



Hedge Fund Indices and UCITS

The Greenwich Hedge Fund Indices, published since 1995, fulfill the three basic criteria required to become UCITS III eligible. The Indices provide sufficient diversification, have the ability to serve as an adequate benchmark and maintain sound publication standards.

Introduction

The Greenwich Global Hedge Fund Indices are among the world's longest running and most widely followed benchmarks for hedge fund performance. The Indices measure the average performance, net of fees, of the overall hedge fund universe as well as individual strategies. In addition to benchmarking performance, the Index is used to construct investable indices and other index-linked derivative products. This paper is a response to CESR's Issue Paper regarding the suitability of hedge fund indices for classification as financial indices for the purpose of UCITS. We strongly support the inclusion of properly constructed hedge fund indices in the list of UCITS III-eligible assets.

Greenwich Alternative Investment Advisors is a leading hedge fund investment advisor and provider of global hedge fund indices, research and index-linked products and services to institutional investors. Founded in 1992, GAI was the first to perform large-scale research on the broad hedge fund universe and quickly became known as a pioneer of hedge fund indexing.

Overview

Although HF Indices have been published for well over a decade, the current institutional transformation of the hedge fund investor base and to the growth in index-based investing in general has recently pushed these benchmarks of hedge fund performance into the spotlight. As more and more institutional investors enter the hedge fund investment scene, so has the need grown for standardization in benchmarking hedge fund performance. Index-based investing is also experiencing explosive growth among institutional and retail investors alike, led by exchange-traded funds that track the performance of an array of market indices. The combination of these two factors has led to the rapid rise in hedge fund index-linked assets, which now exceed US\$12 billion.

The growing interest in hedge fund indices is itself a milestone in the maturation of hedge fund investing. When Greenwich Alternative Investments launched the Greenwich Global Hedge Fund Index in 1994¹, it was designed to measure the performance of the hedge fund universe as a benchmark, to understand the overall hedge fund market movements and to serve as a solid base with which to evaluate investment managers. It was constructed to include the most managers based on the premise the broadest possible index would more accurately reflect the entire hedge fund universe. Little thought was given to the investability, liquidity, or screening of its constituent funds. The same held true in 1896 when Charles Dow introduced the Dow Jones Industrial Average - no one gave any thought to actually investing in his index. It was not until the 1970's, almost one hundred years later, that the idea of managing funds through an index began to catch on and the need for investability began to influence index construction. As investable indices became more sophisticated, markets that were not previously investable (such as emerging markets, for example) became available. A similar evolution has occurred in hedge fund indexing. The advent of 'investable' hedge fund indices now makes it possible, in effect, to buy the replicated performance of the hedge fund market. This had not been possible before due to the fact that many hedge funds do not provide suitable liquidity or are closed to investment. In bringing liquidity, low tracking error and prudent manager selection to the index design, investable hedge fund indices have helped to transform the hedge fund universe into an investable asset class.

The increase in the use of hedge fund indices has, no doubt, highlighted the need to distinguish one index from another. But more importantly, in the context of UCITS III, we hope that the debate as to whether a hedge fund index is on par with other financial indices will soon be resolved. It is our position that the standards used for properly designed hedge fund indices clearly meet or exceed those already imposed on other financial indices. Properly constructed hedge fund indices provide the required diversification, sound publication rules and most importantly, the ability to serve as an adequate benchmark of hedge fund performance.

¹ Previously published as the Van Hedge Fund Indices.

Potential Biases with Hedge Fund Indices

Q1 What are your views on the potential biases described in this section and on how they can affect HFI's?

Q2 Are there any other material sources of bias affecting HFI's that CESR should consider?

There continues to be a lack of understanding of the fundamental differences between HF databases and HF indices, the procedures HF index providers use in maintaining their indices and their uses. It is simply wrong to make the argument, without extensive investigation, that all HF indices suffer from lack of representation and include common biases. Unfortunately, many academic research pieces have concluded the biases that may misrepresent performance within a particular *database* translate into all hedge fund *indices*, while failing to distinguish the inherent differences between the two.

Survivorship and Backfill Bias

Many outside of the hedge fund industry seem to believe that HF returns, as reported in the indices, are inflated by the inclusion of earlier track records of new funds added. This is simply not the case for the GAI database and, we would hope, others. Like any serious database sponsor, GAI demands inclusion of the earlier records of any HF wishing to be in the *database*, ensuring proper representation of the complete track record of that fund. *Index* returns, however, are calculated contemporaneously with reporting of the data. These returns do not change, regardless of the previous records of new funds added to the *database*. This highlights the distinction between *databases* and *indexes*. The exception, at least in the case of GAI, is the inception of an index where hedge fund returns from prior years are used to create prior years' indexes.

For instance, GAI began publishing its hedge fund index in 1994. Funds collected in 1994 were required to provide their total records since inception. They were told that if they did not, they would not be accepted. There was no selection by GAI of parts of records, as many hedge fund critics suggest is done throughout the industry. We cannot recall a single instance of any fund's refusal to provide a complete record. This protocol was established to ensure that bad performance was not hidden from our records. Thus, from 1988 through 1994 (six years), there was some degree of survivorship and backfill bias, as it is described by CESR. However, between 1994 and the present (thirteen years), the GAI Index data contains neither backfilling bias nor survivorship bias.

Survivorship bias simply means that on the day an index is established, it will have access only to funds in existence at that time. The index will not be able to include, in its pre-inception history, funds that previously closed for any reason; i.e., the fund failed; the fund has reached its maximum assets and has closed; the fund was bought out by a financial services company or merged with another fund, etc.

While survivorship bias can depress or inflate returns, in fairness, failed funds probably represent the single largest group of funds missing from the GAI index in the years 1988-1994.

Backfill bias is defined by many critics as the raising of HF index returns by (selectively) including the better previous returns of new funds coming into the database. This illustrates the confusion over the *database* (which does not report returns) and the returns of the *index*, the latter of which are calculated on a 'go-forward' basis only with no historical adjustment or

restatement of the past index. Therefore, the claims that HF *index* returns (including those of the GAI Index and other indexes) are inflated due to backfilling are, at least in the case of GAI, erroneous from 1994 (post inception of the Index) to the present.

A HF database is simply a repository of HF records intended to assist investors. When current HF returns arrive monthly, whether from new funds discovered or existing funds, only that month's returns are used in the index. In the case of GAI and most hedge fund index providers, prior records of new HF's (new to the database) go with the fund into the *database* as a record for future use but do not affect the *index*.

Concluding that overall HF returns reported in HF indices are substantially upward biased due to backfilling, based on data observed in a database is simply not correct. One should not confuse returns in a database with returns from an index calculated using contemporaneously reported returns.

Recently there has been an attack on the HF industry authored by those who lack familiarity with the space, who then go on to impugn the integrity of all index providers. One recent study states that when HF managers begin reporting to databases, "the most favorable of the early results are then (backfilled) into the database along with reports of contemporaneous results." The authors conclude this after study of one database and make the leap, apparently without evidence, that this practice is followed by all other index sponsors. This is highly unlikely for long-standing HF indices, managed by leading companies with the same procedures over time and by the same sponsors since inception. Further, no mention or consideration is given to the fact that some of the hedge fund index publishers have been Registered Investment Advisors for many years, and as such, their activities are examined by the SEC. In these circumstances, there can be no room for index manipulation.

Defunct Fund Bias or End-of-Life Reporting Bias

Critics of HF Indices often claim 'defunct fund bias' occurs when funds "stop reporting their results during the last several months of their lives." In reality, this does occur, but it is so inconsequential compared to other factors that it isn't worth the effort to study it. Critics often cite Long Term Capital Management ("LTCM"), an admittedly extreme example, and describe it as losing 92% of its capital between Octobers 1997 and 1998 adding "none of these negative returns were reported to the database providers."

They neglect to say that LTCM stopped reporting to virtually all database providers in its early years when they became so successful, racking up outstanding returns. Databases (and indices), therefore, did not receive the benefits of their high returns.

GAI uses an equal-weighted rather than asset-weighted index calculation methodology. We estimate that had LTCM been in the GAI database in October 2004, for example, and reported a total loss of their capital in this one month, as -100%, it would have had an effect on October's index return of 0.08%; i.e., the index return would have dropped from 0.64% to 0.56%. At that time our procedures called for rounding the GAI index to the nearest tenth of a percent, thus, it would have remained at 0.6%. Defunct Fund Bias, therefore, hardly seems to be a practical issue, even using LTCM as an example.

As described elsewhere, there are reasons for a HF to stop reporting that could slightly elevate indices as well as reasons that could slightly depress an index – causing it to understate the returns of the HF universe. GAI retains all funds in its database – defunct or otherwise – as well as in the index. We also record all reported losses in the database (and in

the index should that fund be in the index). It is simply wrong to make the argument, without further investigation, that all HF indexes include backfilling and biases.

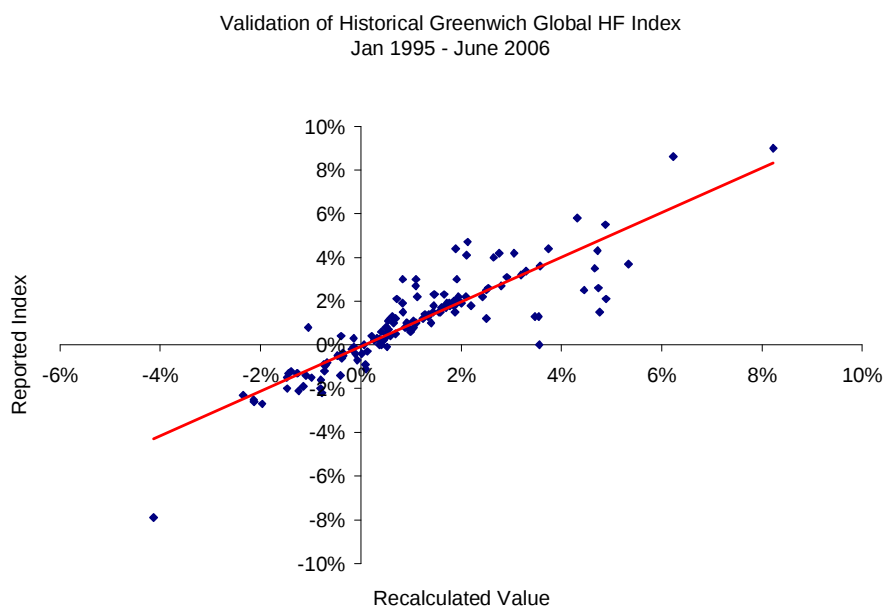
Sample Bias

GAI's Global HF Indices completely avoid selection bias. We do not impose any restrictions that would preclude a manager from inclusion following the logic that the broader an index is, the more accurately it reflects the market it is measuring. As a result, the GAI Global HF Indices are among the most diverse and representative indices and include one of the highest counts of constituents.

In order to determine 'what is sufficient diversification' in a HF index, one has to consider the nature of the 'universe' the Index is attempting to represent. GAI has performed subsequent testing of the previously reported GAI Global Hedge Fund Index returns to monitor for various biases and to determine if larger sample sizes from the GAI database would yield significantly different results.

The larger sample from the database included several different components: first, returns for HF's that reported to the database prior to the time of the Index; second, those that were entered into the database as they were contemporaneously reported in the Index; third, funds that were not included in the Index because they reported late; fourth, funds that were added to the database subsequent to the date of the Index, not included in the Index, and whose prior returns were backfilled in the database, but not the index. These samples, on average, were three times the size of the Index.

Exhibit 1: Linear Regression: Historical Greenwich Global HF Index vs. Larger Sample from Database



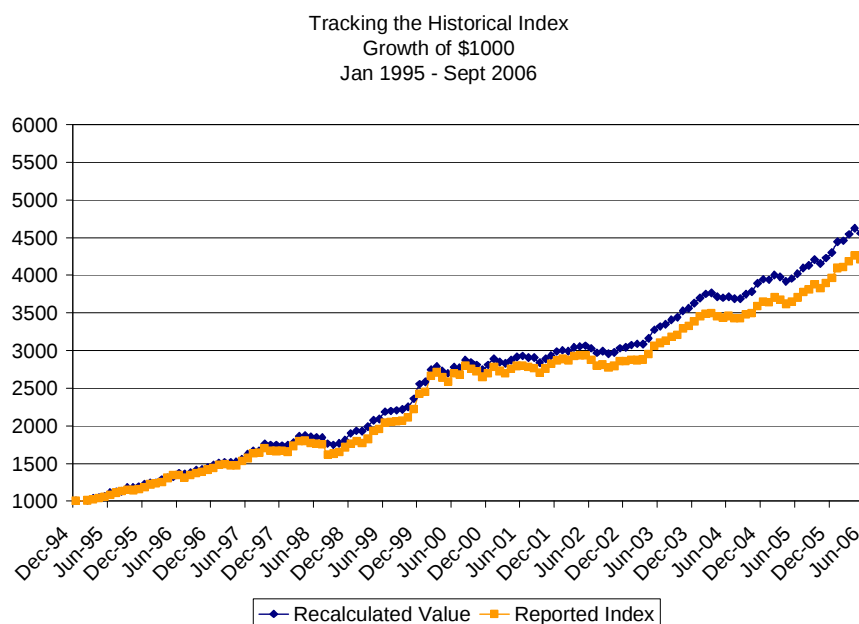
A linear regression study establishes how well-correlated the published Index is with a computation made by re-sampling all the funds in the database that have reported in the same periods. This re-sampling process yields sample sizes averaging more than three times the number of funds used in the contemporaneous computations previously released. The study determines whether the larger, more robust sample of funds would provide a different measurement of the historical returns of the HF universe. The results of this study indicate that the previous sample sizes were adequate to produce valid results.

The published Index shows a .99 correlation to the re-sampled data. Additionally, the beta exceeds .96. A small quarterly alpha of .29% indicates the existence of, what we believe to be a limited degree of early reporting bias in the population.

Conclusions to be drawn from this study are as follows: first, the Index fairly tracks the HF universe based on comparison to an unbiased, fairly reported sample and second, the presence of legitimately (unbiased) backfilled data in the database does not noticeably affect database returns; third, if biased backfilled data had been present in the database (which was not the case) the larger database sample would have produced significantly higher returns than the GAI Index. It did not. (As noted elsewhere, the GAI Index included only contemporaneously reported returns for each period, beginning in 1994. The number of reported constituents was fixed as of a given date for that period, and was not changed subsequently.)

The aggregate growth of a \$1,000 investment was graphed to review the extent of tracking error. Due to the high correlation and high beta of the data, tracking error was minimized. However, the hypothetical investment compounded to a greater value using the published Index due to the alpha produced by the data. Based on the close statistical relationship between the published Index and the average historical returns of a significantly larger sample of funds (Beta of 1.02), the Index accurately reflects the larger HF universe.

Exhibit 2: Growth of \$1,000: Historical GAI Index vs. Larger Sample from Database



Can hedge fund indices qualify as ‘financial indices’?

Sufficient Diversification and Weighting Scheme

Q3 Should an HFI have to meet certain additional quantitative criteria other than level 2 requirements, or should compliance with the level 2 requirement of sufficient diversification be left to the UCITS to assess?

Q4 What requirements on weighting should HFI's have to fulfill to qualify as financial indices?

We believe that CESR's current position regarding diversification rules of the underlying index of a derivative instrument are sufficient and no additional quantitative criteria other than level 2 requirements are necessary. Furthermore, compliance with the level 2 requirement of sufficient diversification should be left to the UCITS to assess.

HFI's should have to fulfill the same weighting requirements as other financial indices, as the principal of diversification of risk within the index is the same.

Represent an Adequate Benchmark

Q5 Is the definition of the representative group of underlyings made by the index provider sufficient to satisfy the criterion of 'adequate benchmark'?

Q6 Is there a role for any quantitative assessment of the breadth of coverage of the HFI? If so, how would this work?

It is impractical to construct a benchmark of a hedge fund market that includes all hedge funds in that market due to the fact that hedge funds are not required to register with any central body. As such, the hedge fund industry distinguishes between two types of indices – broad, un-investable indices and 'investable' indices. A broad hedge fund index is generally used to *define* the particular hedge fund market while an investable hedge fund index is designed to *represent*, or track its respective market.

Therefore, the definition of the representative group of underlyings in the investable index made by the index provider should be sufficient to satisfy the criterion of adequate benchmark. However, we believe it is equally important to establish a reasonable measure of the particular broad market that the investable index is tracking.

Adequate Benchmark – define the market

For example, it stands to reason that the GAI Global Hedge Fund Indices are considered to be an 'adequate benchmark' of the performance of the hedge fund universe based on a) the large constituent size (2,000+ managers reporting monthly), b) there are no restrictions placed (i.e., no minimum track record, size, etc.), c) long history of performance and d) the index is equally weighted and is not overly influenced by the very largest funds.

Representative Index – an investable index that should track the benchmark that defines the market

Just as emerging market indices select a subset of equities to track the market rather than hold all of the stocks traded in the market, the Greenwich Investable Hedge Fund Indices employ a rules-based process to select a representative subset of underlyings to specifically track the Greenwich Global Hedge Fund Index (the broad un-investable index). It should be left up to the investor to decide which investable index tracks the benchmark in question, much like it is up to the investor community to decide which emerging market investable index best tracks the market it is representing.

Q7 Should backfilling be banned for HFI's to qualify as financial indices?

Q8 Should CESR set criteria for the treatment of defunct funds by HFI's for them to qualify as financial indices?

See our response to Q1 and Q2 regarding backfill bias and defunct fund bias.

Q9 Is disclosure of the index revision methodology sufficient or should controls be placed on the frequency, method or amount of due diligence the index provider must carry out regarding ongoing constituent classification?

Disclosure of index revision methodology is sufficient. It should remain up to the index provider to determine the index methodology most suitable to achieve the best representation of the market they are tracking. Again, hedge fund indices should be held to the same revision methodology standards as currently accepted financial indices.

Q10 Can the UCITS assess the revision methodology of the HFI adequately or should an independent third party be required to review the HFI's methodology?

UCITS should be responsible for assessing the revision methodology of the HFI just as they are in the position to assess other types of financial indices.

Q11 Is passive versus active selection of constituents the key difference between and HFI and a fund of hedge funds?

No. Passive versus active constituent selection is not what distinguishes HFI's from FOF's, just as the lines between active and passive management are increasingly becoming blurred among more traditional financial indices. The key difference between an HFI and a traditional 'fund of hedge funds' is the 'value proposition', or investment objective. The goal of a FOF is typically stated as a target return or risk profile. For example, the investment objective of a FOF may be to achieve 'LIBOR + a defined spread'. HFI's, on the other hand, provide a completely different value proposition. The objective of an HFI is to deliver the returns of the hedge fund market, strategy or other market subset and not a specified target return. HFI's do not directly state a specific target return, but are constructed to deliver the performance of the market, or benchmark, they represent. In addition, transparent methodology is another key distinguishing characteristic of HFI's not typically provided by a FOF.

Q12 Should only HFI's where constituent selection depends solely on publicly available objective rules qualify as financial indices? What sort of subjective judgments could be used to select underlying constituents?

HFI's should be held to the same standard as other financial indices as far as providing the index methodology to the public.

Q13 Are there any competition aspects CESR should consider in the context of hedge fund indices compared to funds of hedge funds?

We do not believe any perceived competition between hedge fund indices and funds of hedge funds is relevant to whether hedge fund indices can be classified as financial indices for the purposes of UCITS. As stated earlier (Q11), the 'value proposition' of a hedge fund index, like any financial index, is to deliver the performance of a market, while the purpose of a FOF is to deliver a specified target return. This should not be viewed as a question of one versus the other.

Q14 Do respondents agree that the ability to verify the value of the index given price data and the HFI methodology satisfies the replicability criterion?

Yes.

Published in an appropriate manner

Q15 Should CESR set requirements for verification of NAV calculation and independent custody arrangements/robust governance structures for the underlying constituents of HFI's to qualify as financial indices; or as an alternative, should the UCITS be required to assess the due diligence procedures of the index provider in respect of the underlyings in this regard?

Those responsible for overseeing the investments held by the UCITS should be responsible for the assessment of the index constituent selection methodology and related due diligence procedures of the index. We do not believe that CESR should set specific requirements.

Q16 Should a minimum monthly publication frequency be a requirement for HFI's to qualify as financial indices?

Q17 Should CESR require an independent audit of the calculation of HFI's to qualify as financial indices, or should the market be left to decide whether this would be an attractive option for an index provider to put in place?

Q18 Should it be a requirement for an HFI to qualify as a financial index that its full rules are publicly available (rather than just material rules)?

Q19 To qualify as financial indices, should HFI's be required to disclose at all times details of their constituents? Is there other information about the HFI that should be disclosed?

Hedge fund indices should be held to the same standard as other financial indices where material information on matters such as index calculation, rebalancing, and any operational difficulties in providing timely or accurate information must be provided on as wide and timely a basis as possible. An independent audit of the calculation of financial indices, in general, is

not currently required. It should be up to the index provider and/or the UCITS to ensure the publication of the index value is based on sound procedures to collect prices.

Q20 Should a UCITS which intends to invest in derivatives based on HFI's have to disclose this fact in its prospectus or other documents? What degree of information should a UCITS which intends to invest in derivatives based on HFI's have to disclose in its prospectus?

A UCITS, which invests principally in derivatives, must include a prominent statement to this effect in the prospectus. The prospectus should clarify the extent to which the UCITS is permitted to invest in derivatives based on HFI's.

Q21 Do you have any other comments relating to hedge fund indices that CESR should consider?

Greenwich Alternative Investments is considered a pioneer and leading expert in hedge fund indexing. We are happy to assist CESR in any way we can.

Q22 From the regulatory and retail investors' point of views, how do you assess the situation of competition between funds investing in derivatives based on HFI's and funds of hedge funds?

Properly constructed HFI's are fundamentally different from FOF's in their stated purpose – a HFI is constructed to track or represent a market while the goal of a typical FOF is to deliver a stated return target. For those investors who want to buy exposure to 'the market', HFI's are an appropriate choice and are well suited for such an asset allocation decision.

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