HFRX Hedge Fund Indices

Defined Formulaic Methodology

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1 Introduction

HFRX Hedge Fund Indices are the global industry standard for performance measurement across all aspects of the hedge fund industry. Indices are constructed using robust filtering, monitoring and quantitative constituent selection process using the Hedge Fund Research (HFR) database, also the industry standard for hedge fund data.

HFR, Inc. utilizes a UCITS compliant methodology to construct the HFRX Hedge Fund Indices. The methodology is based on defined and predetermined rules and objective criteria to select and rebalance components to maximize representation of the Hedge Fund Universe. HFRX Indices utilize state-of-the-art quantitative techniques and analysis; multi-level screening, cluster analysis, Monte-Carlo simulations and optimization techniques ensure that each Index is a pure representation of its corresponding investment focus. HFRX Indices are designed to be investable, offer full transparency, daily pricing and consistent fund selection, as well as stringent risk management and strict reporting standards. None of the Indices take into account ESG factors or pursue ESG objectives. Constituents of all indices are selected from an eligible pool of the more than 6,800 funds that report to the HFR Database. These funds are screened for various reporting characteristics, asset and duration of track record qualities, unique fund strategy inclusion, and whether they are open to accepting new investment via a fully transparent managed account format.

HFRX Indices employ 4 constituent weighting methodologies and each Strategy, Sub-Strategy and Regional Investment focus in the HFR Database has a corresponding index. Each of the 4 constituent weighting methodologies draws from the same sample of eligible managers. Additional indices utilizing alternative bases of indexation are also available, and as the hedge fund industry continues to evolve, new HFRX Indices will be launched to capture the evolution.
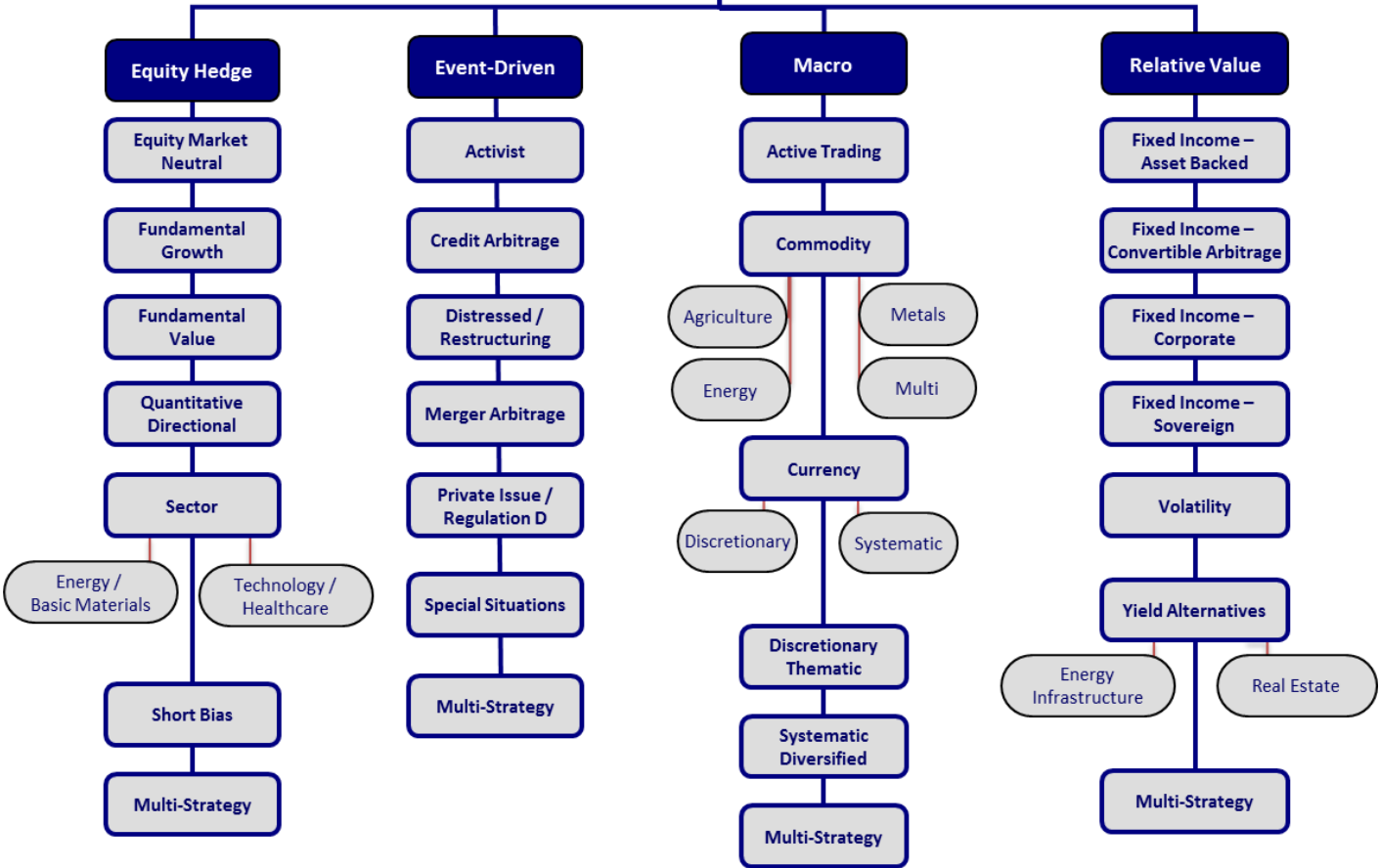
The 4 constituent weighting methodologies are:

- HFRX Global Hedge Fund Index
- HFRX Equal Weighted Strategies Index
- HFRX Absolute Return
- HFRX Market Directional Index

The HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies falling within four principal strategies: equity hedge, event driven, macro/CTA, and relative value arbitrage. The underlying constituents and indices are asset weighted based on the distribution of assets in the hedge fund industry. The HFRX Equal Weighted Strategies Index applies an equal weight to seven groupings of substrategies included in the HFRX Global Hedge Fund Index. The HFRX Absolute Return Index selects constituents which characteristically exhibit lower volatilities and lower correlations to standard directional benchmarks of equity market and hedge fund industry performance. The HFRX Market Directional Index selects constituents which characteristically exhibit higher volatilities and higher correlations to standard directional benchmarks of equity market and hedge fund industry performance.

All HFRX Indices are rebalanced quarterly, and information of selected constituents is available to HFR database subscribers. Strategies not represented by a separate, investible sub-index are represented by qualifying constituents at the appropriate asset weighting within the various indices. Performance for Indices offering daily transparency is most frequently reported on a t+1 basis. Indices for which daily transparency is not yet available are typically updated on both the 15th calendar day of the month and the 3rd to last business day of the month.

Single-Manager Hedge Funds

Equity Hedge
- Equity Market Neutral
- Fundamental Growth
- Fundamental Value
- Quantitative Directional
- Sector
  - Energy / Basic Materials
  - Technology / Healthcare
- Short Bias
- Multi-Strategy

Event-Driven
- Activist
- Credit Arbitrage
- Distressed / Restructuring
- Merger Arbitrage
- Private Issue / Regulation D
- Special Situations
- Multi-Strategy

Macro
- Active Trading
- Commodity
  - Agriculture
  - Energy
  - Metals
  - Multi
- Currency
  - Discretionary
  - Systematic
- Discretionary Thematic
- Systematic Diversified
- Multi-Strategy

Relative Value
- Fixed Income – Asset Backed
- Fixed Income – Convertible Arbitrage
- Fixed Income – Corporate
- Fixed Income – Sovereign
- Volatility
- Yield Alternatives
  - Energy Infrastructure
  - Real Estate
- Multi-Strategy

2 Index Construction

2.1 STRATEGY PURE CLUSTERS

The first step in creation of the Indices is the construction of strategy pure clusters. These clusters consist of hedge funds that are considered to be "pure" representatives of their underlying strategies and substrategies and provide monthly performance measures for each strategy. The process involves cluster analysis on the multi-dimensional space of returns of constituent hedge funds. The clusters are used as optimization goals for building the Single Substrategy Indices.

Database Screens

The process begins with screening the entire HFR Hedge Fund Database of open funds in each strategy in order to come with a set of funds that meet all of the criteria below. A fund must:

- Report performance net of all fees in USD
- Be active and accepting new investments
- Have minimum 24 months track record
- Have at least $50 million in assets under management
- Liquidity
  - Redemptions
    - HFRX Indices - Flagship Funds: Provide quarterly liquidity or better
    - HFRX Indices – UCITS Funds : Provide bi-weekly liquidity or better
  - Redemption Notice Period
    - HFRX Indices - Flagship Funds: Have a redemption notice period of 90 days or less
    - HFRX Indices – UCITS Funds: Have a redemption notice period of 7 days or less
  - Subscriptions
    - HFRX Indices - Flagship Funds: allow for monthly subscriptions
    - HFRX Indices – UCITS Funds: allow for daily subscriptions
  - Subscription Notice Period
    - HFRX Indices - Flagship Funds: have a subscription notice period of 30 days or less
    - HFRX Indices – UCITS Funds: have a subscription notice of 7 days or less
  - Redemption Settlement Period
    - HFRX Indices - Flagship Funds: have a redemption settlement of 30 days or less
    - HFRX Indices – UCITS Funds: have a redemption settlement of 14 calendar days or less

- Have no Investor-Level gates or have agreed to waive them
- Have no lock-ups or have agreed to waive them
- Accept both US and non-US capital (or there is a separate fund for US and non-US investors)
- Be managed by an investment company registered with the SEC or similar regulatory body
- Agree to the Submitter Code of Conduct (SCOC)
- Offer commercial terms consistent with market standards

Representative Fund Selection

The pool of hedge funds that satisfy all of the above criteria frequently contains multiple funds in the same strategy managed by the same manager. This is especially true for large and well known managers. Only one representative fund in each strategy is selected for each fund manager. If the representative fund cannot be readily determined, then:

- The fund with the longest track record will be selected as representative.
- The fund with the most assets under management will be selected if there are multiple funds with the same length of track record.

Cluster Analysis

The HFR Hedge Fund Database uses self-reported strategies and substrategies for an initial fund grouping. However, due to reporting inconsistencies and strategy blending, self-reported strategies may not necessarily provide a good classification. Therefore, in order to verify style purity of the pool of hedge funds constructed in a Strategy Pure Cluster (as defined below), cluster analysis is performed at the substrategy level. If a fund is identified as an outlier, it is subject to removal or reclassification.

Representation Analysis

The cluster analysis produces a set of funds that are, with a high degree of confidence, accurately categorized into substrategies for which composite returns are computed. As an additional screen, a representation analysis of the returns for each fund to the composite returns of its respective strategy, substrategy and region is performed. The analysis is based on monthly returns for the past 2 years to ensure that all funds have a complete set of data points.

The set of funds produced after having completed the cluster analysis and representation analysis in each substrategy is called the "Strategy Pure Cluster" or simply "Cluster". Since each fund in a Cluster is representative, the funds' returns in each cluster are combined with equal weights, and the resulting series serves as optimization goals for each Single Substrategy Index.

2.2 RETURN PROFILE CLASSIFICATION

When the Cluster has been formed, constituent funds are ranked by their return profile using the following measures:

Correlation to a broad hedge fund strategy index
Correlation to a broad equity index
Correlation to a broad fixed income index
Return volatility

Higher volatility and correlation levels typically indicate more directionality, while lower levels typically indicate less directionality, i.e. absolute return. The total rank is based on all four measures and the funds are split into three approximately equal groups. Higher ranking funds are classified as belonging to the Market Directional class, and lower ranking funds – to the Absolute Return class. The middle group is left unclassified.

2.3 REPRESENTING A STRATEGY

Monte-Carlo Simulations

The total number of constituent funds in the Strategy Pure Clusters can exceed 500 funds. Due to the nature of the hedge fund industry, it is practically impossible to have all the funds provide daily transparency. Therefore, the number of funds included in a daily index needs to be reduced. To reduce the number of funds in an index without loss of representation, we employ Monte-Carlo simulations to estimate the number of funds that represent the corresponding Strategy Pure Clusters with a high degree of accuracy. This number varies from strategy to strategy and depends on the number of funds in the cluster, the desired accuracy level, strategy diversity and volatility, among a number of other factors. The method selects random samples of different sizes out of each Strategy Pure Cluster, and analyzes correlations of the samples to the Cluster return stream.

Correlation versus Sample Size by Strategy

The charts below demonstrate convergence of correlation coefficients of equally weighted samples to their Cluster. We compute values corresponding to minimum (Min), first quartile (Q1), median (Med), third quartile (Q3) and maximum (Max) correlations for all samples of the same size in each Cluster. Naturally, as the sample size increases and approaches the size of the Cluster (i.e. when all funds in the cluster are selected), correlations for all five levels converge to 1. Dynamics, or the speed, of this convergence provides important information about strategy diversity. For example, for the Equity Hedge Strategy Pure Cluster 25% of sample sizes of 9 and 50% of sample sizes of 4 have correlation higher than 80% to the Cluster.

CORRELATION VERSUS SAMPLE SIZE
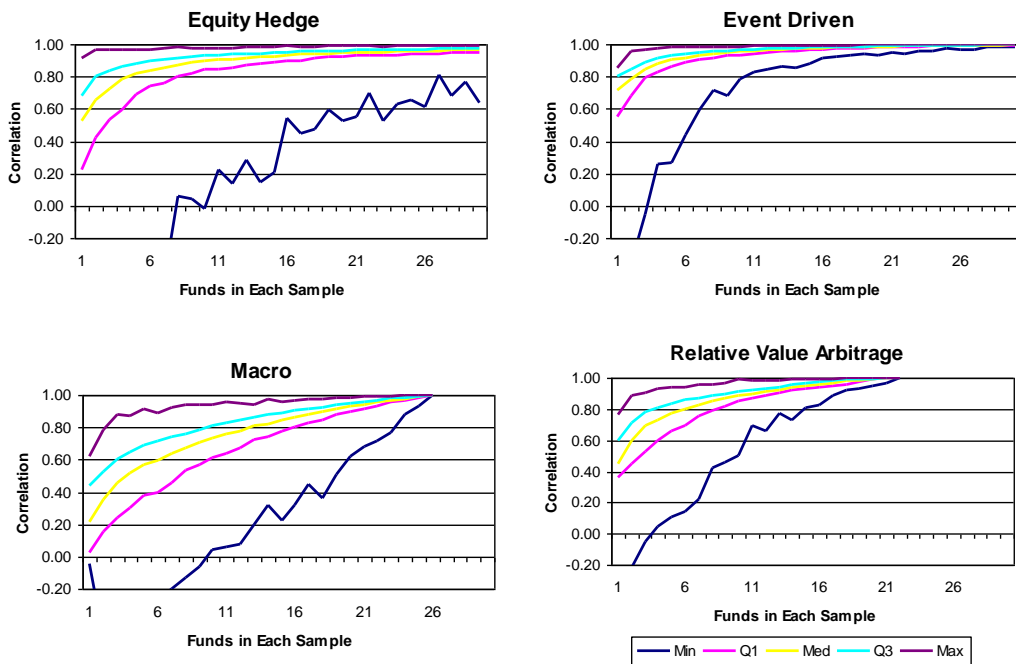
3 Defined Formulaic Methodology

HFR, Inc. ("HFR") utilizes a UCITS compliant methodology to construct the HFRX Hedge Fund Indices. The methodology is based on defined and predetermined rules and objective criteria to select and rebalance components to maximize representation of the Hedge Fund Strategy Universe. At no time will any retrospective changes to previously published values be permitted.

3.1 REPRESENTATIVE HEDGE FUND STRATEGY UNIVERSE

The following formula is used to define the representative Hedge Fund Strategy Universe ("Strategy Universe") derived from the Global Hedge Fund Universe contained in the HFR Hedge Fund Database. Description of the HFR Hedge Fund Database is provided in Appendix 1. The Global Hedge Fund Universe is expressed as:

$$HFU = \bigcup HFS$$

where HFS is the set of funds classified by strategy and substrategy in the HFR Hedge Fund Database. Strategy descriptions are described in Appendix 2.

The funds comprising the Pure HFS are then filtered using the following formula to create the Strategy Universe.

$$\delta(fees) \cdot H(AUM_i - 50) \cdot H(t + 27) \cdot H(-t - 4) \cdot H(n - 24) \cdot \delta(freq - 12) \cdot \delta(ISO - USD) \cdot \delta(liq) \cdot H(90 - red)$$
$$\cdot H(30 - subs) \cdot H(30 - settle) \cdot \delta(l\&g) \cdot \delta(reg - 1) \cdot \delta(SCOC - 1) \neq 0$$

where *H(x)* is the step function defined as

$$H(x) = \begin{Bmatrix} 1 & x \geq 0 \\ 0 & x < 0 \end{Bmatrix}$$

$\delta(x)$ is the delta function defined as

$$\delta(x) = \begin{Bmatrix} 1 & x = 0 \\ 0 & x \neq 0 \end{Bmatrix}$$

and

- *fees* is the returns net of all fees (0=yes, 1=no)
- *AUM* is the firm assets in USD$MM
- *t=0* is the rebalance month
- *n*=total number of months reported
- *freq* is the reporting frequency (12=monthly, 4=quarterly)
- *ISO* is the reporting currency
- *liq* is the liquidity offered by the fund (0=quarterly (HFRX Indices - Flagship Funds) / bi-weekly (HFRX Indices – UCITS Funds) or better, 1=otherwise)
- *red* is the redemption notice of the fund in days
- *subs* is the subscription notice of the fund in days
- *settle* is the redemption settlement period of the fund in days

- *l&g* is the lock-up or gates imposed by the fund (0=none, 1=otherwise)
- *reg* is the fund registration with the SEC or similar regulatory body (0=no, 1=yes)
- *SCOC* is the agreement to the Submitter Code of Conduct (0=no, 1=yes)

If a manager has more than one fund in the same *HFS* the duplication is eliminated according to the following formula:

$$fund(T, AUM) = \begin{cases} fund(max(T_1, T_2), AUM) & T_1 \neq T_2 \\ fund(T, max(AUM_1, AUM_2)) & T_1 = T_2 \end{cases}$$

where T_n refers to the length of the track record of fund *n*, and AUM_n the assets of fund *n (n=1,2,etc.)*.

3.2 HFRX HEDGE FUND INDEX METHODOLOGY

The methodology is applied quarterly based on return data up to the last business day of the quarter end and is described in the following formulaic process.

3.3 CLUSTER ANALYSIS

Cluster Analysis is performed at the substrategy level on the funds comprising the Strategy Universe using 24 consecutive month returns through the end of the prior quarter. Cluster Analysis is performed utilizing Tree Clustering with Ward's linkage rule and Euclidean distance in the space of monthly returns as the distance measure between the funds. Euclidean distances are computed according to the usual formula:

$$d(x, y) = \left(\sum_i (x_i - y_i)^2 \right)^{1/2}$$

Ward's linkage rule minimizes the variance within clusters and maximizes it between the clusters at every step of the procedure. If C_K and C_L are clusters with N_K and N_L elements in each, then Ward's distance between clusters is computed as:

$$D(C_K, C_L) = \frac{\left\| \bar{x}_K - \bar{x}_L \right\|^2}{\frac{1}{N_K} + \frac{1}{N_L}}$$

Raw return values are used for computing the distances, without scaling or normalization.

A *Trim* parameter is utilized within the Cluster Analysis which eliminates funds that are least similar to the rest of the group, up to a given percent (e.g. 6%) of the total. Such funds are considered outliers by the index construction process. The funds that remain constitute the Strategy Pure Cluster ("Cluster") defined as

$$Strategy\ Pure\ Cluster = \{funds \subset HFS\ /\ fund \not\subset Outliers\}$$

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3.4 REPRESENTATION ANALYSIS

Multiple representation analyses are used to calculate a Divergence Score (DS) for each funds included in the Cluster. The DS measures the dissimilarity between a fund and the Cluster and is defined as:

$$DS_i = \text{Information Ratio Score}_i + \text{Beta Score}_i + \text{Volatility Score}_i$$

The DS of fund i is defined as:

$$DS_i = IRS_i + BS_i + VS_i$$

where the Information Ratio Score IRS_i of fund i is defined as:

$$IRS_i = (InfoRatio_{Cluster/Strategy} - InfoRatio_{i/Strategy}) + (InfoRatio_{Cluster/Substrategy} - InfoRatio_{i/Substrategy}) +$$
$$+ (InfoRatio_{Cluster/Region} - InfoRatio_{i/Region}) - InfoRatio_{i/Cluster}$$

where the Information Ratio of the fund i vs. benchmark B is defined as:

$$InfoRatio_{i/B} = \overline{(R_i - R_B)} / \sigma(R_i - R_B)$$

where $\overline{R_i - R_B}$ is the average monthly difference in returns between the fund and the benchmark for the 24-month evaluation period, and $\sigma(R_i - R_B)$ is the standard deviation of the difference in returns. The benchmarks B correspond to:

Benchmark Type	Hedge Fund Benchmark
Strategy	Hedge Fund strategy benchmark specific to fund's strategy (e.g. Event Driven)
Substrategy	Hedge Fund substrategy benchmark specific to fund's strategy (e.g. ED: Special Situations)
Region	Regional equity benchmark specific to fund's regional investment focus (e.g. Asia ex-Japan)

The Beta Score BS_i of fund i is defined as:

$$BS_i = |\beta_{Cluster/Strategy} - \beta_{i/Strategy}| + |\beta_{Cluster/Substrategy} - \beta_{i/Substrategy}| + |\beta_{Cluster/Region} - \beta_{i/Region}| + |1 - \beta_{i/Cluster}|$$

where the beta of fund i vs. benchmark B is defined as:

$$\beta_{i/B} = \rho_{i/B} \cdot \sigma_i / \sigma_B$$

Where σ_i and σ_B are the standard deviation of fund i and the benchmark B, respectively, and $\rho_{i/B}$ is the Pearson correlation of fund i with the benchmark B defined as

$$\rho_{i/B} = \frac{\text{cov}(R_i, B)}{\sigma_i \sigma_B}.$$

where R_i represents the returns of the fund and B the returns of the benchmark.

The Volatility Score VS_i of fund i is defined as

$$\text{Volatility Score} = VS_i = \left| \sigma_i - \sigma_{Cluster} \right| / \sigma_{Cluster},$$

where $\sigma_{Cluster}$ is the standard deviation of returns of the cluster over the evaluation period.

3.5 OPTIMIZATION

Funds within a Cluster are ranked and selected in ascending order based on their Divergence Score. Description of constituent selection and establishment of managed accounts is provided in Appendix 3. The optimization applies an iterative process to determine the number of constituents and their optimal weights to maximize representation to the Cluster.

The fund weights are determined through a representation optimization utilizing a Generalized Reduced Gradient (GRG2) quasi-Newton Optimization Method. The objective function to be minimized is given by

$$F(w) = \sum_{i=1}^{N} w_i \times DS_i$$

where N is the number of funds in the strategy, and w_i is the weight determined for fund i. The objective function $F(w)$ is minimized subject to the following constraints on the weights:

$$\min F(w) \qquad such\ that \qquad \left(\frac{30\%}{N} \right) < w_i < w_{\max}$$

$$where \quad w_{\max} = \min\left(20\%, \frac{150\%}{N} \right) \qquad if \quad N \geq 6, \quad \sum_{i=1}^{N} w_i = 1, \text{ and } i = 1, \ldots, N.$$

In accordance with UCITS guidelines (Guidance Note 2/07), on a case-by-case basis, a constituent may have an individual weighting of up to 35% within an index. New constituents may be added at a reduced introductory weight to reflect ramp up period of fund strategy.

Based on $F(w)$, the Index return, I_k, is calculated as follows:

$$I_k = \sum_{j=1}^{N} w_j \times r_{j,k}$$

where $j = 1, \ldots, N$, $k = 1, \ldots, 24$, $N \geq 6$, and $r_{j,k}$ is the return of the k month for fund j.

The number of funds used in the optimization, N, is based on achieving a Maximum representative correlation of the Index to the Cluster, $\rho_{Portfolio}^{Cluster}$, computed as

$$\rho_{Index}^{Cluster} = \frac{\mathrm{cov}(I, C)}{\sigma_I \sigma_C}$$

where I represents the returns of the Index and C represents the returns of the Cluster.

3.6 SUBSTRATEGY INDEX NAV CALCULATION

HFRX Substrategy Indices (the "Index" and collectively, "Indices") are total return indices and are published by HFR at www.hfr.com and on Bloomberg. Computation of the Index uses actual performance (net of all fees and expenses) of the underlying constituent funds as reported to HFR, Inc. Published Index performance reflects all Index fees, including Index management fees and expenses.

The Index NAV is 1000 at inception where "$t=0$". The NAV changes are driven by the Index performance, which is defined as the percentage change in the value of the Index from a previous date "t-1" to current date "t".

The NAV at time "t" is defined as

$$NAV_t = NAV_{t-1} \times (1 + ROR_t)$$

where ROR_t is the percentage change in the total value of the Index from "t-1" to "t":

$$ROR_t = \sum_{i=1}^{n} ROR_t^i \times w_{t-1}^i - F$$

ROR_t^i is the rate of return of fund i at time "t" and w_{t-1}^i is the weight of fund i at time "t-1", and F corresponds to an index adjustment specific to each family, strategy, and sub-strategy index. The index adjustment is based on historical analysis performed by HFR. Additional information on the calculation methodology of the index adjustment term can be found following this link: IAF Methodology.

In the case of the HFRX UCITS / Daily Indices the date "t" corresponds to daily pricing, while for the HFRX Indices (Flagship) "t" corresponds to monthly pricing.

INDEX DISRUPTION EVENT

"Index Disruption Event" means:

(1) where, in the determination of HFR, Inc., it is not possible or it is not reasonably practicable for it to determine the price or value of a constituent fund; or

(2) a value for a constituent fund is not announced or is otherwise unavailable when such announcement or availability would normally be scheduled; or

(3) the occurrence of an event or circumstance (including, without limitation, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance) that Hedge Fund Research Inc. determines affects an HFRX Index.

If, in the determination of HFR, Inc., any of the foregoing is material.

Upon the occurrence of an Index Disruption Event on any day on which the official closing level of an HFRX Index is scheduled to be published, HFR, Inc. (i) shall not calculate and publish the Index Level and/or (ii) if relevant, may make such adjustments to the provisions of the Index to account for such Index Disruption Event as it determines appropriate, including, without limitation, delaying the application of any procedures or requirements of the Index.

3.7 REBALANCING

The rebalancing of the Index is implemented on the first Business Day of every calendar quarter (January, April, July, and October).

The index manager uses the fund data as of the beginning of Period N to compute new optimal allocation weights W_i for the pool of funds in the Index as of the beginning of Period $N+1$. Changes to the pool of funds (fund additions, removals, or re-classifications) are done at this time, as well as the resetting of the strategy weights to reflect the asset changes in the hedge fund universe.

Additional changes to the pool of funds may be taken on a more frequent basis to address specific concerns of any fund such as risk, liquidity, due diligence or other issues. If a fund ceases to satisfy any of the criteria required for inclusion into the Index between rebalancing dates, HFR may decide to remove the fund from the Index. If a fund is removed, HFR will either replace it with another fund within the same strategy provided it satisfies the criteria for inclusion, or may allocate the freed assets to the remaining funds in the same strategy.

NO PAYMENTS FROM FUNDS INCLUDED IN THE INDICES

Neither HFR nor any person associated with HFR may at any time, whether directly or indirectly, accept any payment or any other thing of value from any hedge fund for the purpose of being included or for being considered for inclusion, in any of the Indices.

INDEPENDENT AUDIT

If requested, HFR will cooperate in providing the necessary information to an independent third party to perform an audit of the Indices.

4 HFRX Indices – UCITS Funds

These HFRX Indices are constituted of liquid alternative UCITS funds which allows HFR to price and publish the indices on a daily basis.

4.1 HFRX GLOBAL HEDGE FUND INDEX

The HFRX Global Index is constituted by the aggregation of the single strategy indices as follows:

$$NAV_t^{HFRXGL} = \sum_{j=1}^{4} W_j \times NAV_t^j$$

where NAV_t^j is the NAV of index j at time t, W_j is the weight of strategy j at time t, and j = {*HFRX EH, HFRX ED, HFRX M, HFRX RVA*}.

The weight of each strategy is set at the time of rebalance and is given by the assets of the strategy in the Hedge Fund Universe as provided by Hedge Fund Research Inc. for the end of the prior quarter.

4.2 HFRX SINGLE STRATEGY INDICES

The HFRX Single Strategy Indices correspond to the HFRX Equity Hedge Index, the HFRX Event Driven Index, the HFRX Macro/CTA Index, and the HFRX Relative Value Arbitrage Index. These Single Strategy indices are constituted by the aggregation of the eligible substrategy indices underlying each strategy as follows:

$$NAV_t^{HFRXi} = \sum_{j=1}^{n} W_j^i \times NAV_t^{i,j}$$

where $NAV_t^{i,j}$ is the NAV of substrategy j within strategy i at time t, W_j^i is the weight of substrategy j at time t and i = {*EH, ED, M, RVA*}.

The eligible substrategies j in the Single Strategy Indices correspond to the UCITS-based HFRX Substrategy Indices and include:

Equity Hedge:

   j={HFRXEMN, HFRXEHG, HFRXEHV, HFRXEHn}

where HFRXEMN = HFRX EH: Equity Market Neutral Index, HFRXEHG = HFRX EH: Fundamental Growth Index, HFRXEHV = HFRX EH: Fundamental Value Index, and *HFRXEHn* corresponds to the group of eligible funds that represent EH substrategies not included in the previous substrategy indices or any future HFRX Index that may become part of the HFRXEH Index.

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Event Driven:

> j={ HFRXMA, HFRXSS, HFRXEDn}

where HFRXMA = HFRX ED: Merger Arbitrage Index, HFRXSS = HFRX ED: Special Situations Index, and HFRXEDn corresponds to the group of eligible funds that represent ED substrategies not included in the previous substrategy indices or any future HFRX Index that may become part of the HFRXED Index.

Macro/CTA:

> j={HFRXSDV, HFRXDT, HFRXMn}

where HFRXSDV = HFRX Macro: Systematic Diversified Index, HFRXDT= HFRX Macro: Discretionary Thematic Index, and HFRXMn corresponds to the group of eligible funds that represent Macro substrategies not included in the previous substrategy indices or any future HFRX Index that may become part of the HFRXM Index.

Relative Value Arbitrage:

> j={HFRXCA, HFRXRVMS, HFRXRVAn}

where HFRXCA = HFRX RV: FI-Convertible Arbitrage Index, HFRXRVMS = HFRX RV: Multi-Strategy Index, and HFRXRVAn corresponds to the group of eligible funds that represent RV substrategies not included in the previous substrategy indices or any future HFRX Index that may become part of the HFRXRVA Index.

4.3 HFRX EQUAL WEIGHTED STRATEGIES INDEX

The HFRX Equal Weighted Strategies Index is constituted by equally weighting seven groupings of substrategy indices as follows:

$$NAV_t^{HFRXEW} = \sum_{j=1}^{7} NAV_t^{j} \, /7$$

where NAV_t^{j} is the NAV of substrategy group j at time and the substrategy groupings correspond to {HFRXCA}, , {HFRXEHG, HFRXEHV, HFRXEHn}, {HFRXEMN}, {HFRXSS, HFRXEDn}, {HFRXM}, {HFRXMA}, {HFRXRVMS, HFRXRVAn }.

The weight of each substrategy is reset at the time of rebalance.

4.4 HFRX ABSOLUTE RETURN AND MARKET DIRECTIONAL INDICES

The HFRX Absolute Return and Market Directional Indices are constituted by a subset of the funds that are constituents of the HFRX Global Index. Constituent funds are ranked by their return profile using the following measures:

- Correlation to a broad hedge fund strategy
- Correlation to a broad equity index
- Correlation to a broad fixed income index
- Return volatility as measured by the standard deviation of the returns of the fund

The Pearson correlation $\rho_{i/B}$ of fund i with respect to the benchmark B is defined as

$$\rho_{i/B} = \frac{cov(R_i, B)}{\sigma_i \sigma_B}.$$

where R_i represents the returns of the fund and B the returns of the benchmark, and σ_i and σ_B are the standard deviation of fund i and the benchmark B, respectively.

Funds are ranked for each of the measures

$$corr\_rank_{i/B} = rank(\rho_{i/B})$$

and

$$vol\_rank_i = rank(\sigma_i)$$

for fund i and benchmarks B = {Hedge Fund Index, Equity Index, Bond Index}. The *Rank Score* for each fund is then defined as the average of the ranks as

$$Rank\_score_i = Avg\left(\frac{1}{3}\sum_{B=1}^{3} corr\_rank_{i/B}, vol\_rank_i\right)$$

Funds are ordered according to their *Rank Score* from low to high. The bottom 3rd of the funds with the lowest *Rank Score* (i.e., the funds with the lowest correlations and lowest volatility) are selected as constituents of the HFRX Absolute Return Index, while top 3rd of the funds with the highest *Rank Score* (i.e., the funds with the highest correlations and highest volatility) are selected as constituents of the HFRX Market Directional Index.

4.5 HFRX FIXED INCOME - CREDIT INDEX

HFRX Fixed Income - Credit Index includes strategies with exposure to credit across a broad continuum of credit sub-strategies, including Corporate, Sovereign, Distressed, Convertible, Asset Backed, Capital Structure Arbitrage, Multi-Strategy and other Relative Value and Event Driven sub-strategies. Investment thesis across all strategies is predicated on realization of a valuation discrepancy between the related credit instruments. Strategies may also include and utilize equity securities, credit derivatives, government fixed income, commodities, currencies or other hybrid securities.

5 HFRX Indices - Flagship Funds

These HFRX Indices are constituted of private hedge funds allowing HFR to price and published the indices on a monthly basis.

5.1 HFRX GLOBAL HEDGE FUND INDEX (FLAGSHIP)

The HFRX Composite Index is constituted by the aggregation of the single strategy private hedge fund indices as follows:

$$NAV_t^{HFRXGLF} = \sum_{j=1}^{4} W_j \times NAV_t^{j}$$

where NAV_t^{j} is the NAV of index j at time t, W_j is the weight of strategy j at time t, and j = {*HFRX EH (Flagship), HFRX ED (Flagship), HFRX M (Flagship), HFRX RVA (Flagship)*}.

The weight of each strategy is set at the time of rebalance and is given by the assets of the strategy in the Hedge Fund Universe as provided by Hedge Fund Research Inc. for the end of the prior quarter.

5.2 HFRX SINGLE STRATEGY INDICES (FLAGSHIP)

The HFRX Single Strategy Indices correspond to the HFRX Equity Hedge Index (Flagship), the HFRX Event Driven Index (Flagship), the HFRX Macro/CTA Index (Flagship), and the HFRX Relative Value Arbitrage Index (Flagship). These Single Strategy indices are constituted by the aggregation of the eligible substrategy indices underlying each strategy as follows:

$$NAV_t^{HFRXHFi} = \sum_{j=1}^{n} W_j^{i} \times NAV_t^{i,j}$$

where $NAV_t^{i,j}$ is the NAV of substrategy j within strategy i at time t, W_j^{i} is the weight of substrategy j at time t and i = {*EH, ED, M, RVA*}.

The eligible substrategies j in the Single Strategy Indices correspond to the Flagship-based HFRX Substrategy Indices and include:

Equity Hedge:

> j={Equity Market Neutral, Fundamental Growth, Fundamental Value, Multi-Strategy, Quantitative Directional, Sector - Energy/Basic Materials, Sector - Healthcare, Sector - Technology}

Event Driven:

     j={Activist, Credit Arbitrage, Distressed/Restructuring, Merger Arbitrage, Multi-Strategy, Special Situations}

Macro/CTA:

     j={Active Trading, Commodity, Currency, Discretionary Thematic, Multi-Strategy, Systematic Diversified}

Relative Value Arbitrage:

     j={Fixed Income - Asset Backed, Fixed Income - Convertible Arbitrage, Fixed Income - Corporate, Fixed Income - Sovereign, Multi-Strategy, Volatility, Yield Alternatives}

5.3 HFRX AGGREGATE INDEX

The HFRX Aggregate Index is constituted by equally weighting all substrategy and regional Flagship-based HFRX indices as follows:

$$NAV_t^{HFRXAGGR} = \sum_{j=1}^{N} NAV_t^{j} / N$$

where NAV_t^{j} is the NAV of substrategy group j at time and the substrategy and regional groupings correspond to the following N indices for the following substrategies and regions: *ED: Activist, ED: Credit Arbitrage, ED: Distressed Restructuring, ED: Merger Arbitrage, ED: Multi-Strategy, ED: Special Situations, EH: Energy/Basic Materials, EH: Equity Market Neutral, EH: Fundamental Growth, EH: Fundamental Value, EH: Multi-Strategy, EH: Quantitative Directional, EH: Technology/Healthcare, Macro: Active Trading, Macro: Commodity, Macro: Currency, Macro: Discretionary Thematic, Macro: Multi-Strategy, Macro: Systematic Diversified CTA, RV: Energy Infrastructure, RV: FI-Asset Backed, RV: FI-Convertible Arbitrage, RV: FI-Corporate, RV: FI-Sovereign, RV: Multi-Strategy, RV: Volatility, RV: Yield Alternatives, Asia ex-Japan, Asia with Japan, Japan, Latin America, MENA, Multi-Emerging Markets, Multi-Region, North America, Russia/Eastern Europe, Western/Pan Europe.*

The weight of each substrategy is reset at the time of rebalance.

5.4 HFRX DIVERSITY INDEX

The HFRX Diversity Index is designed to be representative of the overall composition of the minority-owned hedge fund universe. A hedge fund management company is deemed to be a minority-owned business if: Greater than 50% of the management company is owned by one or more minorities, or in the case of a publicly owned business, greater than 50% of all issued stock is owned by one or more minorities; and whose management and daily business operations are controlled by one or more such individuals. A 'minority' is defined for our purposes as a U.S. citizen who is: (A) a woman; or (B) a person whose origin is from one of the following minority groups: (i) African-American: a U.S. citizen whose origin is from any of the racial groups of Sub-Sahara Africa; (ii) Hispanic-American: a U.S. citizen whose origin is from any of the Spanish-speaking countries of Latin America, Mexico, Central America, South America, the Caribbean and Brazil (Afro-Brazilian and Brazilian Indians only); (iii) American Indian: a U.S. citizen whose origin is from Eskimo, Aleut, or Native Hawaiian, or Native Americans. Native Americans must be documented members of a North American tribe, band or organized group of native people indigenous to the continental United States; (iv) Asian-American, Pacific Islanders, Asian Indian-Americans: a U.S. citizen whose origin is from Bangladesh, Cambodia, China, Guam, India, Indonesia, Japan, Korea, Laos, Malaysia, Pakistan, the Philippines, Samoa, Thailand, Sri Lanka, Taiwan, the U.S. Trust Territories of the Pacific or the Northern Marianas and Vietnam.

The HFRX Diversity Index follows the construction methodology as outlined in Section 3 of this document, with the additional constituent selection filtering that funds must satisfy the criteria of being a minority-owned business as outlined in the previous paragraph.

Computation of the Index uses actual performance (net of all fees and expenses) of the underlying constituent funds as reported to HFR, Inc. Published Index performance reflects all Index fees, including Index management fees and expenses.

The Index NAV is 1000 at inception where "t=0". The NAV changes are driven by the Index performance, which is defined as the percentage change in the value of the Index from a previous date "t-1" to current date "t".

The NAV at "t" is defined as

$$NAV_t = NAV_{t-1} \times (1 + ROR_t)$$

where ROR_t is the percentage change in the total value of the Index from "t-1" to "t":

$$ROR_t = \sum_{i=1}^{n} ROR_t^i \times w_{t-1}^i - F$$

ROR_t^i is the rate of return of fund i at time "t" and w_{t-1}^i is the weight of fund i at time "t-1", and F corresponds to an index adjustment specific to each family, strategy, and sub-strategy index. The index adjustment is based on historical analysis performed by HFR. Additional information on the calculation methodology of the index adjustment term can be found following this link: IAF Methodology.

5.5 HFRX DIVERSITY: WOMEN INDEX

The constituents of the HFRX Diversity: Women Index are a subset of the HFRX Diversity Index. The HFRX Diversity: Women Index is designed to be representative of the overall composition of the women minority-owned hedge fund universe. A hedge fund management company is deemed to be a minority-owned business if: Greater than 50% of the management company is owned by one or more minorities, or in the case of a publicly owned business, greater than 50% of all issued stock is owned by one or more minorities; and whose management and daily business operations are controlled by one or more such individuals. A 'women minority' is defined for our purposes as a U.S. citizen who is: (A) a woman; and (B) a person whose origin is from one of the following minority groups: (i) African-American: a U.S. citizen whose origin is from any of the racial groups of Sub-Sahara Africa; (ii) Hispanic-American: a U.S. citizen whose origin is from any of the Spanish-speaking countries of Latin America, Mexico, Central America, South America, the Caribbean and Brazil (Afro-Brazilian and Brazilian Indians only); (iii) American Indian: a U.S. citizen whose origin is from Eskimo, Aleut, or Native Hawaiian, or Native Americans. Native Americans must be documented members of a North American tribe, band or organized group of native people indigenous to the continental United States; (iv) Asian-American, Pacific Islanders, Asian Indian-Americans: a U.S. citizen whose origin is from Bangladesh, Cambodia, China, Guam, India, Indonesia, Japan, Korea, Laos, Malaysia, Pakistan, the Philippines, Samoa, Thailand, Sri Lanka, Taiwan, the U.S. Trust Territories of the Pacific or the Northern Marianas and Vietnam.

The HFRX Diversity: Women Index follows the construction methodology as outlined in Section 3 of this document, with the additional constituent selection filtering that funds must satisfy the criteria of being a women-owned business as outlined in the previous paragraph.

Computation of the NAV of the index follows the same process as described for the HFRX Diversity Index in the pervious section.

6 HFRX Climate Change Indices

The universe of funds in the HFR Database is filtered using the following formula to create the Climate Change Universe.

$$\delta(fees) \cdot H(AUM_i - 20) \cdot H(t + 15) \cdot H(-t - 4) \cdot H(n - 12) \cdot \delta(freq - 12) \cdot \delta(ISO - USD) \cdot \delta(liq) \cdot H(90 - red)$$
$$\cdot H(30 - subs) \cdot H(30 - settle) \cdot \delta(l\&g) \cdot \delta(reg - 1) \cdot \delta(SCOC - 1) \cdot \delta(CC - 1) \neq 0$$

where $H(x)$ is the step function defined as

$$H(x) = \begin{Bmatrix} 1 & x \geq 0 \\ 0 & x < 0 \end{Bmatrix}$$

$\delta(x)$ is the delta function defined as

$$\delta(x) = \begin{Bmatrix} 1 & x = 0 \\ 0 & x \neq 0 \end{Bmatrix}$$

and

- *fees* is the returns net of all fees (0=yes, 1=no)
- *AUM* is the firm assets in USD$MM
- *t=0* is the rebalance month
- *n*=total number of months reported
- *freq* is the reporting frequency (12=monthly, 4=quarterly)
- *ISO* is the reporting currency
- *liq* is the liquidity offered by the fund (0=quarterly (HFRX Indices - Flagship Funds) / bi-weekly (HFRX Indices – UCITS Funds) or better, 1=otherwise)
- *red* is the redemption notice of the fund in days
- *subs* is the subscription notice of the fund in days
- *settle* is the redemption settlement period of the fund in days
- *l&g* is the lock-up or gates imposed by the fund (0=none, 1=otherwise)
- *reg* is the fund registration with the SEC or similar regulatory body (0=no, 1=yes)
- *SCOC* is the agreement to the Submitter Code of Conduct (0=no, 1=yes)
- *CC* is the fund investment strategy consistent with reducing the impact of climate change (0=no, 1=yes)

If a manager has more than one fund in the same Climate Change Universe the duplication is eliminated according to the following formula:

$$fund(T, AUM) = \begin{Bmatrix} fund(max(T_1, T_2), AUM) & T_1 \neq T_2 \\ fund(T, max(AUM_1, AUM_2)) & T_1 = T_2 \end{Bmatrix}$$

where T_n refers to the length of the track record of fund *n*, and AUM_n the assets of fund *n (n=1,2, etc.)*.

HFRX Climate Change Indices (the "Index" and collectively, "Indices") are total return indices and are published by HFR at www.hfr.com and on Bloomberg. Computation of the Index uses actual performance (net of all fees and expenses) of the underlying constituent funds as reported to HFR, Inc. Published Index performance reflects all Index fees, including Index management fees and expenses. For both the HFRX Climate Change Index and HFRX Energy Transition Index, the indices are constructed using information self-reported by the hedge fund manager to the HFR database.

The Index NAV is 1000 at inception where "$t{=}0$". The NAV changes are driven by the Index performance, which is defined as the percentage change in the value of the Index from a previous date "t-1" to current date "t".

The NAV at time "t" is defined as

$$NAV_t = NAV_{t-1} \times (1 + ROR_t)$$

where ROR_t is the percentage change in the total value of the Index from "t-1" to "t":

$$ROR_t = \sum_{i=1}^{n} ROR_t^i \times w_{t-1}^i - F$$

ROR_t^i is the rate of return of fund i at time "t" and w_{t-1}^i is the weight of fund i at time "t-1", and F corresponds to an index adjustment specific to each family, strategy, and sub-strategy index. The index adjustment is based on historical analysis performed by HFR. Additional information on the calculation methodology of the index adjustment term can be found following this link: IAF Methodology.

6.1 HFRX CLIMATE CHANGE INDEX

The HFRX Climate Change Index includes hedge fund strategies that identify opportunities in securities with the goal of reducing the impact of climate change, by identifying companies engaged in the development of new technologies that will facilitate the energy transition from traditional energy sources to renewable sources, engaging with companies to lower their carbon footprint, or trading carbon allowances in regulated markets.

The minimum requirements for the constituent funds include having at least a 1-year track record and at least $20M in assets under management. Constituent Funds must also meet the below requirements:

- Constituent funds must be managed with the goal of reducing the impact of anthropogenic climate change as part of their investment process. Such strategies can include exposure to firms and markets that reduce carbon impacts or enable carbon reduction, as well as exposure to firms whose carbon impact is reduced over time through engagement
- Typical portfolio compositions include:
  - Limited or no exposure to significant carbon emitters or traditional sources (hydrocarbons), except where managers seek to reduce firms' carbon impact through active engagement
  - Exposure to:
    - Renewable energy sources (e.g., solar, wind)
    - Technologies that enable energy transition to renewables (e.g., energy storage)
    - Technologies that reduce carbon impact (e.g., carbon capture)
    - Markets that reduce carbon emissions over time (e.g., carbon credit markets)

The constituents of the HFRX Climate Change Index are equally weighted at the time of rebalance "t_0":

$$NAV_{t_0}^j = \sum_{j=1}^{N} NAV_{t_0-1}^j / N$$

where $NAV_{t_0-1}^j$ is the final NAV of fund j just before the rebalance, $NAV_{t_0}^j$ is its beginning NAV and N is the number of constituents.

6.2 HFRX ENERGY TRANSITION INDEX

The HFRX Energy Transition Index includes hedge fund strategies that identify investment opportunities in companies engaged in the development of new technologies that will facilitate the energy transition from traditional energy sources to renewable sources, including electric vehicles, battery materials, hydrogen fuel cells, and electrification infrastructure, among others.

The minimum requirements for the constituent funds include having at least a 1-year track record and at least $20M in assets under management. The constituents of the HFRX Energy Transition Index are equally weighted at the time of rebalance. Constituent Funds are a subset of the HFRX Climate Change Index and must also meet the below requirements:

- Constituent funds must be managed with the goal of reducing the impact of anthropogenic climate change as part of their investment process. Such strategies can include exposure to firms and markets that reduce carbon impacts or enable carbon reduction, as well as exposure to firms whose carbon impact is reduced over time through engagement
- Typical portfolio compositions include:
  - Limited or no exposure to significant carbon emitters or traditional sources (hydrocarbons)
  - Exposure to:
    - Renewable energy sources (e.g., solar, wind)
    - Technologies that enable energy transition to renewables (e.g., energy storage)
    - Technologies that reduce carbon impact (e.g., carbon capture)

The constituents of the HFRX Energy Transition Index are equally weighted at the time of rebalance "t_0":

$$NAV_{t_0}^j = \sum_{j=1}^{N} NAV_{t_0-1}^j / N$$

where $NAV_{t_0-1}^j$ is the final NAV of fund j just before the rebalance, $NAV_{t_0}^j$ is its beginning NAV and N is the number of constituents.

7 Currency Hedging

The funds underlying the Index are denominated in U.S. Dollars. In order to hedge an Index against the appreciation/depreciation of another currency, HFR includes in the calculation the estimated cost of purchasing forward foreign exchange contracts in that currency on a revolving basis. A projected spot sale of the currency is sold for U.S. Dollars and simultaneously, a 1 month forward contract is projected. The estimated cost of establishing a credit facility to finance the purchase of these contracts and to finance any losses incurred under them are considered as part of the Index calculation.

Foreign Currency Hedge at Initiation (t=0)

Convert initial projected foreign currency amount to USD via Spot Contract (SC_1) at market price on (t=0)
  Sell: foreign currency amount (equal to: initial projected foreign currency value)
  Buy: USD equivalent (equal to: foreign currency amount x SC_1 rate)

Enter into a Forward Contract (FC_1) on (t=0) at market price with expiration of (t=30)
  Buy: foreign currency (equal to: initial projected foreign currency value)
  Sell: USD equivalent (equal to: foreign currency x FC_1 rate)

Foreign Currency Monthly Roll-Forward (t=30)

Execute a new Spot Contract (SC_2) at market price on (t=30)
  Sell: foreign currency amount (equal to: FC_1 foreign currency leg)
  Buy: USD equivalent (equal to: foreign currency amount x SC_2 rate)

Enter into a new Forward Contract (FC_2) on (t=30) at market price with expiration of (t=60)
  Buy: foreign currency amount (equal to: foreign currency $NAV_{(t=29)}$)
  Sell: USD equivalent (equal to: foreign currency x FC_2 Rate)

Appendix 1
HFR Hedge Fund Database

HFR, Inc. (HFR) is a research firm specializing in the collection, aggregation, and analysis of alternative investment information. HFR produces the HFR Hedge Fund Database, one of the industry's most widely used commercial databases of hedge fund performance, as well as a variety of other research products for the alternative investment industry, including the HFR Industry Report.

The HFR Hedge Fund Database is currently comprised of over 6,800 funds and fund of funds worldwide. Information on the hedge fund universe of established and emerging managers is collected directly from the fund managers and/or their respective offshore administrators, while other pertinent information is culled from offering memoranda, onsite visits, and due diligence interviews. HFR requests that fund managers report performance by the 15th of each month. It also directly integrates the fund managers with the HFR Hedge Fund Database by providing them with their own website for updating their fund profile. In this manner HFR ensures current and accurate fund data that flows seamlessly from fund managers.

Appendix 2
Strategy Descriptions

HFR, 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.

Primary Strategy Descriptions:

Strategy: In completing a fund profile for inclusion in HFR subscriber database, an investment manager qualitatively chooses one of four primary strategies, as defined below:

- *Equity Hedge:* Equity Hedge strategies maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50%, and may in some cases be substantially entirely invested in equities, both long and short.

- *Event-Driven:* Investment Managers who maintain positions in securities of 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. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. ED exposure contains a combination of sensitivities to equity markets, credit markets and idiosyncratic, company specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

- *Macro:* Investment Managers which execute 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, currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Although some strategies employ RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both Macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposes to EH, in which the fundamental characteristics on the company are the most significant and integral to investment thesis.

- *Relative Value:* Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of

fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. RVA position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

Sub-Strategy Descriptions:

Equity Hedge: Equity Hedge strategies maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50%, and may in some cases be substantially entirely invested in equities, both long and short. EH is further subdivided into 7 sub-strategies:

1. *EH: Equity Market Neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale.* These can include both Factor-based and Statistical Arbitrage/Trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. In many but not all cases, portfolios are constructed to be neutral to one or multiple variables, such as broader equity markets in dollar or beta terms, and leverage is frequently employed to enhance the return profile of the positions identified. Statistical Arbitrage/Trading strategies consist of strategies in which the investment thesis is predicated on exploiting pricing anomalies which may occur as a function of expected mean reversion inherent in security prices; high frequency techniques may be employed and trading strategies may also be employed on the basis on technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely or accurately discounted into current security prices. *Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.*

2. *EH: Fundamental Growth strategies employ analytical techniques in which the investment thesis is predicated on assessment of the valuation characteristics on the underlying companies which are expected to have prospects for earnings growth and capital appreciation exceeding those of the broader equity market*. Investment theses are focused on characteristics of the firm's financial statements in both an absolute sense and relative to other similar securities and more broadly, market indicators. Strategies employ investment processes designed to identify attractive opportunities in securities of companies which are experiencing or expected to experience abnormally high levels of growth compared with relevant benchmarks growth in earnings, profitability, sales or market share

3. *EH: Fundamental Value strategies which employ investment processes designed to identify attractive opportunities in securities of companies which trade a valuation metrics by which the manager determines them to be inexpensive and undervalued when compared with relevant benchmarks.* Investment theses are focused on characteristics of the firm's financial statements in both an absolute sense and relative to other similar securities and more broadly, market indicators. Relative to Fundamental Growth strategies, in which earnings

growth and capital appreciation is expected as a function of expanding market share and revenue increases, *Fundamental Value strategies typically focus on equities which currently generate high cash flow, but trade at discounted valuation multiples, possibly as a result of limited anticipated growth prospects or generally out of favor conditions, which may be specific to sector or specific holding.*

4. <u>*EH: Quantitative Directional*</u> *strategies employ sophisticated quantitative analysis of price, other technical and fundamental data to ascertain relationships among securities and to select securities for purchase and sale*. These can include both Factor-based and Statistical Arbitrage/Trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. Statistical Arbitrage/Trading strategies consist of strategies in which the investment thesis is predicated on exploiting pricing anomalies which may occur as a function of expected mean reversion inherent in security prices; high frequency techniques may be employed and trading strategies may also be employed on the basis on technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely or accurately discounted into current security prices. *Quantitative Directional Strategies typically maintain varying levels of net long or short equity market exposure over various market cycles.*

5. <u>*EH: Sector – Energy/Basic Materials*</u> *strategies which employ investment processes designed to identify opportunities in securities in specific niche areas of the* market in which the Manager maintains a level of expertise which exceeds that of a market generalist in identify companies engaged in the production and procurement of inputs to industrial processes, and implicitly sensitive to the direction of price trends as determined by shifts in supply and demand factors, and implicitly sensitive to the direction of broader economic trends. *Energy/Basic Materials strategies typically maintain a primary focus in this area or expect to maintain in excess of 50% of portfolio exposure to these sectors over a various market cycles.*

6. <u>*EH: Sector – Technology/Healthcare*</u> *strategies employ investment processes designed to identify opportunities in securities in specific niche areas of the market in which the Manager maintain a level of expertise which exceeds that of a market generalist in identifying opportunities in companies engaged in all development, production and application of technology, biotechnology and as related to production of pharmaceuticals and healthcare industry.* Though some diversity exists as an across sub-strategy, strategies implicitly exhibit some characteristic sensitivity to broader growth trends, or in the case of the latter, developments specific to the healthcare industry*. Technology/Healthcare strategies typically maintain a primary focus in this area or expect to maintain in excess of 50% of portfolio exposure to these sectors over a various market cycles.*

7. <u>*EH: Short-Biased*</u> *strategies employ analytical techniques in which the investment thesis is predicated on assessment of the valuation characteristics on the underlying companies with the goal of identifying overvalued companies.* Short Biased strategies may vary the investment level or the level of short exposure over market cycles, but the primary distinguishing characteristic is that the manager maintains consistent short exposure and expects to outperform traditional equity managers in declining equity markets. *Investment theses may be fundamental or technical and nature and manager has a particular focus, above that of a market generalist, on identification of overvalued companies and would expect to maintain a net short equity position over various market cycles.*

8. <u>*EH: Multi-Strategy*</u> Investment Managers maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused

on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH Multi-Strategy managers do not maintain more than 50% exposure in any one Equity Hedge sub-strategy.

Event-Driven: Investment Managers who 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. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities. Event Driven exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

1. *ED: Activist strategies may obtain or attempt to obtain representation of the company's board of directors in an effort to impact the firm's policies or strategic direction and in some cases may advocate activities such as division or asset sales, partial or complete corporate divestiture, dividend or share buybacks, and changes in management*. Strategies employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently or prospectively engaged in a corporate transaction, security issuance/repurchase, asset sales, division spin-off or other catalyst oriented situation. These involve both announced transactions as well as situations which pre-, post-date or situations in which no formal announcement is expected to occur. *Activist strategies are distinguished from other Event-Driven strategies in that, over a given market cycle, Activist strategies would expect to have greater than 50% of the portfolio in activist positions, as described.*

2. *ED: Credit Arbitrage strategies employ an investment process designed to isolate attractive opportunities in corporate fixed income securities; these include both senior and subordinated claims as well as bank debt and* other outstanding obligations, structuring positions with little of no broad credit market exposure. These may also contain a limited exposure to government, sovereign, equity, convertible or other obligations but the focus of the strategy is primarily on fixed corporate obligations and other securities are held as component of positions within these structures. Managers typically employ fundamental credit analysis to evaluate the likelihood of an improvement in the issuer's creditworthiness, in most cases securities trade in liquid markets and managers are only infrequently or indirectly involved with company management**. Fixed Income - Corporate strategies differ from Event Driven: Credit Arbitrage in that the former more typically involve more general market hedges which may vary in the degree to which they limit fixed income market exposure, while the latter typically involve arbitrage positions with little or no net credit market exposure, but are predicated on specific, anticipated idiosyncratic developments.**

3. *ED: Distressed/Restructuring strategies which employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.* Managers are typically actively involved with the management of these companies, frequently involved on creditors' committees in negotiating the exchange of securities for alternative obligations, either swaps of debt, equity or hybrid securities. Managers employ fundamental credit processes focused on valuation and asset coverage of securities of distressed firms; in most cases portfolio exposures are concentrated in instruments which are

publicly traded, in some cases actively and in others under reduced liquidity but in general for which a reasonable public market exists. *In contrast to Special Situations, Distressed Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.*

4. *ED: Merger Arbitrage strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.* Merger Arbitrage involves primarily announced transactions, typically with limited or no exposure to situations which pre-, post-date or situations in which no formal announcement is expected to occur. Opportunities are frequently presented in cross border, collared and international transactions which incorporate multiple geographic regulatory institutions, with typically involve minimal exposure to corporate credits*. Merger arbitrage strategies typically have over 75% of positions in announced transactions over a given market cycle.*

5. *ED: Private Issue/Regulation D strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are primarily private and illiquid in nature.* These most frequently involve realizing an investment premium for holding private obligations or securities for which a reasonably liquid market does not readily exist until such time as a catalyst such as new security issuance or emergence from bankruptcy proceedings occurs. Managers employ fundamental valuation processes focused on asset coverage of securities of issuer firms, and *would expect over a given market cycle to maintain greater than 50% of the portfolio in private securities, including Reg D or PIPE transactions.*

6. *ED: Special Situations strategies which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction, security issuance/repurchase, asset sales, division spin-off or other catalyst oriented situation.* These involve both announced transactions as well as situations which pre-, post-date or situations in which no formal announcement is expected to occur. Strategies employ an investment process focusing broadly on a wide spectrum of corporate life cycle investing, including but not limited to distressed, bankruptcy and post bankruptcy security issuance, announced acquisitions and corporate division spin-offs, asset sales and other security issuance impacting an individual capital structure focusing primarily on situations identified via fundamental research which are likely to result in a corporate transactions or other realization of shareholder value through the occurrence of some identifiable catalyst. *Strategies effectively employ primarily equity (greater than 60%) but also corporate debt exposure, and in general focus more broadly on post-bankruptcy equity exposure and exit of restructuring proceedings.*

7. *ED: Multi-Strategy managers would typically have no greater than 50% exposure to any one, distinct Event-Driven sub-strategy.*

Macro: Investment Managers which 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. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental approaches and long and short term holding periods. Although some strategies employ RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments, rather than realization of a valuation discrepancy between securities. In a similar way, while both Macro and equity

hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to EH, in which the fundamental characteristics of the company are the most significant and integral to investment thesis.

1. ***Macro: Active Trading* strategies employ either discretionary or rule-based high-frequency strategies to trade multiple asset classes.** Distinguished from Systematic: Diversified strategies by their high portfolio turnover and a trade duration of five days or less, and from Equity Hedge: Quantitative Directional by their significant use of asset classes other than equities, these strategies employ an investment process predicated on evaluation of historical and current price and other technical, fundamental and quantitative market data to determine trading opportunities lasting from a few seconds to a few days at a time. Positions may be defined as momentum-based, mean reversion, or spread/arbitrage trades. These strategies frequently employ leverage and are active across market sectors including equities, fixed income, foreign exchange, and commodity asset classes, utilize cash, futures, and/or options, and are generally diversified in geography. These trading strategies characteristically emphasize rapid response to new fundamental and technical market information, generally utilize liquid markets, and often derive alpha from market volatility and instability.

2. ***Macro: Commodity - Agriculture*** strategies are reliant on the evaluation of market data, relationships and influences as they pertain primarily to Soft Commodity markets focusing primarily on positions in grains (wheat, soybeans, corn, etc.) or livestock markets. Portfolio the investment process can be predicated on fundamental, systematic or technical analysis, and Agricultural strategies typically invest in both Emerging and Developed Markets. Commodity: Agricultural strategies typically would expect to have greater than 50% of portfolio in dedicated Agricultural exposure over a given market cycle.

3. ***Macro: Commodity - Energy*** strategies are reliant on the evaluation of market data, relationships and influences as they pertain primarily to Energy commodity markets focusing primarily on positions in Crude Oil, Natural Gas and other Petroleum products. Portfolio investment process can be predicated on fundamental, systematic or technical analysis, and strategies typically invest in both Emerging and Developed Markets. Commodity: Energy strategies typically would expect to have greater than 50% of portfolio in dedicated Energy exposure over a given market cycle.

4. ***Macro: Commodity - Metals*** strategies are reliant on the evaluation of market data, relationships and influences as they pertain primarily to Hard Commodity markets focusing primarily on positions in Metals (Gold, Silver, Platinum, etc). Portfolio investment process can be predicated on fundamental, systematic or technical analysis, and strategies typically invest in both Emerging and Developed Markets. Commodity: Metals strategies typically would expect to have greater than 50% of portfolio in dedicated Metals exposure over a given market cycle.

5. ***Macro: Commodity - Multi*** strategies include both discretionary and systematic commodity strategies. Systematic commodity have investment processes typically as function of mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning. Strategies employ an investment process designed to identify opportunities in markets exhibiting trending or momentum characteristics across commodity assets classes, frequently with related ancillary exposure in commodity sensitive equities or other derivative instruments. Strategies typically employ quantitative process which focus on statistically robust or technical patterns in the return series of the asset, and typically focus on highly liquid instruments and maintain shorter holding periods than either discretionary or mean reverting strategies. Although some strategies seek to employ counter trend models, strategies benefit most from an environment characterized by persistent, discernible trending behavior. Systematic Commodity strategies typically would expect to have greater than 35% of portfolio in dedicated commodity exposure over a given market cycle. Discretionary Commodity strategies are reliant on

the fundamental evaluation of market data, relationships and influences as they pertain primarily to commodity markets including positions in energy, agricultural, resources or metal assets. Portfolio positions typically are predicated on the evolution of investment themes the Manager expect to materialize over a relevant timeframe, which in many cases contain contrarian or volatility focused components. Investment Managers also may trade actively in developed and emerging markets, focusing on both absolute and relative levels on equity markets, interest rates/fixed income markets, currency; frequently employing spread trades to isolate a differential between instrument identified by the Investment Manager to be inconsistent with expected value. Discretionary Commodity strategies typically would expect to have greater than 35% of portfolio in dedicated commodity exposure over a given market cycle.

6. ***Macro: Currency Discretionary* strategies are reliant on the fundamental evaluation of market data, relationships and influences as they pertain primarily to currency markets including positions in global foreign exchange markets, both listed and unlisted, and as interpreted by an individual or group of individuals who make decisions on portfolio positions; strategies employ an investment process most heavily influenced by top down analysis of macroeconomic variables**. Portfolio positions typically are predicated on the evolution of investment themes the Manager expect to materialize over a relevant timeframe, which in many cases contain contrarian or volatility focused components. Investment Managers also may trade actively in developed and emerging markets, focusing on both absolute and relative levels on equity markets, interest rates/fixed income markets, currency; frequently employing spread trades to isolate a differential between instrument identified by the Investment Manager to be inconsistent with expected value. **Currency Discretionary strategies typically would expect to have greater than 35% of portfolio in dedicated currency exposure over a given market cycle.*

7. ***Macro: Currency Systematic* strategies have investment processes typically as function of mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning.** Strategies which employ an investment process designed to identify opportunities in markets exhibiting trending or momentum characteristics across currency assets classes, frequently with related ancillary exposure in sovereign fixed income. Strategies typically employ quantitative process which focus on statistically robust or technical patterns in the return series of the asset, and typically focus on highly liquid instruments and maintain shorter holding periods than either discretionary or mean reverting strategies. Although some strategies seek to employ counter trend models, strategies benefit most from an environment characterized by persistent, discernable trending behavior**. Currency Systematic strategies typically would expect to have greater than 35% of portfolio in dedicated currency exposure over a given market cycle.*

8. ***Macro: Discretionary Thematic* strategies are primarily reliant on the evaluation of market data, relationships and influences, as interpreted by an individual or group of individuals who make decisions on portfolio positions; strategies employ an investment process most heavily influenced by top down analysis of macroeconomic variables.** Investment Managers may trade actively in developed and emerging markets, focusing on both absolute and relative levels on equity markets, interest rates/fixed income markets, currency and commodity markets; frequently employing spread trades to isolate a differential between instrument identified by the Investment Manager to be inconsistent with expected value. Portfolio positions typically are predicated on the evolution of investment themes the Manager expect to materialize over a relevant timeframe, which in many cases contain contrarian or volatility focused components*.

9. ***Macro: Systematic Diversified* strategies have investment processes typically as function of mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning.** Strategies which employ an investment process designed to identify opportunities in markets exhibiting trending or momentum characteristics across individual instruments or asset classes. Strategies typically employ

quantitative process which focus on statistically robust or technical patterns in the return series of the asset, and typically focus on highly liquid instruments and maintain shorter holding periods than either discretionary or mean reverting strategies. Although some strategies seek to employ counter trend models, strategies benefit most from an environment characterized by persistent, discernable trending behavior. *Systematic Diversified strategies typically would expect to have no greater than 35% of portfolio in either dedicated currency or commodity exposures over a given market cycle.*

10. *Macro: Multi-Strategy Strategies which employ components of both Discretionary and Systematic Macro strategies, but neither exclusively both.* Strategies frequently contain proprietary trading influences, and in some cases contain distinct, identifiable sub-strategies, such as equity hedge or equity market neutral, or in some cases a number of sub-strategies are blended together without the capacity for portfolio level disaggregation. Strategies employ an investment process is predicated on a systematic, quantitative evaluation of macroeconomic variables in which the portfolio positioning is predicated on convergence of differentials between markets, not necessarily highly correlated with each other, but currently diverging from their historical levels of correlation. Strategies focus on fundamental relationships across geographic areas of focus both inter and intra-asset classes, and typical holding periods are longer than trend following or discretionary strategies.

Relative Value: Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. RV position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction. RV is further subdivided into 6 sub-strategies:

1. *RV: Fixed Income-Asset Backed includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a fixed income instrument backed physical collateral or other financial obligations (loans, mortgages, credit cards) other than those of a specific corporation.* Strategies employ an investment process designed to isolate attractive opportunities between a variety of fixed income instruments specifically securitized by collateral commitments which frequently include loans, pools and portfolios of loans, receivables, real estate, mortgage, machinery or other tangible financial commitments. Investment thesis may be predicated on an attractive spread given the nature and quality of the collateral, the liquidity characteristics of the underlying instruments and on issuance and trends in collateralized fixed income instruments, broadly speaking. In many cases, investment managers hedge, limit or offset interest rate exposure in the interest of isolating the risk of the position to strictly the yield disparity of the instrument relative to the lower risk instruments.

2. *RV: Fixed Income-Convertible Arbitrage includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument.* Strategies employ an investment process designed to isolate attractive opportunities between the price of a convertible security and the price of a non-convertible security, typically of the same issuer. Convertible arbitrage positions maintain characteristic sensitivities to credit quality the issuer,

implied and realized volatility of the underlying instruments, levels of interest rates and the valuation of the issuer's equity, among other more general market and idiosyncratic sensitivities.

3. *RV: Fixed Income-Corporate includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed income instrument.* Strategies employ an investment process designed to isolate attractive opportunities between a variety of fixed income instruments, typically realizing an attractive spread between multiple corporate bonds or between a corporate and risk free government bond. *Fixed Income-Corporate strategies differ from Event Driven: Credit Arbitrage in that the former more typically involve more general market hedges which may vary in the degree to which they limit fixed income market exposure, while the latter typically involve arbitrage positions with little or no net credit market exposure, but are predicated on specific, anticipated idiosyncratic developments.*

4. *RV: Fixed Income - Sovereign includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a sovereign fixed income instrument.* Strategies employ an investment process designed to isolate attractive opportunities between a variety of fixed income instruments, typically realizing an attractive spread between multiple sovereign bonds or between a corporate and risk free government bond. Fixed Income Sovereign typically employ multiple investment processes including both quantitative and fundamental discretionary approaches and relative to other Relative Value Arbitrage sub-strategies, these have the most significant top-down macro influences, relative to the more idiosyncratic fundamental approaches employed. RV: Fixed Income: Sovereign funds would typically have a minimum of 50% exposure to global sovereign fixed income markets, but characteristically maintain lower net exposure than similar strategies in Macro: Multi-Strategy sub-strategy.

5. *RV: Volatility strategies trade volatility as an asset class, employing arbitrage, directional, market neutral or a mix of types of strategies, and include exposures which can be long, short, neutral or variable to the direction of implied volatility, and can include both listed and unlisted instruments.* Directional volatility strategies maintain exposure to the direction of implied volatility of a particular asset or, more generally, to the trend of implied volatility in broader asset classes. Arbitrage strategies employ an investment process designed to isolate opportunities between the price of multiple options or instruments containing implicit optionality. Volatility arbitrage positions typically maintain characteristic sensitivities to levels of implied and realized volatility, levels of interest rates and the valuation of the issuer's equity, among other more general market and idiosyncratic sensitivities.

6. *RV: Yield Alternatives – Energy Infrastructure* strategies employ an investment thesis which is predicated on realization of a valuation differential between related instruments in which one or multiple components of the spread contains exposure to Energy Infrastructure most typically achieved through investment in Master Limited Partnerships (MLPs), Utilities or Power Generation. Strategies are typically fundamentally driven to measure the existing relationship between instruments and identify positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. In contrast to Equity Hedge strategies, the investment thesis is predicated on the yield differential realized from the securities as opposed to directional price appreciation of the underlying securities, and strategies typically contain greater than 50% of portfolio exposure to Energy Infrastructure positions.

7. *RV: Yield Alternatives – Real Estate* strategies employ an investment thesis which is predicated on realization of a valuation differential between related instruments in which one or multiple components of the spread contains exposure to investment in real estate directly (commercial or residential) or indirectly through Real Estate

Investment Trusts (REITS). Strategies are typically fundamentally driven to measure the existing relationship between instruments and identify positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. In contrast to RVA: Fixed Income: Asset Backed, Yield Alternative: Real Estate contains primarily non-fixed income, non-securitized obligations, and strategies typically contain greater than 50% of portfolio exposure to Real Estate positions.

8. *RV: Multi-Strategies employ an investment thesis is predicated on realization of a spread between related yield instruments in which one or multiple components of the spread contains a fixed income, derivative, equity, real estate, MLP or combination of these or other instruments.* Strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. In many cases these strategies may exist as distinct strategies across which a vehicle which allocates directly, or may exist as related strategies over which a single individual or decision making process manages. *Multi-strategy is not intended to provide broadest-based mass market investors appeal, but are most frequently distinguished from others arbitrage strategies in that they expect to maintain >30% of portfolio exposure in 2 or more strategies meaningfully distinct from each other that are expected to respond to diverse market influences*

Appendix 3
Constituent Selection

Transparency, oversight and liquidity screening

To ensure the best Index pricing as well as liquidity, style consistency and regulatory oversight, the constituent funds that comprise the HFRX Indices must be structured as a (1) private hedge fund vehicle with the required liquidity terms, or (2) separately managed account fund with third party pricing and holdings oversight that provide for a division of responsibility between trading, custody and accounting for the account's assets, or (3) registered fund such as 40 Act fund or UCITS fund. The HFRX Indices are based on the performance of constituents comprised of either one or more of the above fund structures for strategies and funds identified by the HFRX Index Methodology.

Due Diligence Screening

The due diligence process for strategies accessed through separately managed account funds includes:

- Review of audited financial statements
- Confirmation of investment approach
- Establishment of investment guidelines
- Style consistency verification
- Organizational structure review
- Operational infrastructure evaluation
- Investigation of regulatory violations (if any)
- Education verification
- Investor References
- Site visit

For Registered Liquid Alternative Funds, the due diligence process includes:

- Confirm fund registration
- Confirm investment strategy
- Confirm fund AUM
- Confirm share class currency denomination
- Confirm the fund is open for investment
- Confirm investment minimum
- Confirm fund liquidity
- Confirm pricing source
- Review total expense ratio

Accompanying Notes

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Addendum – Revisions to the Methodology

Date	Revision	Process
1/10/2019	The title of Appendix 3 was changed from "Manager Selection" to "Constituent Selection". The subtitle "Transparency screening" was changed to "Transparency, oversight and liquidity screening".	The title of Appendix 3 was changed from "Manager Selection" to "Constituent Selection". The subtitle "Transparency screening" was changed to "Transparency, oversight and liquidity screening".
1/10/2019	In addition to utilizing managed accounts for pricing index constituents, the index may now also utilize the pricing of 40 Act or UCITS funds.	The incorporation of 40 Act or UCITS funds as part of the pricing of the index has been implemented in the due diligence process as well as in the computation of the daily index NAV.
2/11/2019	An addendum containing revisions to the methodology has been included as part of the Index Methodology.	The present addendum containing revisions to the methodology has been included as part of the current Index Methodology document.
4/1/2019	Adjusted the HFRX Equal Weighted Strategies Index and the HFRX Event Driven Index to reflect the unavailability of a daily Distressed Securities substrategy	Effective 4/1/2019 the number of strategy groups in the HFRX Equal Weighted Strategies Index was changed from 8 to 7, and the Distressed Securities substrategy was removed from the HFRX Event Driven Index.
3/26/2020	Expanded the methodology and added sections to include both UCITS-based and Flagship-based sub-families of HFRX Indices. Added a section for the HFRX Absolute Return and Market Directional Indices. Expanded the eligibility requirements of funds.	No performance has been affected.
5/18/2020	An index adjustment term has been added to the index performance calculation. Beginning June 2020, HFR will adjust the performance of the HFRX Flagship Index by 2bps per month.	No performance has been affected.
8/21/2020	Clarified the language in section 3.6 indicating that computation of the Index uses actual performance (net of all fees and expenses) of the underlying constituent funds as reported to HFR, Inc. Published Index performance reflects all Index fees, including Index management fees and expenses.	No performance has been affected.

7/30/2021	Beginning the performance month of July 2021, the period of finalization of the index value has been changed to the third to last US business day of the month it was initially published.	No constituent or historical performance changes were made
7/30/2021	Starting the performance month of July 2021, the index adjustment term will be changed to 6 bps per month for the HFRX Flagship Indices.	No historical performance has been affected.
3/11/2022	Description of the HFRX Fixed Income - Credit Index and HFRX Climate Change Index was added to the document.	No historical performance has been affected.
9/22/2022	Language for the Absolute Return and Market Directional Indices has been updated	No historical performance has been affected.
11/8/2022	Clarifying language regarding liquidity (redemptions, subscriptions, notice periods) was added in sections 2.1 and 3.1)	No historical Performance has been affected
3/6/2023	The HFRX Climate Change Indices section was moved to a separate section.	No historical Performance has been affected
2/26/2024	Clarifying language regarding ESG indices was added to section 1.	No historical Performance has been affected
2/27/2024	An update on the index adjustment term has been added.	No historical Performance has been affected
7/31/2024	Sections for the HFRX Diversity Index, HFRX Diversity: Women Index and HFRX Alternative Energy Index were added. Clarifying language for section 6 was added.	No historical Performance has been affected
8/29/2024	A hyperlink to the calculation methodology of the index adjustment term has been added.	No historical Performance has been affected
1/6/2025	The section on the HFRX Alternative Energy Index has been removed as the index was discontinued.	No historical Performance has been affected
1/6/2025	The section on HFRX Climate Change Indices has been expanded to provide more details on the calculation methodology of the HFRX Climate Change Index and the HFRX Energy Transition Index	No historical Performance has been affected