HFRI 400 (US) Investable Benchmarks

Guidebook for Institutional Investors

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HFR

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Introduction

Since 2008, the hedge fund industry has shifted towards an increasingly institutional base. Today, the hedge fund industry's primary source of capital comes from institutional investors such as public and private pension funds, sovereign wealth funds, foundations, endowments, and family offices.

This institutional shift has raised the bar for processes and standards in hedge fund allocations. And like the traditional investment industry, benchmarking requirements have moved from theoretical to investable. The HFRI 400 (US) Indices are a family of broadly diversified, investable benchmarks that fulfill this investor need.

Comprised of up to 400 funds from the broader HFRI constituents, the HFRI 400 (US) consists of an aggregate index representing the overall hedge fund industry as well as four main strategies and twenty-six sub-strategies for a total of thirty-one benchmark indices.

Whether one is a seasoned hedge fund investor or in the early stages of evaluating the merits of investing in hedge funds, the HFRI 400 (US) provides significant benefits. Generally, these fall into four main solution areas:

1. A fair investment comparison
2. Unfunded exposure risk reduction
3. Active selection risk reduction
4. Passive investment

The HFRI 400 (US) delivers these solutions by following a methodology that operates under the same constraints as an actual hedge fund investment portfolio. It considers realistic market conditions, issues, and time frames such as notice periods, trade dates, and settlement periods. The methodology and its implementation follow the CFA's best practices and is IOSCO compliant.

This guidebook provides a comprehensive reference to the HFRI 400 (US) investable benchmark indices. This includes its construction, characteristics, objectives, and use cases.

HFRI 400 (US) Overview:
A Definitive Benchmark of Hedge Fund Performance

- True and accurate benchmark
- Investable utility, passive exposure
- Index industry best practices
- Institutional alternative to traditional multi-manager allocations

Why Investable Indices?

The HFRI 400 (US) Benchmarks are designed to accurately represent the actual returns available for the markets they index. Constituent funds must be open for new investment by US investors and consider realistic market conditions such as liquidity, notice periods, and redemption periods. The indices use the most accessible share class for valuation. This way, they can accurately represent what an investor could realistically expect to achieve.

Unlike other alternative indices, HFRI 400 (US) has raised hedge fund benchmarks on par with traditional benchmarks allowing active portfolios to be compared to actual performance rather than theoretical market returns. They deliver the index return by investing in all constituent funds at the same weights as the index.

This means that first-time investors can invest through a passive benchmark tracker rather than an actively selected portfolio. This sets a floor for performance expectations, and investors do not have to risk underperforming the market.

For many investors, a passive solution is a preferred option for a part, or all, of their allocation to hedge funds. The most common benefits of passive investing include:

- **Simplicity:** Index trackers provide an easy way to achieve desired exposure to a complicated market. By tracking the selected benchmark, the market return can be achieved.
- **Low maintenance:** Once invested in an index tracker, there are no additional actions to take. If operating your own tracking portfolio, HFR will provide constituent weights and rebalancing instructions in a manner that allows you to match the index exposures and achieve index returns.
- **Highly diversified:** HFR's broad-based benchmarks are highly diversified and provide a lower risk profile than more concentrated active portfolios.
- **Minimizes single manager risk:** The impact of any single fund in the broadly diversified benchmarks is immaterial. For example, the HFRI 400 (US) is equally weighted across all constituents. Therefore, if there are 400 constituents in the HFRI 400 (US), each of the 400 constituent funds is weighted at 0.25 of 1% of the allocation. Thus, an unexpected loss in any single fund will not harm the index return in a material fashion. Similarly, headline risk is minimized with a fund that is a small component of an index compared to a concentrated allocation or direct holding.
- **Eliminates sector/strategy risk:** Active portfolios over-weight or under-weight sectors and strategies introducing another area or performance risk against the benchmark. Tracking the benchmark eliminates these risks.
- **Decreases style drift:** Any single fund investment carries the risk of the manager changing their stated investment approach resulting in off-market exposures and returns. A benchmark exposure minimizes this risk.
- **Reduces tracking error:** Active portfolio returns can vary broadly and underperform the benchmark after costs and fees. Properly managed benchmark trackers can deliver the index performance with little or no tracking error.
- **Simplified allocation and redemption:** Tracking platforms and vehicles offer a single subscription solution to achieving benchmark exposure.
- **Consistency of exposure and performance:** HFR benchmarks are managed with an established methodology and specific controls to ensure a consistent delivery of the market exposure and risk.
- **Low cost:** Passively tracking a benchmark can be achieved at a much lower cost than active management.

Overview of HFRI 400

Key Points on Methodology:

The HFRI 400 (US) is a representative and broadly diversified benchmark for the hedge fund industry. It consists of up to 400 of the largest funds that report to HFR Database, are open to new investment by US investors, and offer quarterly liquidity or better. By default, the indices are equal-weighted across constituent funds, though assetweighted (reflective of constituent AUM) and customweighted indices are also available upon request. Each fund in the top-level HFRI 400 (US) Fund Weighted Composite Index (HFRI 400 (US) FWC) represents an exposure of approximately 0.25 of 1% (assuming there are 400 constituents).

The HFRI 400 (US) FWC is designed to reflect the strategy weights of the broad-based, non-investable HFRI Fund Weighted Composite Index (HFRI FWC) to ensure the index reflects the industry allocations to the key hedge fund asset classes (Equity Hedge, Global Macro, Event-Driven, and Relative Value) as per the weights of the HFRI FWC. For example, if Global Macro represents 25% of the broader HFRI FWC, the number of funds allowed in the HFRI 400 (US) Macro Index would be 100 (25% of 400).

Furthermore, the HFRI 400 (US) Indices are IOSCO compliant, and the methodology, operations, process, and procedures that HFR uses to construct, calculate, and publish the indices are audited on an annual basis.

Objective

To best represent the performance of the hedge fund industry and underlying strategies as well as provide an appropriate benchmark for hedge fund portfolios.

Index Summary Characteristics

- The index NAVs are published on a monthly basis.
- Monthly subscriptions.
- Quarterly redemptions.
- Turnover – turnover is typically in the range of 6% per quarter. Funds are removed from the index if they fail to meet the eligibility criteria. This generally falls into two categories: they are liquidating the fund or closing the fund to new investors.
- Performance denominated in USD
  - FX-hedged indices also available.
- Constituents equal-weighted, though asset-weighted indices are also available.
- Indices are rebalanced quarterly.
- The flagship HFRI 400 (US) FWC Index is strategy-weighted to the broader HFRI FWC Index, although other weighting conventions are also available.
- Constituent Eligibility:
  - Funds must be open for investment by US investors.
  - Provide monthly NAVs
  - Offer quarterly redemption liquidity or better.
  - Notice T-90.
  - Settlement (redemptions) T+30.

Detailed methodology for the HFRI 400 (US) can be found later in the guidebook or at the below link.
https://www.hfr.com/hfri-400-index-methodology

Primary Benefits of The Investable HFRI 400 (US) Indices:

1. A fair investment comparison
2. Unfunded exposure risk reduction
3. Active selection risk reduction
4. Passive investment

Benefit #1: Provides a benchmark that is a fair investment comparison

The unfair investment comparison problem arises when an active portfolio's performance is compared to a theoretical benchmark such as a non-investable hedge fund index or a formulaic index such as LIBOR + 3%.

Neither represents a return accessible in the market, so comparing the portfolio's performance to such a standard is considered unfair.

However, the investable HFRI 400 (US) raises hedge fund benchmarks on par with traditional benchmarks allowing active portfolios to be compared with actual performance rather than theoretical market returns.

The investor now has a choice; to invest through an actively selected portfolio or through a passive benchmark tracker.

The passive investment option sets a floor for performance expectations and provides an accurate measurement for determining the value added of an actively selected portfolio.

Benefit # 2: Provides a way to reduce unfunded exposure risk

Unfunded exposure risk occurs when an asset allocation mandate remains unfunded, and therefore, does not earn the market premium.

There are various reasons for underfunding. These include the time it takes to implement an active selection program, the time and resources of the hedge fund due diligence process, and overweight cash positions carried while rebalancing between funds and strategies.

However, once a decision has been made to allocate a percentage of the portfolio to hedge funds, there is an opportunity cost for the non-invested portion of those assets. That is, it will not realize the hedge fund market return and diversification benefits.

From a portfolio management perspective, capturing this hedge fund market premium may be preferred over a cash return for these assets, especially when cash returns are low or even negative.

The ability to earn the hedge fund return through HFRI 400 (US) index trackers provides a way to eliminate or significantly reduce the unfunded exposure risk.

Benefit #3: Provides a way to reduce active selection risk

Active selection seeks to outperform the market at the risk of underperforming it.

By selecting a more concentrated subset of funds based on various qualitative and quantitative factors, it excludes other funds' performance in the benchmark.

Depending on the hedge fund strategies and sub-strategies selected, and the concentration of the selection, the dispersion of performance outcomes can be significant.

In the past, active selection was the only option for investing in hedge funds.

But now, the HFRI 400 (US) Indices grant investors with a way to reduce active selection risk.

By adding the benchmark returns to an actively selected portfolio, the dispersion of returns around the benchmark return is reduced by the percentage of the benchmark exposure in the portfolio.

For example, one could implement a "core" and "satellite" investment approach where the "core" exposure invests in the benchmark index to capture the benchmark return while high conviction "satellite" funds are selected to enhance the core exposure.

Benefit #4: Provides a way to invest passively

A growing number of institutions invest passively by allocating capital to index funds that track their asset class benchmarks.

But historically, passive investors lacked a way to access the hedge fund market premium.

While hedge fund returns could have benefitted their portfolios, the lack of an investable index ruled out hedge funds as an investment option.

However, the HFRI 400 (US), through index trackers, opened the hedge fund market to passive investment.

Investing in an index provides investors with several benefits.

They fall into three general categories:

1. Simplicity
2. Risk reduction
3. Low cost

Simplicity because investing in index trackers is an easy, turnkey way to access the hedge fund industry's performance.

Risk is reduced in a number of areas.

- The unfunded exposure and active management risks discussed earlier are eliminated.
- The broad diversification provided by a large number of funds in the index reduces volatility and minimizes single manager risk, including headline risk and style drift.

Finally, index investing can be achieved at a much **lower cost** than taking an active management approach, which provides both internal operational expense savings and lower fund fees.

Solutions to Common Hedge Fund Benchmarking Issues

Key Points on Methodology:

The HFRI 400 (US) solves several issues institutional investors face when benchmarking hedge fund investments and portfolios. Historically, the two most widely used benchmarks for hedge funds have been the HFRI Fund Weighted Composite Index (or another HFR Index) or a public index such as LIBOR plus a spread of 300-500 basis points. That said, many other hedge fund and liquid alternative benchmarks exist.

For various reasons and limitations, including access to information and complexity, hedge fund and liquid alternative benchmarks suffered from a number of significant issues. With the evolution of the HFRI 400 (US) Indices, we aim to address these limitations.

Some of the common benchmark issues are detailed below:

Issue: Failing to meet the criteria for a valid benchmark determined by industry bodies (investable, unambiguous, known in advance).

> **Solution:** HFR Indices are International Organization of Securities Commission (IOSCO) compliant with an audited methodology, management, oversight, technology, and publishing. They are investable, unambiguous, and identified in advance of the performance period. They also meet the principles determined to be best practiced by the CFA Institute (SAMURAI).

Issue: Data reported quarterly or with significant lag.

> **Solution:** The HFRI 400 (US) Indices report monthly.

Issue: Methodology inconsistencies exist.

> **Solution:** HFRI 400 (US) constituents report monthly performance to HFR consistent with established reporting guidelines (in US$, net of all fees, quarterly liquidity or better).

All constituents have agreed to the IOSCO Submitter's Code of Conduct.

Issue: Lack of transparency.

> **Solution:** HFRI 400 (US) Indices are rebalanced quarterly, with a full constituent list available [underlying exposures of the constituent fund universe will be available in aggregate to investors].

Issue: A marked difference in how robust or representative the universe is for different asset classes.

> **Solution:** The HFRI Methodology utilizes one of the most comprehensive universes available for index construction and includes only funds that are open to investment.

The use of a public index plus a spread, on the other hand, is not an appropriate benchmark for a number of reasons.

Issue: Composition disparity.

> **Solution:** A LIBOR plus benchmark is not related to the underlying holdings or strategies related to hedge funds.

Issue: Performance subjectivity.

> **Solution:** The determined spread has no relation to the performance of hedge funds.

Issue: Replication.

> **Solution:** As a non-investable theoretical indicator with no relationship to hedge fund holdings or strategies, the performance relationship can differ substantially in both return and volatility.

Best Practices for Benchmarking

There are many different definitions of what defines best practice for a benchmark. Within the governance section of this guidebook, we explain how the HFRI 400 (US) meets the rigorous benchmark practices and controls required to comply with IOSCO.

The CFA Institute determines an alternative and more succinct set of requirements for best practices. The CFA Institute eloquently defines the properties of what makes a valid benchmark by using the acronym SAMURAI. To be in compliance, a benchmark should meet the below requirements.

SAMURAI

- **Specified in advance:** the benchmark is specified prior to the start of the evaluation period.
- **Appropriate:** the benchmark is consistent with the manager's investment style or area of expertise.
- **Measurable:** the benchmark's return is readily calculable on a reasonably frequent basis.
- **Unambiguous:** the identities and weights of securities are clearly defined.
- **Reflective of current investment opinions:** the manager has current knowledge of the securities in the benchmark.
- **Accountable:** the manager is aware and accepts accountability for the constituents and performance of the benchmark.
- **Investable:** it is possible to simply hold the benchmark.

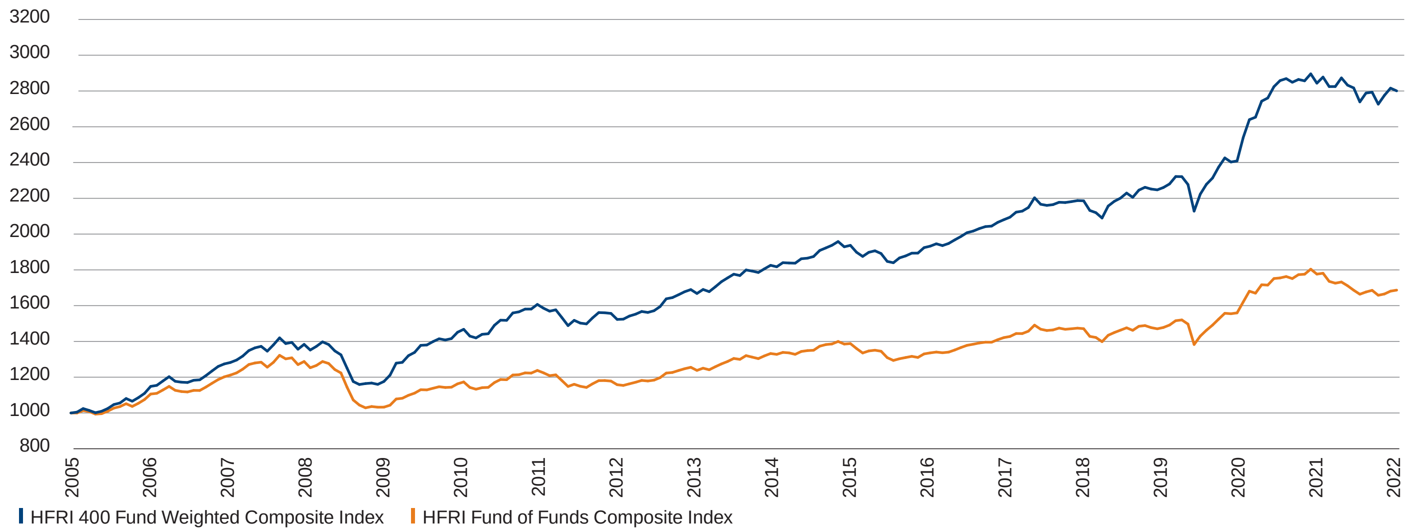
Historically, the legacy HFR indices have met most of these criteria. We will now discuss why it is important that the HFRI 400 (US) Indices satisfy SAMURAI's final criteria by ensuring all constituents are investable.

HFRI 400 (US): Institutional Alternative to Traditional Multi-Manager Allocations

As a direct result of superior construction as a:

- True and accurate benchmark.
- Investable utility, passive exposure.
- Index industry best practices.
- Institutional alternative to traditional multi-manager allocations.

HFRI 400 (US) - Impact of Weighting Schemes



Source: HFR - *Data as of 12/2022.

																			Ann Return*		
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**3-Yrs**	**5-Yrs**	**7-Yrs**
HFRI 400 (US) Fund Weighted Composite Index	10.96	13.57	10.68	(16.51)	21.51	10.19	(3.92)	6.47	11.35	5.04	1.40	4.03	9.20	(2.73)	11.10	13.70	9.02	**(2.68)**	6.45	5.44	5.77
HFRI Fund of Funds Composite Index	7.49	10.39	10.25	(21.37)	11.47	5.70	(5.72)	4.79	8.96	3.37	(0.27)	0.51	7.77	(4.02)	8.39	10.88	6.17	**(5.30)**	3.69	3.01	3.31

* Data as of 12/2022

HFRI 400 (US): Institutional investable performance strategy and sub-strategy benchmarks available

Fund Weighted Composite Index

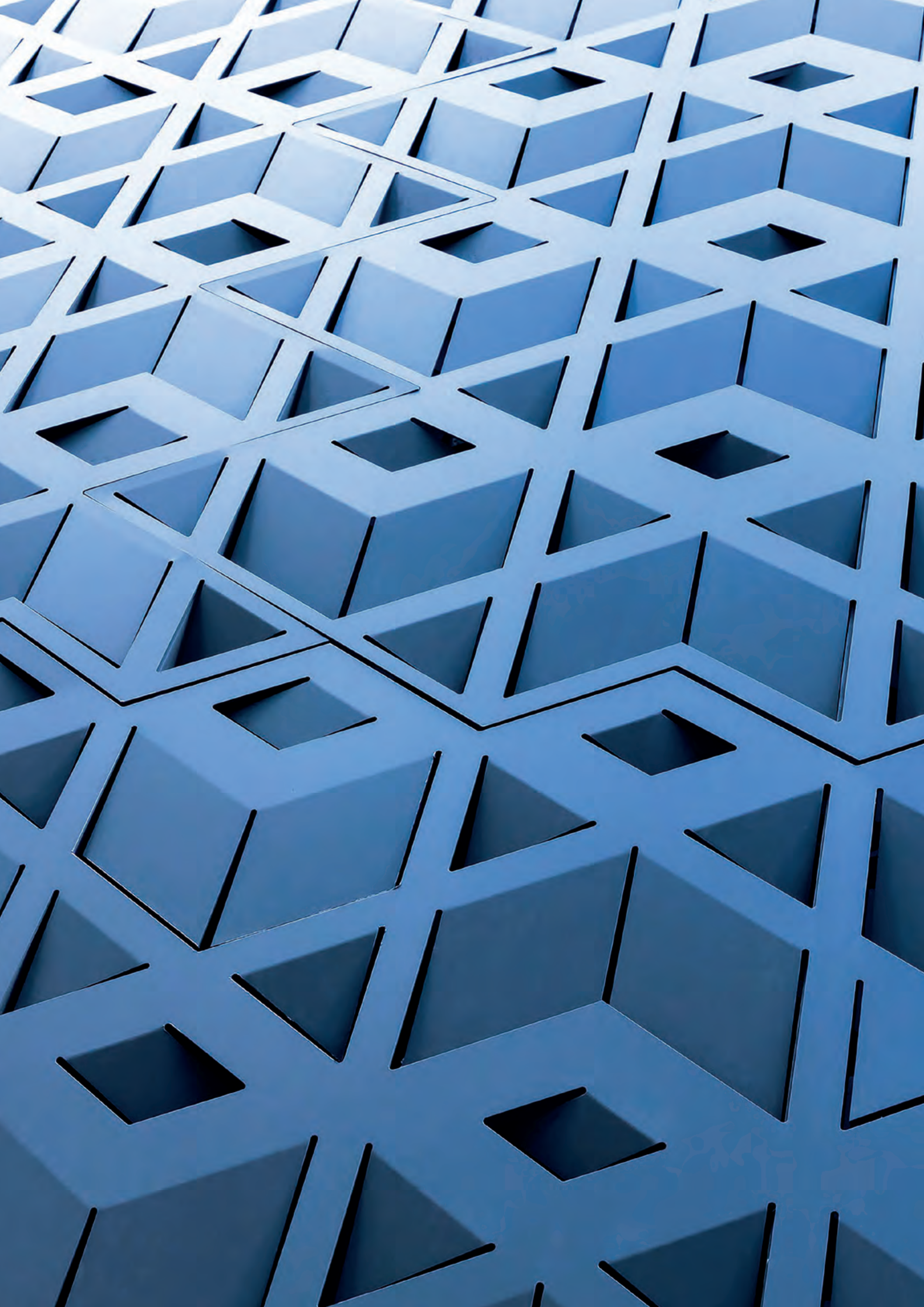
Equity Hedge Index	**Event Driven Index**	**Macro Index**	**Relative Value Arbitrage Index**
Energy/Basic Materials Index	Activist Index	Commodity Index	Fixed Income - Asset Backed Index
Equity Market Neutral Index	Distressed/Restructuring Index	Currency Index	Fixed Income - Convertible Arbitrage Index
Fundamental Growth Index	Event Driven Directional Index	Discretionary Directional Index	Fixed Income - Corporate Index
Fundamental Value Index	Event Driven ex-Merger Arbitrage Index	Discretionary Macro Index	Fixed Income - Sovereign Index
Healthcare Index	Multi-Strategy Index	Discretionary Thematic Index	Fixed Income Directional Index
Long/Short Index	Special Situations Index	Multi-Strategy Index	Fixed Income Relative Value Index
Long/Short Directional Index		Systematic Directional Index	Multi-Strategy Index
Multi-Strategy Index		Systematic Diversified Index	Volatility Index
Quantitative Directional Index		Systematic Macro Index	
Technology Index		Trend Following Directional Index	

Source: HFR - Data as of 3/10/2023.

HFRI 400 (US): Use Cases

HFR's investable benchmarks change the investment dynamic of the hedge fund and liquid alternatives markets. They create a relative floor to performance expectations and doing so raises the overall performance expectation. Through tracking vehicles, they can be allocated to, in whole or in part. Institutional investors have identified a number of use cases, including:

- **FULL EXPOSURE:** Allocator adopts a passive approach to exposure and allocates to the benchmark.
- **CORE:** Comprises base of alternatives allocation and benchmark complements other existing alternatives portfolio holding. Stabilizes volatility of exposure and immediate full investment.
- **STRATEGY:** Utilize strategy or sub-strategy indices to access desired exposures, allowing access to non- or underexposed strategies and sub-strategies, or a better diversified exposure to strategies with greater return dispersions such as global macro.
- **TEMPORARY:** Benchmark serves as a temporary exposure replacement or substitution through rebalancing or cash management.
- **TACTICAL:** Utilize index to quickly increase or decrease portfolio strategy and sub-strategy exposures in anticipation of macroeconomic or financial market results.
- **FIXED INCOME/ CASH ALTERNATIVE:** Index comprises portfolio holding for latent cash holding, money market or low yielding, short-duration fixed income exposure.



Custom Investable Benchmarks

For some investors, an existing standard benchmark may not fully address their benchmarking needs. In these instances, a customized benchmark can be constructed. HFR offers a complete suite of solutions for creating and managing customized benchmarks to suit specific institutional requirements. These may include:

- **Strategy/sub-strategy blending or exclusion.**
  - Composites can be created for given strategies/ sub-strategies or exclude certain strategies/ sub-strategies to suit or match benchmark portfolio composition.
- **Currency hedging.**
  - Ability to publish index NAV hedged into desired FX.
  - Ability to publish index NAV to any exchange closing prices.
- **Leverage normalization.**
  - Apply or reduce leverage to align with desired risk or benchmark portfolio composition.
- **Custom asset level criteria filtering.**
  - Customize index constituents to funds of desired AUM level.
- **Custom strategy mapping.**
  - Include additional constituent funds or overlay client-specific variations of strategies.
- **Inclusion of traditional portfolio exposures.**
  - Incorporate hedge funds and liquid alternative constituents into multi-asset portfolio benchmarks.

Selecting Your Benchmark

The HFR investable indices offer appropriate benchmarks for diversified hedge fund exposures as well as strategy and sub-strategy investments.

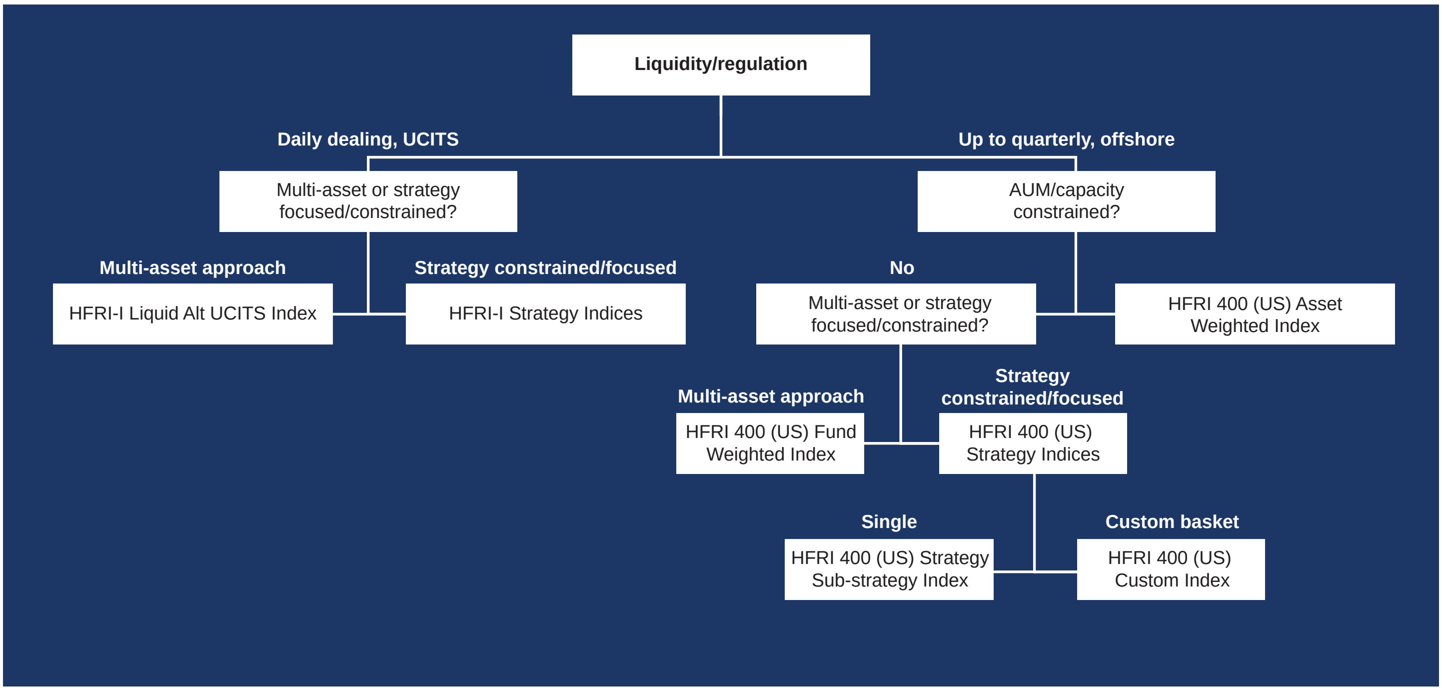
Investors should consider several criteria when selecting an appropriate benchmark, including the following:

- Determine appropriate HFR investable index.
  - Consider broad-based, strategy and/or regional exposures.
  - Consider desired currency-hedged exposure.
- Consider if customized investable index variation is appropriate.
- Strategy/sub-strategy blending or exclusion, currency hedging, leverage normalization, custom asset level criteria filtering, custom strategy mapping, or inclusion of traditional portfolio exposures.

For example, for a hedge fund portfolio benchmark, whether it is a broad-based, strategy specific, or a blend, the HFRI 400 (US) is an effective benchmark to use. If the portfolio is selecting funds from the entire universe or is a diversified fund of funds, the HFRI 400 (US) Index is the appropriate benchmark.

If the portfolio is constrained to a strategy, such as relative value, then the HFRI 400 (US) Relative Value Index is the appropriate benchmark. This also can apply to any combination of strategies and sub-strategies such as CTAs, equity market neutral, and so on.

A simple decision tree can help with selection. Below is an example, but certainly not exhaustive.



Governance

Best Practices: investable benchmark construction & methodology

HFR follows best practices in the construction and management of the HFRI 400 (US) and aims to be the industry leader in applying these standards to the hedge fund and liquid alternative space. The HFRI 400 (US)'s clearly defined methodology is robust and representative. It is transparent and publicly available on the HFR website. To be investable, the methodology considers the rules of the hedge fund marketplace, such as notice and settlement periods, fund liquidation and closures, and reporting. This allows the index to operate with "real marketplace" management and rebalancing. Because it accounts for these commercial realities, licensees and trackers can invest in the index and enter and exit at NAV.

Institutionalization of alternative investments-IOSCO

The International Organization of Securities Commissions (IOSCO) is an international cooperative body that brings together world securities regulators. IOSCO works intensively with the G20 and the Financial Stability Board on global regulatory reform. IOSCO is recognized as the global standard-setter for the securities and futures market.

In 2013, as a result of the LIBOR scandal, IOSCO published the Principles for Financial Benchmarks endorsed by the Financial Stability Board as the industry standards for benchmark administration.

Best Practices: governance and control framework

- Strong set of internal controls over the benchmark administration process, both at the entity level and the detailed control activity level.
- Consists of 10 control objectives that incorporate and satisfy IOSCO Principles.

Best Practices:

IOSCO Controls and Principles

Controls

1. Employee conflicts of interest oversight.
2. Review, assess, maintain and update the benchmark methodologies.
3. Authorization and implementation of changes to methodologies.
4. Complaints and issue resolution.
5. Proper retention of benchmark data and records.
6. Data submitters compliance with code of conduct.
7. Benchmark calculation processing.
8. Methodology changes management.
9. Authorized users access to programs, data and computer resources.
10. Job schedule authorization and execution and deviation, problem and error identification, tracking and resolution.

Principles

1. Overall Responsibility of the Administrator.
2. Oversight of Third Parties.
3. Conflict of Interest.
4. Control Framework for Administrators.
5. Internal Oversight.
6. Benchmark Design.
7. Data Sufficiency.
8. Hierarchy of Data Inputs.
9. Transparency of Benchmark Determinations.
10. Periodic Review.
11. Content of the Methodology.
12. Changes to the Methodology.
13. Transition.
14. Submitter Code of Conduct.
15. Internal Controls over Data Collection.
16. Complaints Procedures.
17. Audit – RSM US LLP external auditor.
18. Audit Trail.
19. Cooperation with Regulatory Authorities.

Benchmark Controls

- **Control Objective 1**
  - Control provides reasonable assurance that HFR monitors and resolves potential employee conflicts of interest related to benchmark administration.
    - Principle 3: Conflict of Interest.
- **Control Objective 2**
  - Control provides reasonable assurance that internal oversight is established to periodically review, assess, maintain, and update the HFR benchmark methodologies.
    - Principle 2: Oversight of Third Parties.
    - Principle 4: Control Framework for Administrators.
    - Principle 5: Internal Oversight.
    - Principle 6: Benchmark Design.
    - Principle 9: Transparency of Benchmark Determinations.
    - Principle 10: Periodic Review.
    - Principle 11: Content of the Methodology.
    - Principle 13: Transition.
    - Principle 16: Complaints Procedures.
    - Principle 19: Cooperation with Regulatory Authorities.
- **Control Objective 3**
  - Control provides reasonable assurance that changes made to the HFR methodologies are communicated, authorized, and appropriately implemented.
    - Principle 8: Hierarchy of Data Inputs.
    - Principle 12: Changes to the Methodology.
    - Principle 13: Transition.
    - Principle 16: Complaints Procedures.
    - Principle 17: Audit.
- **Control Objective 4**
  - Control provides reasonable assurance that benchmark determination data and records are retained completely, accurately, and in accordance with associated requirements.
    - Principle 18: Audit Trail.
    - Principle 19: Cooperation with Regulatory Authorities.
- **Control Objective 5**
  - Control provides reasonable assurance that data submitters are monitored for compliance with the submitter code of conduct.
    - Principle 14: Submitter Code of Conduct.
    - Principle 15: Internal Controls over Data Collection.
- **Control Objective 6**
  - Control provides reasonable assurance that benchmark calculation is processed completely and accurately.
    - Principle 12: Changes to the Methodology.
- **Control Objective 7**
  - Control provides reasonable assurance that changes to applications are authorized, tested, documented, approved,
    and implemented in a complete, accurate, and timely manner.
    - Principle 1: Overall Responsibility of the Administrator.
    - Principle 15: Internal Controls over Data Collection.
    - Principle 18: Audit Trail.
    - Principle 19: Cooperation with Regulatory Authorities.
- **Control Objective 8**
  - Control provides reasonable assurance that logical access to programs, data, and computer resources is restricted to authorized and appropriate users.
    - Principle 7: Data Sufficiency.
    - Principle 15: Internal Controls over Data Collection.
- **Control Objective 9**
  - Control provides reasonable assurance that job schedules are appropriately authorized and executed, and deviations, problems, and errors are identified, tracked, recorded, and resolved in a complete, accurate, and timely manner.
    - Principle 1: Overall Responsibility of the Administrator.
    - Principle 5: Internal Oversight.
    - Principle 15: Internal Controls over Data Collection.

HFR: The Institutional Standard

Industry Leadership for Over 25 Years

Overview of HFR

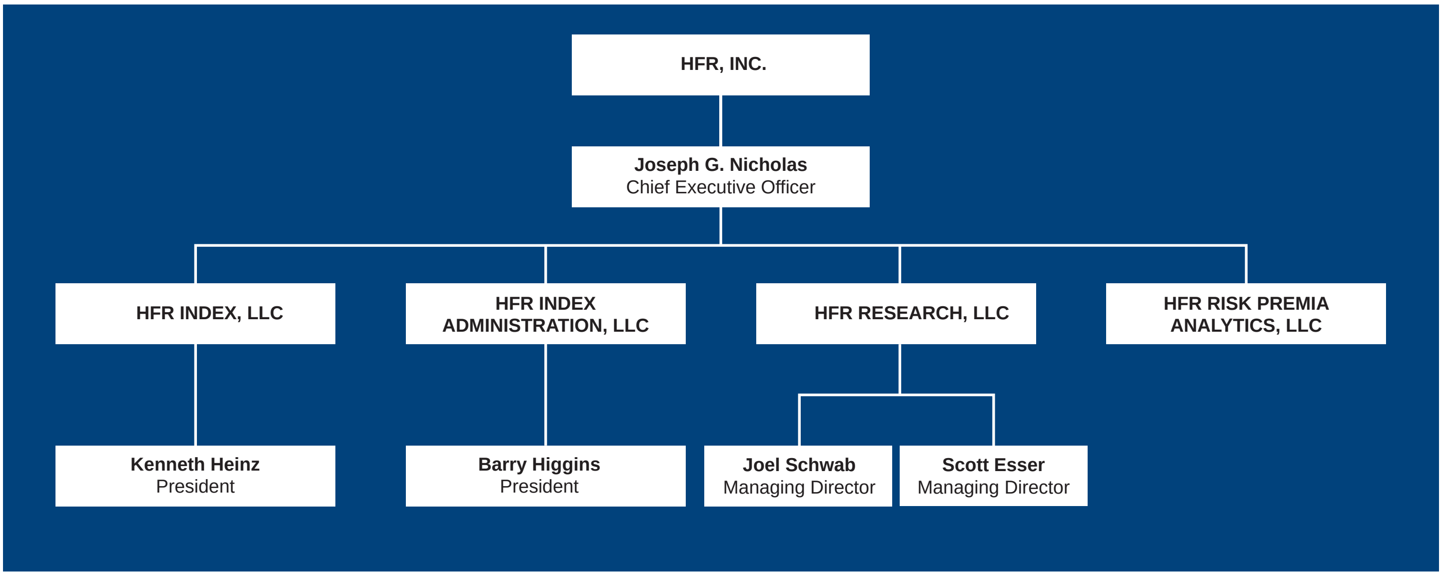
HFR: The Institutional Standard

Industry leadership for over 25 years

- HFR is the established global leader in the indexation, analysis, and research of the global hedge fund industry.
- Established in 1993, HFR has led the growth and evolution of the hedge fund and alternative investment industry for leading global institutions, investors, and asset managers.
- HFR publishes the leading and most comprehensive suite of hedge fund industry performance, leveraging the industry-standard HFR hedge fund strategy classification system.
- For institutional investors and hedge fund managers, HFR is the Institutional Standard.
- HFR offers a robust range of investable hedge fund indices that are designed for use by institutions to address specific institutional benchmark requirements.
- Headquartered in Chicago, USA.
- Over 25 employees.
- Publishes over 250 indices across eight index families.
- Offers industry-leading database of approximately 6,000 alternative investment products, including hedge funds, UCITS, fund of funds, managed futures, and liquid alternative products (HFR Database and HFR Dead Database).
- Expanded family of investable benchmarks include not only hedge funds but a wide range of alternative assets, including:
  - Hedge Funds.
  - UCITS.
  - Liquid Alternatives.
  - Risk Parity.
  - Risk Premia (Bank and Fund).
  - Macro Factors.
- HFR Indices are compliant with IOSCO Principles for Financial Benchmarks.
- Audited by an independent assurance auditor (RSM)

HFR has four divisions:

1. HFR Index, which develops and licenses the HFR Benchmarks as well as creating custom benchmarks.
2. HFR Index Administration calculates, manages, and publishes the IOSCO compliant benchmarks.
3. HFR Research collects, manages, and licenses the various HFR databases, including the HFR Database and HFR Dead Database. HFR Research also produces the various HFR Industry Reports.
4. HFR Risk Premia Analytics develops Bank Strategy Risk Premia indices, Macro Factors, and related consulting services.



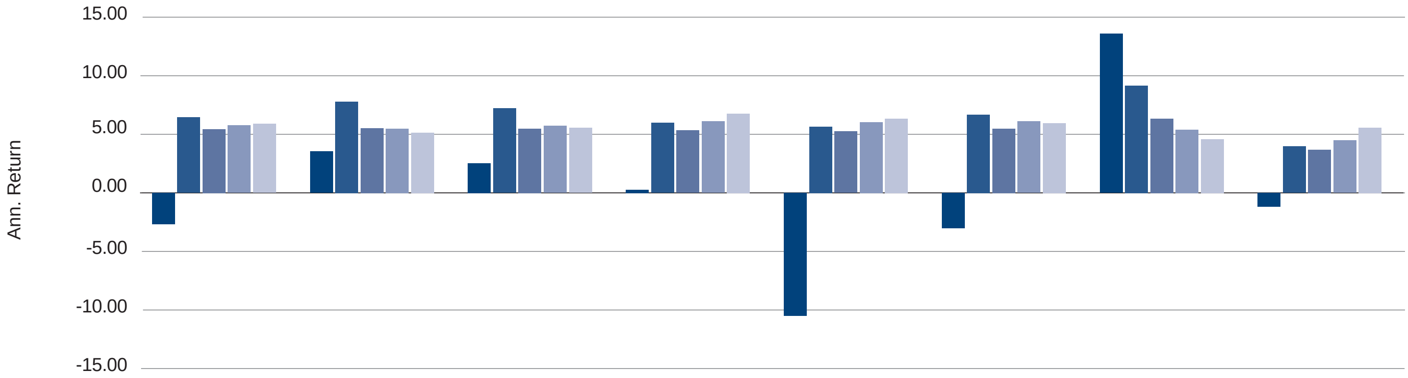
Appendices

HFRI 400 (US) Family of Indices

Index Name	Ticker
HFRI 400 (US) Fund Weighted Composite Index	**HFRI4FWC**
HFRI 400 (US) Event-Driven Index	**HFRI4ED**
HFRI 400 (US) Equity Hedge Index	**HFRI4EH**
HFRI 400 (US) Macro Index	**HFRI4M**
HFRI 400 (US) Relative Value Index	**HFRI4RV**
HFRI 400 (US) ED: Activist Index	**HFRI4EDA**
HFRI 400 (US) ED: Distressed/Restructuring Index	**HFRI4EDD**
HFRI 400 (US) ED: Event Driven ex-Merger Arbitrage Index	**HFRI4XMA**
HFRI 400 (US) ED: Merger Arbitrage Index	**HFRI4EDB**
HFRI 400 (US) ED: Multi-Strategy Index	**HFRI4EDM**
HFRI 400 (US) ED: Special Situations Index	**HFRI4EDS**
HFRI 400 (US) EH: Energy/Basic Materials Index	**HFRI4EEB**
HFRI 400 (US) EH: Equity Market Neutral Index	**HFRI4EMN**
HFRI 400 (US) EH: Fundamental Growth Index	**HFRI4EHG**
HFRI 400 (US) EH: Fundamental Value Index	**HFRI4EHV**
HFRI 400 (US) EH: Healthcare Index	**HFRI4EHC**
HFRI 400 (US) EH: Long/Short Index	**HFRI4ELS**
HFRI 400 (US) EH: Multi-Strategy Index	**HFRI4EHM**
HFRI 400 (US) EH: Quantitative Directional Index	**HFRI4EQD**
HFRI 400 (US) EH: Technology Index	**HFRI4EHT**
HFRI 400 (US) Macro: Commodity Index	**HFRI4MCO**
HFRI 400 (US) Macro: Currency Index	**HFRI4MCU**
HFRI 400 (US) Macro: Discretionary Macro Index	**HFRI4MDM**
HFRI 400 (US) Macro: Discretionary Thematic Index	**HFRI4MDT**
HFRI 400 (US) Macro: Multi-Strategy Index	**HFRI4MMS**
HFRI 400 (US) Macro: Systematic Diversified Index	**HFRI4MSD**
HFRI 400 (US) Macro: Systematic Macro Index	**HFRI4MSM**
HFRI 400 (US) RV: Fixed Income - Asset Backed Index	**HFRI4RVB**
HFRI 400 (US) RV: Fixed Income - Convertible Arbitrage Index	**HFRI4RVC**
HFRI 400 (US) RV: Fixed Income - Corporate Index	**HFRI4RVR**
HFRI 400 (US) RV: Fixed Income - Sovereign Index	**HFRI4RVS**
HFRI 400 (US) RV: Fixed Income Relative Value Index	**HFRI4RFI**
HFRI 400 (US) RV: Multi-Strategy Index	**HFRI4RVM**
HFRI 400 (US) RV: Volatility Index	**HFRI4RVV**
HFRI 400 (US) RV: Multi-Strategy Index	**HFRI5RVM**
HFRI 400 (US) RV: Volatility Index	**HFRI5RVV**

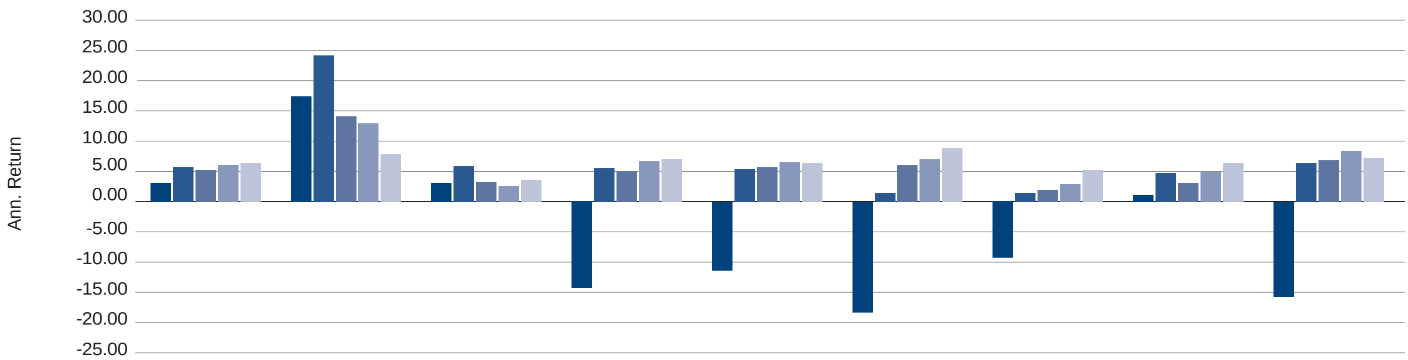
HFRI 400 (US) Performance

HFRI 400 (US)



	HFRI 400 (US) Fund Weighted Composite Index	HFRI 400 (US) Monthly 30 Days Notice Fund	HFRI 400 (US) Monthly Liquidity Fund Weighted Comp Index	HFRI 400 (US) Monthly More Than 30 Days Notice	HFRI 400 (US) Equity Hedge Index	HFRI 400 (US) Event-Driven Index	HFRI 400 (US) Macro Index	HFRI 400 (US) Relative Value Index
1-Year	-2.68	3.54	2.54	0.26	-10.48	-3.01	13.59	-1.16
3-Year	6.45	7.80	7.22	5.97	5.65	6.69	9.17	3.97
5-Year	5.44	5.53	5.48	5.34	5.25	5.49	6.35	3.70
7-Year	5.77	5.49	5.71	6.11	6.03	6.11	5.39	4.48
Since Inception	5.89	5.13	5.54	6.76	6.35	5.95	4.59	5.58

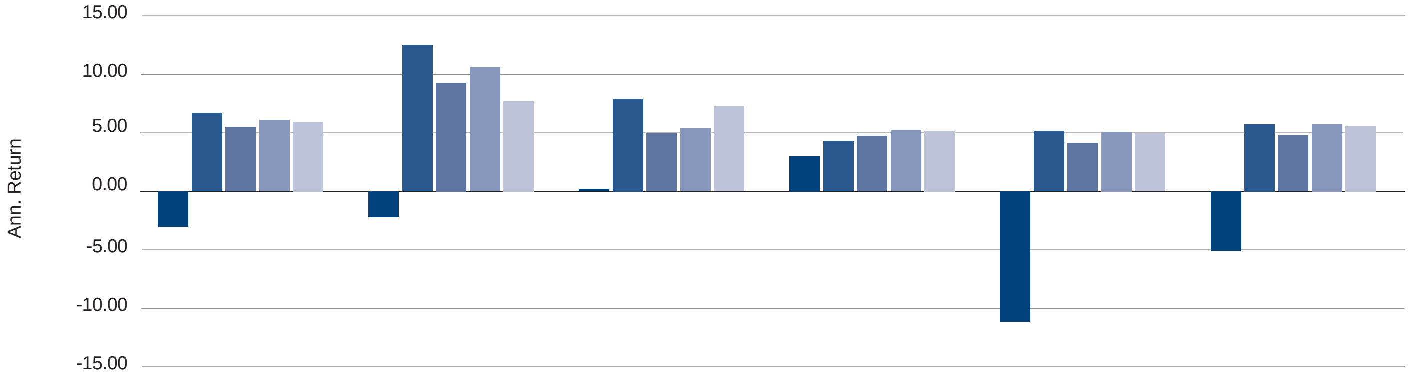
Equity Hedge



	HFRI 400 (US) Equity Hedge Index	HFRI 400 (US) EH: Energy/ Basic Materials Index	HFRI 400 (US) EH: Equity Market Neutral Index	HFRI 400 (US) EH: Fundamental Growth Index	HFRI 400 (US) EH: Fundamental Value Index	HFRI 400 (US) EH: Healthcare Index	HFRI 400 (US) EH: Multi-Strategy Index	HFRI 400 (US) EH: Quantitative Directional Index	HFRI 400 (US) EH: Technology Index
1-Year	3.07	17.35	3.07	-14.29	-11.37	-18.31	-9.27	1.14	-15.75
3-Year	5.65	24.15	5.80	5.48	5.36	1.47	1.39	4.47	6.33
5-Year	5.25	14.06	3.24	5.06	5.65	5.97	1.92	2.98	6.84
7-Year	6.03	12.90	2.61	6.62	6.47	6.94	2.87	4.88	8.37
Since Inception	6.35	7.83	3.50	7.07	6.35	8.79	5.20	6.29	7.22

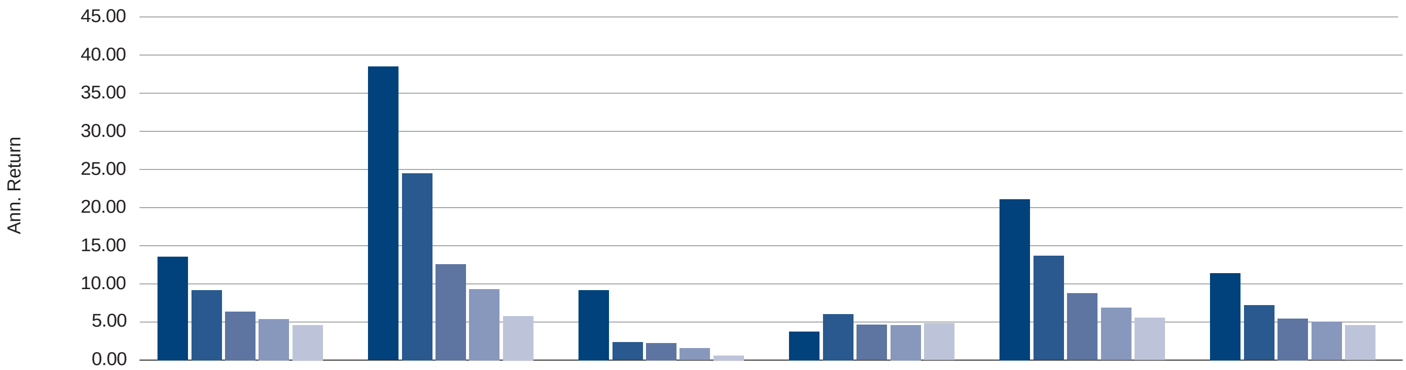
Source: HFR - Data as of 12/2022.

Event-Driven



	HFRI 400 (US) Event-Driven Index	HFRI 400 (US) ED: Activist Index	HFRI 400 (US) ED: Distressed/ Restructuring Index	HFRI 400 (US) ED: Merger Arbitrage Index	HFRI 400 (US) ED: Multi-Strategy Index	HFRI 400 (US) ED: Special Situations Index
1-Year	-3.01	-2.22	0.20	3.00	-11.13	-5.05
3-Year	6.69	12.51	7.91	4.31	5.15	5.74
5-Year	5.49	9.28	4.94	4.74	4.13	4.78
7-Year	6.11	10.58	5.36	5.14	5.09	5.37
Since Inception	5.95	7.70	7.26	5.14	4.95	5.57

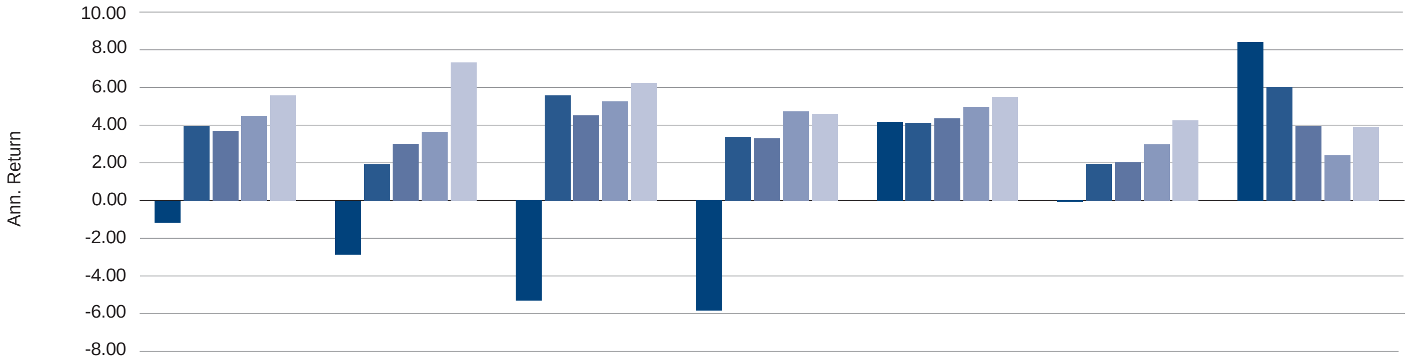
Macro



	HFRI 400 (US) Macro Index	HFRI 400 (US) Macro: Commodity Index	HFRI 400 (US) Macro: Currency Index	HFRI 400 (US) Macro: Discretionary Thematic Index	HFRI 400 (US) Macro: Multi-Strategy Index	HFRI 400 (US) Macro: Systematic Diversified Index
1-Year	13.59	38.47	9.19	3.76	21.11	11.43
3-Year	9.17	24.52	2.35	6.04	13.66	7.19
5-Year	6.35	12.61	2.26	4.63	8.76	5.46
7-Year	5.39	9.31	1.56	4.62	6.86	5.02
Since Inception	4.59	5.79	0.62	4.84	5.56	4.58

Source: HFR - Data as of 12/2022.

Relative Value



	HFRI 400 (US) Relative Value Index	HFRI 400 (US) RV: Fixed Income - Asset Backed Index	HFRI 400 (US) RV: Fixed Income - Convertible Arbitrage Index	HFRI 400 (US) RV: Fixed Income - Corporate Index	HFRI 400 (US) RV: Fixed Income - Sovereign Index	HFRI 400 (US) RV: Multi-Strategy Index	HFRI 400 (US) RV: Volatility Index
1-Year	-1.16	-2.86	-5.31	-5.84	4.18	-0.06	8.41
3-Year	3.97	1.92	5.59	3.38	4.11	1.95	6.02
5-Year	3.70	3.01	4.53	3.31	4.36	2.03	3.96
7-Year	4.48	3.63	5.27	4.72	4.96	2.97	2.40
Since Inception	0.00	7.33	6.23	4.60	5.51	4.26	3.91

Source: HFR - Data as of 12/2022.

HFRI 400 (US) Hedge Fund Index Methodology

The HFRI 400 (US) Hedge Fund Indices consist of up to 400 funds that satisfy the eligibility criteria. The HFRI 400 (US) Indices are equal-weighted at the Rebalance Date; rebalance is performed on a quarterly basis. Funds areclassified into 4 main strategies and over 20 sub-strategies following the hedge fund strategy classification of HFR.

Eligibility Criteria

Constituents included in the HFRI 400 (US) Hedge Fund Indices must:

- Currently or have agreed to report performance net of all fees in USD
- Report net of all fees returns
- Currently or have agreed to report performance to HFR every month on or before the 15th of each month
- Currently or have agreed to report the AUM of the Fund to HFR
- Be open to new investments by US investors
- Provide quarterly liquidity or better
- Have a redemption notice period of 90 days or less
- Allow for Monthly subscriptions
- Have a subscription notice period of 30 days or less
- Have a redemption settlement period of 30 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 tax-exempt 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

The following formula is used to define the representative Hedge Fund Strategy Universe (“Strategy Universe”) derived from the Global Hedge Fund Universe. The Global Hedge Fund Universe is expressed as:

$$HFU = \bigcup HFS$$

where *HFS* is the set of funds classified by strategy according to the strategy structure of the HFR Hedge Fund Database.

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

$$\delta(freq-12)\cdot\delta(fees)\cdot\delta(open)\cdot\delta(liq)\cdot H(90-red)\cdot H(30-subs)\cdot H(30-settle)\cdot\delta(l\&g)\cdot\ \delta(ISO-USD)\cdot\delta(reg-1)\cdot\delta(SCOC-1)\neq 0$$

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

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

δ(x) is the delta function defined as

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

and

- *freq* is the reporting frequency (12=monthly, 4=quarterly)
- *fees* is the returns net of all fees (0=yes, 1=no)
- *open* corresponds to the fund being open to new investments (0=yes, 1=no)
- *liq* is the liquidity offered by the fund (0=quarterly 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)

- *ISO* is the reporting currency
- *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)

In cases where a manager lists multiple funds with the same or similar investment profile, HFR chooses only the most representative fund for HFRI 400 (US) Index inclusion.

Definitions

For the clarity of the rebalance process we define:

- **Index Manager:** HFR, responsible for the calculation of the Index.
- **Rebalance Date:** the first business date of the calendar quarter.
- **Evaluation Date:** the month starting 1 quarter prior to the Rebalance Date.
- **Eligibility Criteria:** performance and assets under management reported monthly in USD, net of all fees, and with the required liquidity.
- **Estimated Index Value:** the index will first be published on the 5th US business day of the month with a value for the prior month based on the index constituents initial reporting. Updated values of the index value for the prior month will continue to be published on the 15th of the following month or the nearest US business day after, and the final index value for the prior month will be published on the 3rd to last US business day of the following month.
- **Final Index Value:** the index value for a given month will become final on the 3rd to last US business day of the month following its initial publication, after which it will not be subject to change.

Quarterly Index Rebalance

The following rebalance methodology is applied on HFRI 400 (US) Hedge Fund Indices:

- The eligible universe of constituents is determined at the Evaluation Date.
- The constituents are selected based on their liquidity and assets under management as of the Evaluation Date.
- Up to 400 index constituents for the Rebalance Date are selected on the Evaluation Date.
- The number of constituents in each strategy is proportional to the corresponding strategy weight in the HFRI Fund Weighted Composite Index as follows

$N_S = Int(400 \times W_S)$,

where N_s is the number of constituents in strategy $S=\{EH, ED, Macro, RV\}$ and W_s is the weight of strategy S in the HFRI Fund Weighted Composite Index, such that

$\sum N_S = 400$.

- Similarly, the number of constituents in each substrategy is proportional to the corresponding substrategy weight in the HFRI Single Strategy Indices as follows

$N_{SB} = Int(N_S \times W_{SB})$,

where N_{SB} is the number of constituents in substrategy SB within strategy $S=\{EH, ED, Macro, RV\}$ and W_{SB} is the weight of substrategy SB within strategy S in the corresponding HFRI Single Strategy Index, such that

$\sum N_{SB} = N_S$.

- Funds are ranked from largest to smallest within each substrategy in terms of their assets under management, with the largest fund assigned a rank of 1. Denoting the assets under management of fund i as AUM_i on the Evaluation Date, the funds selected as constituents for each of the substrategies are the ones satisfying

$Rank(AUM_i) \leq N_{SB}$.

- Each constituent is assigned with the same target weight on each Rebalance Date.
- A maximum number of constituents from each firm may be limited for optimal Index diversification purposes.
- The Index is rebalanced on a quarterly basis.

- For constituents whose weight at the time of rebalance is within 20% of their target *1/N* weight (with *N* the total number of constituents), the Index Manager reserves the right to keep their weight unchanged. Funds whose target weight exceeds the 20% threshold would be assigned an equal weight as follows:

$$w_i = \frac{1 - \widetilde{W}}{N - k}$$

where $\widetilde{W}$ is the total weight of k number of funds whose weight is within the 20% threshold given by

$$\widetilde{W} = \sum_{j=1}^{k} w_j$$

where w_j is the weight of fund *j* having $w_j \le \left|\frac{1 \pm 20\%}{N}\right|$ with $j = 1, \ldots, k$.

Additional Rebalance Considerations

- Additional changes to the pool of funds or their weights may be taken on a more frequent basis to address specific concerns of any fund such as risk, liquidity, due diligence, minimum investment size, subscription or redemption fees, non-market commercial terms, concentration or other issues which may materially affect the Index, including regulatory issues. If a fund ceases to satisfy any of the Eligibility 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 re-weight the remaining funds in the same strategy.
- An Index constituent may be removed from the Index if it fails to meet the Eligibility Criteria on or before the Rebalance Date. In such a case, the weight of the constituent would be allocated to the remaining constituents of the Index or allocated to a replacement prospective constituent. An Index constituent may be replaced or removed with another qualifying prospective constituent between rebalance dates as required. Such events would include without limitation, due diligence concerns, inability to maintain a constituent weight due to lockups, gates, or other circumstances.
- If an Index constituent's weight cannot be maintained between Rebalance Dates, the constituent may remain in the Index at a reduced weight, its weight may be reallocated equally to the remaining constituents, or it may be replaced with a similar qualifying prospective constituent as available.
- Under certain special circumstances certain constituents may remain in the Index on a limited or temporary basis. Examples of these include, but are not limited to, constituents subject to liquidation, closure to new investments, regulatory matters, or suspension of redemptions. The specific treatment of constituents under special circumstances includes:
- **Index Constituent enters liquidation process.**
  Index Constituents subject to liquidation are kept in the Index until liquidation is completed. The weighting of the constituents is adjusted in the Index to reflect its liquidity and redemption schedule. The weight of the constituent that becomes available through this process is then allocated to the remaining constituents of the Index within the same strategy or replaced by a qualifying fund.
- **Index Constituent becomes closed to new investments.**
  Index Constituents that become closed to new investment before the Rebalance Date may remain in the Index with a weight that can only increase due to the performance of the constituent and does not increase during the Index rebalance.

If the Index Administrator receives notification of, and can verify that, an Index Constituent with significant adverse circumstances or due diligence concerns such as: large investor redemptions, critical personnel loss, an audit holdback, a side pocket implemented, redemptions suspended / gate activated, reduced liquidity of liquidating constituent, money laundering charges, cyber security breach / damaging client info leaked or stolen, fraud, breach of any law, regulation or rule, major reputation damaging story or any similar intervening circumstance, may be subject to removal from the Index before the Rebalance Date. Index rebalancing and / or the removal from the Index will follow the liquidity and redemption terms of the constituent whereby the constituent weight will be reduced and / or fully removed from the Index. The weight of the constituent that becomes available through this process is then allocated to the remaining constituents of the Index within the same strategy.

Index NAV Calculation

HFRI 400 (US) Hedge Fund 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 *NAV* uses actual performance of constituent funds as reported to HFR. Performance reflects constituent fund management fees, incentive fees, dividends and other distributions.

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".

At rebalance time "t_0", constituents are equal weighted so the *NAV* of the HFRI 400 (US) Index is defined as

$$NAV_{t_0} = NAV_{t_0-1} \times (1 + ROR_{t_0})$$

where ROR_{t0} is the percentage change in the total value of the Index from "t_0-1" to "t_0" computed as:

$$ROR_{t_0} = \frac{1}{n}\sum_{i=1}^{n} ROR_{t_0}^{i} - IAF$$

where ROR^i_{t0} is the rate of return of constituent i at time "t_0". n is the number of constituents in the Index and *IAF* is an index adjustment factor that may be applied.

The *NAV* of the HFRI 400 (US) Index at any other times "t" is computed 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" as follows:

$$ROR_t = \sum_{i=1}^{n} w_t^i \times ROR_t^i - IAF$$

where ROR^i_t is the total return of constituent i at time "t", n is the number of constituents in the Index and w^i_t is the weight of constituent i at the beginning of month "t" computed as

$$w_t^i = \frac{(1 + R_{t-1}^i)}{\sum_{j=1}^{n}(1 + R_{t-1}^j)}$$

where R^i_{t-1} is the cumulative total return of constituent i between the rebalance date "t_0" and time "t-1":

$$1 + R_{t-1}^i = \prod_{t'=t_0}^{t-1}(1 + ROR_{t'}^i).$$

If a constituent k ceases to be a constituent of the Index at given time t' before the rebalance date, its weight is then equally distributed to the remaining constituents in the Index; the new constituent weights are given by

$$w_{t'}^i = w_{t'}^i + \frac{1}{n-1} \cdot w_{t'}^k \quad ,$$

with $i \neq k$.

When a constituent fund is removed from the Index due to ineligibility, the weight of that fund is assigned a 0% performance return for 1 month to account for the fund's redemption settlement procedures.

Index Disruption Event

"Index Disruption Event" means:

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

(2) a value for a constituent 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 major market disruption, 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 HFR determines affects the Index.

(4) the occurrence of other event or circumstance (including, without limitation, a personnel loss, a significant client(s) redemption, an audit holdback, a side pocket implemented, redemptions suspended / Gate activated, reduced liquidity of liquidating constituent, money laundering charges, Cyber security breach / Client info leaked or stolen, Fraud, breach of any law, regulation or rule, Market specific short bans or suspensions, Major reputation hurting story or any similar intervening circumstance) that HFR determines affects the Index.

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

Upon the occurrence of an Index Disruption Event on any day on which the official closing level of the Index is scheduled to be published, HFR (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.

1. HFRI constituents must agree in writing to a Submitters Code of Conduct set forth below:

1.1. General

HFR maintains one of the hedge fund industry's largest databases, with data on more than 23,000 active and dead hedge funds, fund-of-hedge funds, and other alternative investment products. The HFR Database contains currently-active products, while the HFR Dead Funds Database contains products that have either liquidated or stopped reporting to HFR. Both data sets include product-level detail, such as historical monthly performance and assets, as well as qualitative information.

HFR works with alternative investment product managers ("Submitters") to report their data, meaning HFR relies on the self-reporting of Submitter data. HFR does not conduct audits on the submitted data or information; however, in order to maintain accuracy and integrity of the database, HFR requests that Submitters read and confirm this Submitters Code prior to their contribution to the database.

1.2. Index Constituents

This is applicable to Submitters that are also constituents of an HFR Index. The benchmark and index determination processes have been the source of recent regulatory and legislative focus and scrutiny. Regulators and certain international authorities have emphasized the need to improve the structure, governance, and oversight of such processes both for Submitters and administrators. For these purposes, the Submitters Code is also designed to address Submitter's compliance with the Principles for Financial Benchmarks published by the Board of the International Organization of Securities Commissions (the "IOSCO Principles") in connection with submissions to HFR.

1.3. Your role as Submitter

The responsibility of the Submitter is to maintain appropriate management, review and oversight of their reported information to ensure the integrity of submissions made on its behalf. These ensure the data being reported is accurate and meaningful, and complies with your applicable jurisdiction.

HFR requests that Submitters maintain records of the data submitted to HFR in case HFR is required to contact you regarding any submitted data.

For Index constituents in accordance with IOSCO Principle 14, the Submitter is required to confirm adherence to the Submitter Code of Conduct annually and whenever a change to the Submitter Code of Conduct has occurred. If you submit data and information through the HFR manager portal (HFR ManagerLink) you will automatically be prompted to reconfirm the Submitter Code of Conduct at such times.

2. Submissions

2.1. Submission inputs

Submitters should have internal systems and controls for submitting inputs to HFR, including written measures to effectively monitor submissions. This should include pre-submission monitoring, where permitted by the method of submission, to identify and evaluate manipulative or suspicious inputs or transactions and avoid errors in inputs or submissions, as well as ex-post analysis of trends and outliers. For Index constituents, Submitters are required to comply with IOSCO Principle 14(a)-(g).

2.2. Submission staff

Submitter should document the roles and responsibilities of its submission staff and supervisory personnel. Submitter should have policies and procedures reasonably designed to ensure that only appropriately qualified and approved staff can submit inputs to HFR.

2.3. Suspicious submissions

Submitters should have an effective process to detect and evaluate suspicious inputs or transactions, including inter-group transactions; and an escalation process to report suspicious submissions to HFR as may be appropriate Additionally, HFR may contact the Submitter to request clarification of any discrepancies.

3. Attestation

The Submitter hereby confirms adherence to the Submitter Code of Conduct.

Submitter Name: ____________________

Entity Name: ____________________

Date: ____________________

HFR: The Team

Joseph G. Nicholas

CEO

Joseph G. Nicholas is Founder and Chairman of HFR Group LLC and its affiliated companies. The HFR companies specialize in alternative investments, performance indices and research services. HFR Group includes HFR, Inc., and its subsidiaries, HFR Index, LLC, HFR Research, LLC, HFR Index Administration, LLC, and HFR Risk Premia Analytics, LLC. HFR is the established global industry leader in the indexation, analysis and research of the global hedge fund industry. Mr. Nicholas is author of Hedge Fund of Funds Investing (Bloomberg Press; December 2003); Market Neutral Investing (Bloomberg Press: August 2000); Investing in Hedge Funds: Revised and Updated Edition (Bloomberg Press: August 2005) among others. He is a frequent lecturer on topics relating to alternative investments. Mr. Nicholas, who is also a Trustee of the Naval War College Foundation, received a Bachelor of Science degree in Commerce from DePaul University and a Juris Doctor degree from the Northwestern University School of Law.

Kenneth J. Heinz

President, HFR Index, LLC

Kenneth J. Heinz, CFA is the President of HFR, Inc. (HFR) and is a leading authority on the global hedge fund industry. Mr. Heinz manages HFR's industry leading hedge fund index business, including the HFRI, HFRX and HFRU Indices. Mr. Heinz has provided specialized consulting services to the industry's most significant institutional investors globally and has worked directly with thousands of managers, including many of the industry's most influential firms. He has also contributed authoritative research and commentary to some of the industry's best-known conferences and organizations, having provided keynote presentations at or for the following: Cayman Islands Alternative Investment Summit, GAIM (Monaco), the SwissFunds Association (SFA), University of Chicago Booth School of Business, Alternative Investment Council of Switzerland (AIC), University of Chicago Center for Research and Security Prices (CRSP), Skybridge Conference (Las Vegas), Money Talks (China) and various CFA Society Events. He is also a highly sought-after source of expert commentary for leading media outlets including the Fox Business News, Wall Street Journal (WSJ), Financial Times (FT), Dow Jones, Newswires, CNBC (U.S., European, Asian), New York Times, London Times, the Guardian, CNN, Fortune, Time, Pensions & Investments, Barron's, the Nikkei, Bloomberg and many more.

Mr. Heinz has a Master of Business Administration from University of Chicago Booth School of Business with a concentration in Econometrics and Statistics and is a Chartered Financial Analyst (CFA). Mr. Heinz holds a Bachelor of Science from the University of Illinois, with a concentration in Finance, Business Finance, Investments and Financial Institutions. Mr. Heinz also has experience as a trading member of Chicago Mercantile Exchange, Chicago Board of Trade and Chicago Board of Options Exchange.

Barry Higgins

President, HFR Index Administration, LLC

Barry A. Higgins is the President of HFR Index Administration, LLC. (HFRIA). HFRIA is responsible for the creation, maintenance and calculation of commercially viable hedge fund indices. Mr. Higgins began his career in the alternatives industry in 1998, as an analyst with HFR Group, LLC. In 2004 Mr. Higgins joined Ranger Advisors in Dallas, TX and was eventually co-head of the Investment Committee. In 2009, Mr. Higgins opened a consulting firm, Alternative Consulting, Inc., which offered a variety of services to hedge fund investors and industry service providers. Mr. Higgins re-joined HFR Asset Management, leading the team responsible for managing the HFR Platform of Separate Accounts. Mr. Higgins has a BA in Economics from Northeast Louisiana University (now the University of Louisiana at Monroe) and an MBA in Finance from DePaul University.

Joel M. Schwab, CFA

Senior Managing Director, HFR Research, LLC

Joel M. Schwab is a Senior Managing Director of HFR, Inc. (HFR). He is responsible for chairing HFR's New Product Committee, global distribution of HFR Database & Research products, and also works on both corporate strategy and product development. Mr. Schwab has devoted over a decade of his business career towards improving the quality and diversity of information and research on the hedge fund industry. Prior to this, Mr. Schwab practiced law in the Corporate Department of the law firm Katten Muchin Zavis in Chicago. He holds a J.D./MBA from the University of Michigan and a Bachelor of Science Degree in Business Administration from the Walter A. Haas School of Business at the University of California, Berkeley.

Scott J. Esser

Managing Director, HFR Research, LLC

Scott J. Esser is the Managing Director of HFR, Inc. (HFR). Scott is responsible for managing HFR Database and the HFR Research Staff, overseeing client relations and software partnerships, and is the developer/creator of the HFR Industry Reports. Prior to his promotion to Managing Director, Scott held the titles of Chief Operations Officer, HFR Database Manager, Senior Research Analyst and Research Analyst since joining HFR in 1996. Scott graduated magna cum laude with a BBA, concentration in Accounting, from Robert Morris University in Chicago.

Dr. Martin Klein

Director of Quantitative Research, HFR Research, LLC

Dr. Klein is Director of Quantitative Research and is responsible for developing and managing hedge fund indices and other rules-based portfolios. He is also responsible for developing statistical analysis on hedge fund managers, financial modeling, portfolio performance attribution and optimization as well as research on the hedge fund industry. Prior to joining HFR he was Senior Analyst in Risk Management at GE Capital Services from 1999 to 2005. Dr. Klein holds a Ph.D. from the University of Oxford and a Masters Degree from the Imperial College of Science and Technology, University of London, both in Physics. He carried out his undergraduate studies at the National University of Mexico and was a researcher at the Institute of Physics in Mexico before joining GE.

Todd Hartman

Director

Todd Hartman is a Director at HFR, Inc. and manages HFR's Index Data licensing and distribution business as well as the www.hfr.com website. Mr. Hartman joined the firm in 2002 and has held multiple titles over the years including Project Manager and Associate Director. Prior to joining HFR he worked as Director of Internet Development for HALO Branded Solutions/Starbelly.com and also as the bank officer in charge of Corus Bank's websites. Mr. Hartman holds a Bachelors of Science degree from Southern Illinois University.

Don Esser

Associate Director

Don Esser is the Associate Director of HFR, Inc. Don is responsible for the accuracy, growth, and maintenance of HFR Database. He focuses his efforts on establishing and maintaining relationships with hedge fund managers from around the world. Don is also responsible for the data distribution of HFR Indices to trusted media partners, assisting in screening efforts of prospective HFR Database clients, and directing the HFR team of analysts. Don holds a Degree of Bachelor of Business Administration with a Concentration in Management, as well as a Degree of Associate in Applied Science with a Major in Business Administration – from Robert Morris University. Don joined HFR in 1998.

Scott A. Whitton

Associate Director

Scott A. Whitton is the Associate Director of HFR, Inc. (HFR). Scott is responsible for building, maintaining and distributing the HFR Database as well as overseeing the HFR Research Staff. Scott graduated on the Dean's List and Dean's Honors List with a degree in Computer Applied Science and Technology from Northwestern Business College. He later joined HFR in 2001. Since then, Scott has held titles of Analyst and Senior Research Analyst before his promotion to Associate Director.

Contact HFR for More Information

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- Index Licensing: **Indices@hfr.com**
- Data Licensing: **Database@hfr.com**
- Index Tracking Product Licensing: **IndexTrackers@hfr.com**
- **www.hfr.com**

HFR Index data is available via many market data and software platforms including:

- Bloomberg (HFR [GO]), Refinitiv, Morningstar, Factset, RIMES, Six Financial, IHS Markit

Social Media

- Twitter: @HFRinc
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Accompanying Notes: