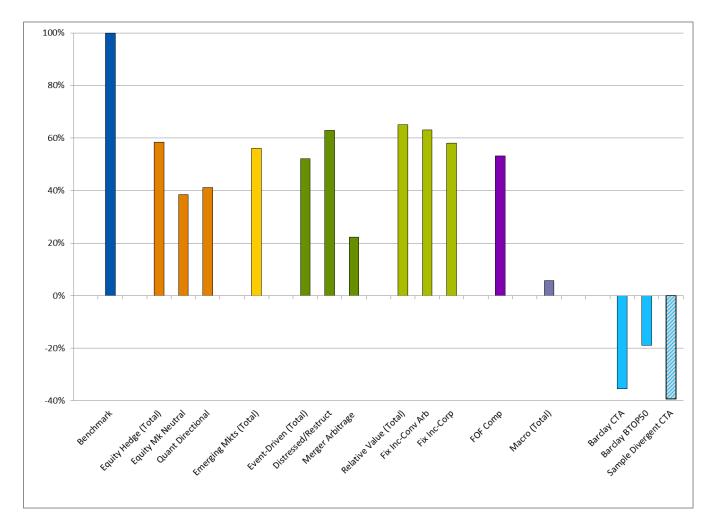
- Professor John K. Lintner of Harvard University
- "The Potential Role of Managed Commodity-Financial Futures Accounts (and/or Funds) in Portfolios of Stocks and Bonds"
  - "The improvements from holding an efficiently-selected portfolio of managed accounts or funds are so large, and the correlation between returns on the futures portfolios and those on the stock and bond portfolios are so low (sometimes even negative), that the return/risk tradeoffs provided by augmented portfolios...clearly dominate the tradeoffs available from portfolio of stocks alone or from a portfolio of stocks and bonds."

#### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS



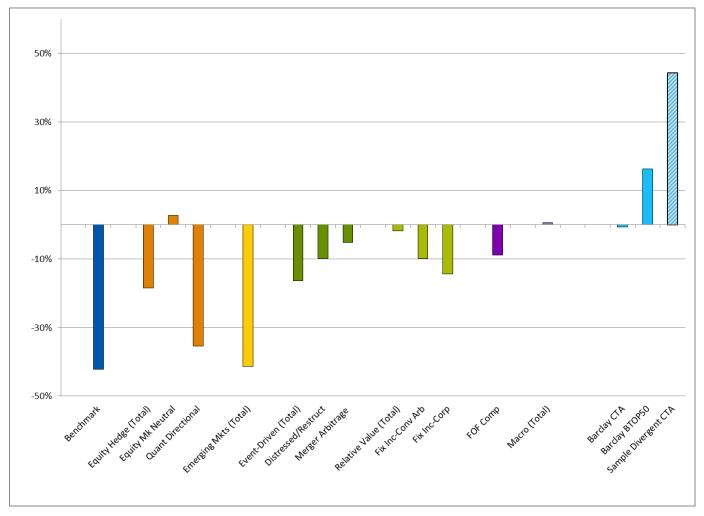
### **Comparative Correlation During Benchmark's Worse Decile**

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



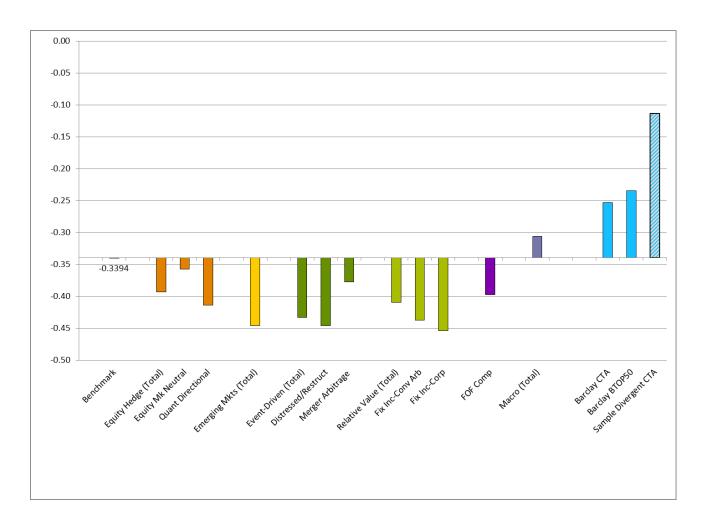
### **Comparative Performance During Benchmark's Worse Decile**

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



#### **Average Skewness Relative to Benchmark**

## PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



### Managed Futures / CTA Strategies

Liquid (monthly, no lockups / gating)

Transparent (managed accounts)

Uncorrelated alpha (negatively correlated in periods of stress)

## **Building Hedge Fund Portfolios Capable of Generating Absolute Return Within Stressful Market Environments**

- Balance convergent and divergent investing approaches
- Avoid mean-variance optimizations (and optimizations in general)
- Be careful of correlations that increase during crisis events
- Consider portfolio skewness (try to minimize tail risk, coincidental drawdowns)
- There are multiple pathways to building the desired portfolio

#### **One Possible Portfolio**

Equity exposure :

| _ | MSCI World Index | 15 % |
|---|------------------|------|
|---|------------------|------|

HFRI Market Neutral Index25 %

Fixed Income exposure:

| _ | Citi WGBI 5 | 5-7 World                 | Bond Index | 20 % | ,<br>) |
|---|-------------|---------------------------|------------|------|--------|
|   |             | $\mathcal{J}^{-1}$ vvolid |            | 20 / |        |

HFRI Relative Value Index20 %

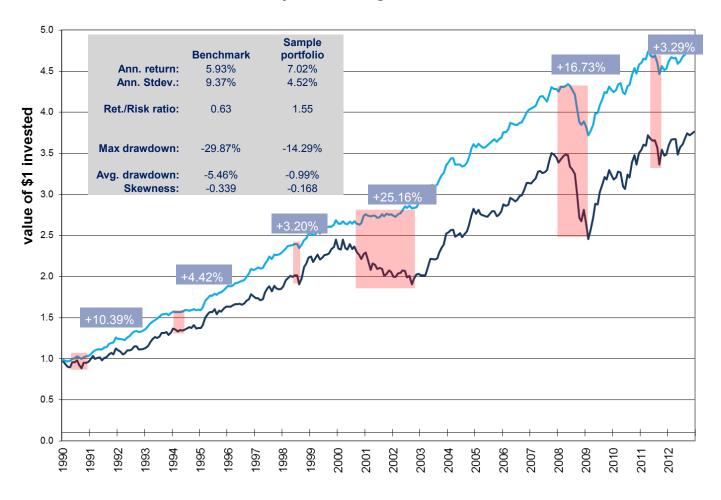
Divergent exposure

- Sample Divergent CTA\* 20%

<sup>\*</sup> SSARIS Diversified Trading Program (DTP)

#### Sample Portfolio vs. Benchmark

### PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS January 1990 through December 2012



This performance above represents model results. Model returns are based upon estimates and reflect subjective judgments and assumptions. These results were achieved by means of a mathematical formula and do not reflect the effect of unforeseen economic and market factors on decision-making. See Disclosure pages for further information.

#### **Disclaimers**

- HFRI Indexes are not investable (but HFRX history is much shorter)
- Model performance results have inherent limitations
- The allocations presented involve substantial strategy concentrations

#### **Disclosures**

#### PAST PERFORMANCE NOT NECESSARII Y INDICATIVE OF FUTURE RESULTS.

Purposes of Document. This document has been prepared solely for the purposes of (i) determining your level of interest in the Strategies, and (ii) providing general background information on the Strategies.

SSARIS Diversified Trading Program. Performance returns are time weighted, unaudited and reflect a composite commencing March 1983 of all fully funded accounts managed using the SSARIS Diversified Trading Program (the "Strategy"). Performance presented since the inception of the composite through April 2001 represents the Strategy's track record established by the predecessor firm to SSARIS Advisors, LLC ("SSARIS"). Performance from May 2001 forward represents the Strategy's track record achieved by SSARIS. The performance information includes interest income, the deduction of brokerage commissions (proforma1%), the deduction of SSARIS' annual management fee (proforma1%) and the deduction of SSARIS' quarterly incentive fee (proforma 20% based upon net new appreciation above the U.S. 91 Day T-Bill Rate).

Actual client results may vary depending upon different fee arrangements and timing of investments.

Any model performance shown does not represent the profit or loss resulting from actual trades. These results are based on simulated performance results that have certain inherent limitations. Unlike the results shown in an actual performance record, these results do not represent actual trading. Also, because these trades have not actually been executed, these results may have under-or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN.

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#### **Disclosures**

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Barclay CTA Index ("Barclay CTA") is a leading benchmark of representative performance of commodity trading advisors. The programs included in the Barclay CTA are unweighted and rebalanced at the beginning of each year. To qualify for inclusion in the Barclay CTA an advisor must meet specific requirements, including that an advisor must have four years of prior performance history. Barclay CTA is different from the discussed Strategy in many regards.

Barclay Capital Global Aggregate Bond Index ("Barclay CGAB") is a benchmark of the global investment-grade fixed income markets. The three major components of this index are the U.S. Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The Index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities, and USD investment-grade 144A securities. Barclay CGAB is different from the discussed Strategy in many regards.

Barclays Capital U.S. Aggregate Bond Index ("Barclays Aggregate") is based on the preeminent benchmark debt index for U.S. investment-grade fixed income securities. The index covers the U.S. dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities. The Barclays Aggregate is different from the discussed Strategy in many regards.

Barclays BTOP50 The BTOP50 Index seeks to replicate the overall composition of the managed futures industry with regard to trading style and overall market exposure. BTOP50 employs a top-down approach in selecting its constituents. The largest investable trading advisor programs, as measured by assets under management, are selected for inclusion in the BTOP50.

HFRX Global Hedge Fund Index ("HFRXGL") data commencing April 1, 2003 was obtained from Bloomberg, L.P. HFRXGL is designed to be representative of the over all composition of a diversified investable hedge fund universe. It is comprised of eight strategies that are asset based on the distribution of assets in the hedge fund industry. Constituent funds are selected based on set criteria. HFRX returns reflect constituent fund management fees, incentive fees, dividends and other distributions. HFRX is different from the discussed Strategy in many regards.

HFRX Macro/CTA Index("HFRXM") is designed to be a benchmark of hedge fund industry performance for a single strategy i.e. macro strategy. Constituent funds are selected based on set criteria. HFRXM commenced April 1, 2003 and values provided prior thereto are calculated by means of retroactive application of the index model. HFRXM returns reflect constituent fund management fees, incentive fees, dividends and other distributions. HFRXM is different from the discussed Strategy in many regards.

MSCI World Free Index ("MSCIWF") is an unhedged, diversified market capitalization weighed index of common stocks of companies located in developed countries across North America, Europe, and the Asia/Pacific Region. MSCIWF is different from the discussed Strategy in many regards, including that it is an unmanaged portfolio.

The Citi World Government Bond 5-7 Year Index includes the 23 government bond markets of Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Malaysia, Mexico, the Netherlands, Norway, Poland, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

NewEdge AlternativeEdge Short-Term Traders Index ("AltEdge STTI") is designed to track the daily performance of a portfolio of Commodity Trader Advisers and Global Macro managers executing diversified trading strategies with a less than 10-day average holding period. AltEdge STTI is different from the discussed Strategy in many regards.

NewEdge CTA Index ("NewEdge CTA") (formerly Calyon Financial Barclay Index) calculates the daily rate of return for a pool of CTAs selected from the larger managers that are open to new investment. Selection of the pool of qualified CTAs used in construction of the Index is conducted annually, with re-balancing on January 1st of each year. According to Barclay, a committee of industry professionals monitors the methodology of the index on a regular basis. It is different from the discussed Strategy in many regards.

#### **Disclosures**

Hedge Fund Research, Inc. has constructed an accurate, relevant, robust and contemporaneous Strategy Classification System for all investment managers present in the HFR Database. The classifications reflect the evolution of strategic trends in the hedge fund industry, cognizant of the reality that over market cycles the classification system is likely to continue to evolve, as new opportunities attract investor capital. The objective of the system is to define pure strategy and sub-strategy buckets which can be used to characterize pure strategy return at each level of analysis, to be used for purposes of quantitative index construction.

HFI Fund of Funds Composite Equal-weighted Index that includes over 650 constituent domestic and offshore funds. All funds report assets in USD ,have at least \$50 Million under management or have been actively trading for at least twelve (12) months, and report Net of All Fees returns on a monthly basis.

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