The Global Reach of Investable Hedge Fund Indices

Investable Indices vs Funds of Funds
Structured Products and Future Developments

From the publishers of Hedgeweek
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Published by: Hedgemia Limited, 72 New Bond Street, London W1S 1RR
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Welcome to HedgeQuest's Investable Index edition. In the last few years investable indices have become an important new method of hedge fund investment. They have shaken off the early doubts about hedge fund indices in general and established a clear business model.

Investable indices offer a new resource but do they threat the fund of funds industry or can they complement them? The debate has been overly influenced by the development of passive index products in the long equity world. In that world, the long standing difficulty of active fund managers on average to show sustained positive performance after fees gave the words “active management” a bad name. The obvious alternative was the cheap tracker fund, first for institutional investors and now for retail as well.1

But this analogy is flawed. While it is convenient short hand to talk of investable indices providing access to “beta” with (successful) fund of funds seeking “alpha” on top, this isn’t strictly correct. A tracker fund for the US stock market offers exposure to a well defined asset class. But hedge funds are not an asset class and particular strategies offer exposure to a whole bundle of asset risks, with (hopefully) some alpha on top driven by manager skill.

In this issue Ridgely Walters of Dow Jones describes some of the key points in constructing a successful investable index. This account emphasises the role of manager selection, both statistically and qualitatively (in particular to ensure lack of style drift). Yet this seems to pitch investable indices against funds of hedge funds, which spend a lot of their time finding and vetting managers and would typically claim that their main value lies in identifying superior managers, especially early in their careers before they’ve built and obvious track record. So are they in competition?

Margaret Gilbert of VAN argues that investable indices can beat funds of funds, especially if they are very inclusive in their selection so as not to miss the early start up talent. But Christopher Fawcett of Fauchier Partners argues that investable indices will inevitably miss exposure to many types of hedge fund talent and that they have in aggregate underperformed the well managed funds of funds. This debate will be resolved, if at all, by a combination of growing empirical evidence and more sophisticated means of performance attribution, an issue we intend to examine in a future HedgeQuest issue.

But there is a contrary view that sees investable indices as complementary to funds of funds by adding a growing range of tactical asset allocation products. John Godden of HFR describes the growth of structured products on the back of investable indices. These allow funds of funds and single funds to manage their risk and strategy exposure more accurately and quickly. They could potentially allow a more fundamental separation between the core skills of fund of funds management, namely manager selection and asset allocation. Investors can look forward to far more choice in this area in the next couple of years.

Lastly Simon Taylor of the Judge Business School considers some technical considerations in constructing investable indices and compares some of the leading indices.

Disclaimer: This information is provided in good faith by HedgeQuest from public sources. It is not intended to be an endorsement or recommendation to invest in any of the indices or investments mentioned.

1. Fidelity cut its fee rate on equity index funds to 0.1% in September 2005.
Hedge Fund Indexes Defy Passivity

By Ridgely Walters

It’s a challenge measuring something that changes as fast as the hedge fund industry. Trying to shrug off its roguish reputation while still promising the brainpower to deliver alpha in any market cycle, hedge funds are rapidly entering the mainstream. The creation of indexes in any kind of market is a benchmark in itself, signaling maturation, demand for standardisation and the potential of the broader investing market lining up at the gates to get inside. But despite some concerns, it is anything but a sign that the industry has reached its high water mark. Indeed, as debates over what constitutes a proper index in this field rage on, it’s clear we’ve only scratched the surface of where hedge funds will take us in the years ahead, and the impact they’ll have on the markets at large.

The Appeal of Hedge Fund Indexes

Hedge fund indexes strive to capture many of the ideals of their equity and bond cousins. To begin with, indexes bring a sense of order to balance sheets tracking dozens or hundreds of investment vehicles. This is as true for a modern pension fund researching convertible arbitrage performance as it was in 1893 when Charles Dow was scratching his head over the railroad sector.

Second, as shorthand representatives for market segments, indexes enable investors to quickly enter and exit an investment without researching every last component. The past 10 years have shown a willingness by investors to use index funds to try new strategies and approaches in their portfolios. Opacity-driven fears in emerging markets have been trumped by indexes that capture the market in total, and provide access to the attributes affecting the region as a whole.

This familiarity will be an important driver of hedge fund indexes, as investors seek the returns alternative investments offer, even if each underlying strategy is not fully understood.

Myth of the Composite Hedge Fund Index

Before delving into what makes a proper hedge fund index, we must expose the fallacy that any one index can measure the whole industry. Sure, a single index can tell you how the entire U.S. equities market is doing. The same can be said for commodities, dividend style investing and other markets and sectors. At the very least, these kinds of indexes can be used as benchmarks to reveal whether a certain investment manager is handling your money better or worse than a passive alternative.

But how could any index hope to capture or even begin to indicate the performance of a strategy like global macro? There is no shortage of mathematics PhD’s who would love to create an index that tells you whether a manager simultaneously placing bets on the Yen, the price of pork bellies, real estate and private equity, is doing as well as he or she could against their peers.

Because global macro and other strategies defy such categorisation, the goal of measuring the hedge fund industry as a whole with a single index is not achievable. It is for this reason that Dow Jones Indexes employs a philosophy of measuring what can be measured. Past that point, purity, investability, transparency and stability guide the decision making process.

Building “Style-Pure” Indexes

Hedge fund indexes must be based on quantitative methods paired with constant

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qualitative due diligence. Each index should represent a portfolio of managed accounts to ensure diversification, each of which reflects the returns and risks of a specific strategy. This is accomplished by using a portfolio of approximately five to eight style-pure managers that capture the risk and return characteristics of a style-pure portfolio within a selected strategy. Too few managers in each strategy could result in excessive volatility and too many managers create outsized costs in administration and monitoring. With Dow Jones Indexes’ family of hedge fund strategy benchmarks, five to eight components was deemed optimal. Among our six strategies of equity market neutral, convertible arbitrage, distressed securities, merger arbitrage, event driven and equity long short (U.S.), there are currently 33 managers. Each benchmark is substantially equally weighted among its component managers to minimise the chances of one manager’s performance skewing the performance of a benchmark.

Selecting managers is one of the most important steps an index creator takes in bringing a product to market. Adherence to quantitative and qualitative principals ensures the best industry practice. At Dow Jones Hedge Fund Indexes, for example, manager selection starts with publicly available databases and other information sources. Managers must have a track record of at least two years and a minimum of $50 million under management. Cluster and other quantitative analyses partition data into sets of similar members, eliminating over- or under-performing outliers. Due diligence is performed, including intense qualitative reviews and background checks. Managers must be able to credibly show and have established the capability of executing the “core” business of managing a portfolio and generating performance. A manager must have the investment infrastructure necessary to support its business. Style purity is essential. On-site visits are also a regular part of the review process. Finally, managers are reviewed by an oversight committee. The committee consists of leaders in the hedge fund community who actively review the benchmarks, helping to ensure objectivity and “best of breed” methodologies. Once selected, manager’s activities are monitored ongoing. For instance, their use of leverage must be consistent with the typical leverage used in each strategy. At each step the achievement of purity – not performance – is the guiding principle.

**Achieving Transparency**

Transparency, the final ingredient, is achieved by implementing the risk controls often sought by institutional investors and the ability to report daily returns. The names of all hedge fund managers are also made public. Transparency is ultimately delivered at the end-user level by the publishing of daily valuations.

The result is that each of the six Dow Jones Hedge Fund Strategy Benchmarks has known style attributes and known exposures to market factors, as well as an inherent return stream. Though managers will differ somewhat in trading style and asset management approach, the managers’ common strategy characteristics drive the returns. For example, every convertible arbitrage manager’s returns is based on credit risk, implied volatility risk and, to a lesser degree, term structure of interest rates and beta or systematic stock market risk.

**Challenges Ahead**

Like the assets they track, hedge fund indexes face challenges in gaining widespread acceptance. Two areas of potential risk in particular require constant vigilance: style drift and transparency in pricing. There are a number of measures which tend to the former, including computerised tracking, regular on-site, in-person inspections and regular audits to ensure managers stay on track. Diversification plays a stop-gap measure here too, as a manager drifting off course will be buffered by his or her fellow index component managers.

Transparency is a more complicated challenge. Regular reporting of figures is standard, but that tactic assumes the figures such as OTC vehicles have been correctly valued by the prime broker. Often the valuation of hedge fund holdings is not accurately known until the holdings are sold. Institutions or high net worth investors take these problems in stride, because they are accepted as normal within the industry.

**On the Horizon**

Ultimately, the flow of assets into the hedge fund industry and the use of hedge funds by more institutional investors will drive the creation of more sophisticated structured products that serve specific objectives – porting of alpha, for example. The creation of these objective-based products will in turn drive the creation of new benchmarks that are more product-focused, liquidity, transparency and frequency of pricing, excepted. In the meantime, as rigid and reliable as any hedge fund index must be to achieve mainstream acceptance, its management and advancement must be anything but passive. Strict monitoring of managers, the use of separate accounts, and other tactics outlined above mark only the beginning of these endeavours. And as much as these instruments will change and grow in the years ahead, we can take comfort that the principles of purity, transparency, innovation and will guide their course.
The market conditions are right for investable hedge fund indices. Demand for hedge funds is at its highest. Hedge fund assets, now at USD 1 trillion, are expected to double by 2009, quadruple to USD 4 trillion by 2013 and sextuple to USD 6 trillion by 2015, driven by investors’ attraction to the downside protection and diversification benefits hedge funds provide.

Index-based investing is also experiencing explosive growth led by the blistering pace of exchange-traded-funds that track the performance of an array of market indexes. Investors recognise the efficiency of index investing that can be more profitable than actively managed funds with similar objectives because of lower fees and expenses.

Assets held in ETFs jumped nearly 50% last year, topping USD 250 billion and should hit USD 812 billion by 2009 according to the Investment Company Institute. Accelerated use of hedge funds and index investing is the driving force behind the investable hedge fund index phenomena. Some industry experts estimate as much as 20% of all new investment currently flowing into hedge funds is going into index-linked hedge fund products. Total assets may have already reached USD 15 billion after introduction in less than three years and could very well represent a USD 300 billion opportunity in the near term. This unprecedented demand for hedge funds combined with rocketing growth in index investing has created the perfect market for investable hedge fund indices.

“You can’t beat the market.” Indexed investing offers hedge fund investors a high degree of diversification and the possibility of holding ‘the hedge fund market’ at a relatively low cost – an attractive alternative to FOFs for first time and more experienced investors, alike. Just as compelling is the proposition that you cannot beat the general market, which holds true, even for most sophisticated FOF managers. Van’s recent study found the Van Composite Investable Hedge Fund Index, a representation of the investable hedge fund universe, outperformed more than 75% of FOFs. That is not to say there are not good managers out there, rather, it illustrates the efficiency of indexed hedge fund investing and the power of Van’s index construction.

Selection
Investable hedge fund indices are an appropriate entry point for institutional investors new to the asset class and serve as the core hedge fund holding of more extensive hedge fund portfolios. As more and more hedge fund investors adopt index investing, it is important to understand that not all investable hedge fund indices are alike. In fact, the array of investable hedge fund indices are all over the map in terms of index construction, performance and how well each tracks the overall hedge

Margaret W. Gilbert

As Chief Marketing Officer for the Van Companies, Margaret Gilbert oversees strategic positioning, marketing and other efforts to make Van the strongest and most relevant brand of hedge fund index products and investment services. With more than 20 years of executive management and private equity experience, Ms. Gilbert is an accomplished entrepreneur having founded, operated and sold a number of technology companies prior to joining Van.
Measuring the performance of index-linked portfolios against their respective benchmarks is one of the most important criteria when selecting an index-based investment. This is certainly the case when you buy an equity index – you expect to get the systematic return from that portion of the equity world being indexed. If you buy an investable hedge fund index, you expect the same.

Tracking may appear to be relatively simple for most traditional ETFs and index mutual funds where there may be few differences between the fund holdings and the benchmark. Not so for investable hedge fund indices. For one, the entire ‘hedge fund universe’ is not investable. In addition, the opening investment would be well in excess of a billion dollars, assuming a minimum investment of USD 1 million in each. Thus, investable hedge fund indices are typically constructed of a representative selection of 40 or more underlying funds and, unlike FOFs, offer efficient exposure to a universe of thousands of hedge funds.

Van’s Composite Investable Hedge Fund Index, the VI2, tops the other four investable hedge fund indices purported to track the asset class. The VI2 has delivered the highest CAR with the least tracking difference from its benchmark, the Van Global Hedge Fund Index, one of the oldest and most representative measures of the broad hedge fund universe. Van credits this lead to its unique investable index methodology designed to maximise the number of possible funds for selection. Van imposes the least restrictive requirements on funds it considers for inclusion and only rules out those with less than USD 20M in AUM, less than a one-year track record and that do not offer at least predominantly monthly liquidity.

Unlike the other investable index providers, Van does not arbitrarily restrict funds for consideration to only the largest hedge funds that have been around the longest or to a subset of funds that might agree to weekly liquidity, fee sharing or separately managed accounts. Such index rules add no real value and effectively eliminate more than half of the universe of funds, as 40% of today’s hedge funds were launched within the last three years and the average hedge fund operates with less than USD 100 million in AUM.

Van’s methodology, on the other hand, is designed to maximise the pool of candidate funds. From this large group of hedge funds, Van uses additional quantitative and qualitative screens to identify managers with performance most likely to persist and that eliminate funds not meeting Van’s due diligence and strict risk standards. Such requirements do add value and are what investors expect from an index designed to add the dimension of investability to a broad composite benchmark representative of the entire hedge fund universe.

**Conclusion**

No doubt, the USD 15 billion in total assets already linked to hedge fund indexing in less than three years is evidence of a lasting shift toward indexing. As more and more hedge fund investors discover index benchmarks and the index products that track them, a better understanding of construction differences is needed. This will help investors make a more informed decision when choosing the investable hedge fund index that best meets their needs.

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Footnotes:
3. The study is based on 728 FOF in the HFR database reporting for all months from Jan 2003 – June 2005. The study increased the HFR monthly FOF returns using an assumed annual FOF fee of 1.5% for comparative purposes, as the Van Composite Investable Hedge Fund Index is net of only underlying manager fees. The resulting average monthly return for FOFs was 77bps vs. the monthly average return for the VI of 91bps.
Investable hedge fund indices have grown rapidly since 2003. The major index compilers (MSCI, S&P FT and Dow Jones) offer investable indices, as do providers who originate from the alternative asset arena, such as HFR and Tremont. Investable hedge fund indices are frequently presented as an alternative to actively managed funds of hedge funds. In this article the two approaches are examined, with a particular focus on the latter.

What funds of funds do
Funds of hedge funds are usually managed with the aim of achieving a specific rate of return with, in many cases, additional parameters based on volatility of returns and correlation to equities and bonds. Because many hedge funds are lowly correlated to each other and to markets, they lend themselves particularly well to portfolio construction. This feature means that leading fund of funds managers have developed expertise in structuring portfolios of hedge funds so that the portfolio volatility is much lower than that of the individual constituent funds.

As is evident from Figure 1, hedge fund strategies go through performance cycles and it should therefore be possible for a fund of funds manager to add value through dynamic strategy allocation. Also, Figure 2 shows that there is substantial potential for improving returns through manager selection, particularly in certain strategies. Funds of funds therefore tend to be managed through a combination of top-down strategy allocation and bottom-up manager selection.

A fund of funds can be viewed somewhat like a portfolio of equities with strategies being similar to market sectors and specific funds similar to individual equities. Although there is evidence of performance chasing in fund of funds management, both at the strategy level and the single fund level, a number of fund of funds groups have added value both through dynamic strategy allocation and through manager selection.

A fund of funds manager is only constrained in his opportunity to select from the vast pool of hedge fund talent by the fact that a number of funds are closed to new investment, and by the practical limits of his capability to identify, carry out due diligence on and monitor funds. Because the better funds of funds are respected by hedge fund managers, they can access funds which are not open to new investors, and moreover they entertain a dialogue with hedge fund managers which helps them to manage their portfolio to a higher standard.

Moreover, the larger fund of funds managers have developed expertise in risk measurement and risk management. Since many hedge funds do not provide full position level transparency, the risk assessment is based on an analysis of a fund’s historical sensitivity to various factors, combined with the risk reports provided monthly by the funds. The fund of funds
managers’ capability in risk management enables active management to avoid excessive concentration of a particular source of risk, e.g. emerging market equities, and to improve portfolio construction. The fact that the underlying hedge funds offer only moderate liquidity, typically one month to one year, means that risk monitoring is a particularly important task for a fund of funds manager.

In summary, funds of funds provide exposure to hedge fund strategies and, most importantly, to a selection of top investment talent within an actively managed portfolio which is monitored for risk.

**Investable indices: a different proposition**

Investable indices are a very different proposition. They are passively managed, sold on the basis of liquidity, transparency, low fees and a strategy weighting representative of the hedge fund “asset class”. In order to achieve these objectives, the index provider invests in managed accounts across a range of hedge fund strategies, with the selection and monitoring carried out by consultants.

The approach thus appears straightforward. In practice it is not. Firstly, many hedge fund managers, particularly the largest ones, will not take on managed accounts, and secondly, certain strategies, for instance fixed income arbitrage and distressed debt, are difficult to access in liquid, daily priced, segregated account format.

The fact that the hundred largest managers, out of a universe of approximately five thousand, represent over half total hedge fund assets and are lowly represented in hedge fund indices, means that it is inevitable that investable indices do not provide a capitalisation-weighted exposure to hedge fund talent.

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**Figure 1:** There is no such thing as a typical hedge fund

| HFRI Indices Annual Investment Returns (1993 - YTD Q2 2005) |
|----------------|----------------|----------------|-----------------|

**Investable Indices**

Source: Hedge Fund Research and APMA

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What indices do offer is an exposure to hedge fund strategies. In order to provide this and to reduce manager risk, they are broadly diversified. In effect, they are structured to deliver the Beta of various hedge fund strategies. Accordingly, they will almost inevitably be impacted by systemic risk and hedge fund events. Funds of funds in comparison tend to be more exposed to manager specific factors.

It therefore seems likely that well-managed funds of funds will substantially outperform investable indices in spite of the somewhat higher fees. Indeed, the figures since the beginning of 2004, when investable indices first became substantial, are revealing, with the fund of funds indices (HFRI, Altvest, EDHEC), which reflect the performance of several hundred actively managed funds of funds, having delivered approximately +10% over the 19 months to 31st July 2005, whereas the investable indices (MSCI, S&P, FTSE) were up approximately +4% over the same period.

**Conclusion: will investable indices continue to outperform?**

This underperformance of the investable indices is in no way surprising, and may well be a price thought worth paying by investors who attach great importance to liquidity, and who view hedge funds as strategies rather than as talent-based investing. The question that may be asked if the investable indices continue substantially to underperform the universe which they aim to represent is whether providers - MSCI, S&P, FTSE etc. - should have put their names to the offering.

After all, in the equity world it is the likes of BGI, State Street and Vanguard who provide index tracking funds, not the index compilers themselves.
Structured Products and Future Developments

By John Godden

Since they first surfaced in late 1996, Hedge Fund-linked Structured Products have proliferated to the point where they have dominated the issuance of "equity-linked" products in several European and Asian countries in recent years.

This is not so much a product of investor demand for exposure to Hedge Fund economics as a function of the dynamic attributes of Fund of Hedge Funds, in particular, being eminently suitable for use inside Structured Products.

Educated estimates of how much of the $1 trillion of assets in the Hedge Fund industry that is sourced from Structured Products range from $150 billion to $200 billion depending on what is included under the label of Structured Products. The higher figure would include "delta-1" Certificates which are economic pass-through arrangements that satisfy regulatory issues but provide no addition/alteration to the return dynamic.

Hedge Funds as Underlying

The movement by Structured Product issuers towards using Hedge Funds to underpin their offerings was predominately driven by the requirement to find a new asset area more in keeping with the risk profile necessary to build their instruments due to the economics of the previously dominant underlying (Equity Indices) shifting significantly against the needs of the Banks.

Since the launch of the Investable Hedge Fund Indices in mid-2003, the majority of Structured Products linked to Hedge Funds have had an Investable Hedge Fund Index as an underlying. This is due to two issues on which the indices appeal:

- Their usability - Indices by their nature have the highest standards of valuation techniques, risk-monitoring, infrastructure control and liquidity;
- For the first time Banks were able to write a multitude of products on the same underlying creating the environment for proper trading books. It also enables clients to obtain properly comparable pricing from several providers.

The majority of products are based on the Global Hedge Fund Indices which provide broad representation across the various strategies that make up the Hedge Fund Universe. An increasing number of products are now focussing in the individual strategy indices that are available such as Equity Hedge, Merger Arbitrage and Macro. The Structured Products enable either the selection of a static basket of the strategy indices or some discretionary or model-led, dynamic allocation between them.

Hedge Funds, and in particular Hedge Fund Indices, appeared to solve all of the issues facing the Banks who were trying to satisfy the demands from the distributors of their Structured Products. It easy to see why Hedge Funds quickly took hold of the sector:

Volatility - Equity market and Equity Index volatility had progressively increased to the mid-20%'s for the major indices. As a major component for the calculation of Option prices and assessing the risk profile of CPPI structures, the rise of volatility had caused a severe reduction in the participation rates within products. Clients were demanding, and had been used to, receiving 90%+ of the upside of a given index in their scheme but Equity Index volatility, accompanied by
reducing Bond yields, had made this increasingly difficult.

Enter Hedge Fund Indices with volatility of approximately one third that of Equity Indices. This had been a well kept secret in the late 90's, the wider perception of Hedge Funds was still that they were super-risky and prone to blow-up.

This low-volatility dynamic of Hedge Fund Indices has held firm since that time and continued to provide Banks with a stable underlying on which to base their products. As more Banks have entered the fray the pricing mechanisms have been forced to become more efficient and the margins, of both profit and error, have reduced substantially through the closing of the gap between the actual volatility of the underlying portfolio and the implied volatility used by the Banks for pricing/risk assessment purposes.

It is the steady performance attributes of a diversified Hedge Fund portfolio that creates much of the appeal when compared to other assets, many first time investors are most surprised to find that the volatility of a Hedge Fund Portfolio is roughly one third that of Equity Indices, indeed the monthly return expectation for a Hedge Fund Portfolio is within a fairly narrow band of between -2.5% and +5% with more than 70% positive months giving a much more steady return stream than Equities.

Correlation – A further tool that was used prolifically to design Equity-Index based products is correlation, or lack thereof, between the various separate Indices. Banks were building products that relied on the differential return patterns between, for instance, US, Asian and European Equity markets. However, correlation between them moved sharply upward which made such structures less economic.

Once again, the Hedge Fund world has provided a neat solution although it has not been as widely used as a pricing component as volatility.

One of the key strengths of the Hedge Fund proposition is its use of every type of financial asset available and some that are purpose built. This provides for some very different asset exposure dynamics and provides some very important differentials between the different strategies. For instance, a US Long/Short Equity Fund will have a very different sensitivity to the impact of a fall in US equities than a Convert Arb Fund or a Managed Futures Fund. Indeed, there are not only low correlation effects between the strategy groups but there can be anti-correlation where one strategy has an inverse reaction to a given asset stimulus versus another.

This low correlation effect has been used to create very efficient options within Structured Products. Recently, products have been produced that use the correlation attributes within the pricing/value proposition. Such products provide for exposure to different Strategy Indices based on their relative performance - simplistically a "best-of" formulae.

Infrastructure Maturity
Hedge Fund Infrastructures have moved rapidly towards the accepted standards of custody as a distinctly separate function from investment control - particularly in the form of the Managed Account platforms that are become more prolific and underpin most of the leading Hedge Fund Indices. The application of such a regime not only ensures that the positions held in a fund are reported accurately but that the valuations are made independently and without any conflict of interest with the investment manager.

The resulting manager universe that will accommodate requests for position-level data
is now demonstrably a fully representative section of the wider manager universe. The majority of managers that have opened since 2000 have embraced such reporting as a necessary requirement for attracting the stable money and the older firms are increasingly understanding the commercial rational for so doing. As a result, the opportunity set for an investor of Fund of Funds that sets such reporting as a requirement for investing is now a full reflection of the hedge fund universe save for a few tail strategies that will always have difficulty meeting this standard for entirely practical reasons.

Product Development
Given the developments in the reporting and risk analysis with the Hedge Fund and fund of Hedge Fund community and the increased competition amongst providers, there has been a proliferation of new Structured Products linked to them.

The staple remains the CPPI-type structure under which the provider Bank allocates between the Hedge Fund Index and a cash fund based on a quantitative assessment of a discounted value of the Hedge Fund Index Asset versus the “Bond Floor” (the discounted capital amount required to meet the future guaranteed sum). The advantage is that a high initial allocation to the Hedge Fund Index is achieved, 100% is the generally accepted target, although the on-going allocation is subject to change according to the relative performance of the Hedge Fund Index against rates. Should the Hedge Fund Index outperform rates the structure enables an allocation of greater than 100%, possibly up to 2 x leverage.

These structures have morphed into a regime that leads with its ability to provide “intelligent” leverage (increasing the levels when performance is good, reining it in when performance is declining) with the principle guarantee being a secondary consideration. Costs have been reduced and features such as a guarantee based on a previous high or the ability to enter or exit at any time with guarantee intact have been added.

Many option-based structures have also been written and an increasing range of option-based strategies are now available.

At the basic end of the spectrum, plain-vanilla options on the Hedge Fund Indices are now screen traded on Bloomberg across a range of differing strike prices, terms and currencies. This has led to conformity on pricing and the level of implied volatility used as is the case for options on long-only indices.

We have also seen some very exotic structures developed that provide a very different pay-off profile for the investor to give further portfolio diversification but retaining the principle guarantee. One such is the so called “Himalaya” structure which relies on the low/anti-correlation between the Hedge Fund strategies to generate returns linked to the best performing strategy in each year.

To enable institutional investors and, in particular, Treasury departments to take Hedge Fund exposure into their portfolios, there have been a number of CDO/CFO issues both real and synthetic. These call for a ratings agency to assign a rating to the Fund of Hedge Funds within the CDO/CFO instrument based upon its ability to deliver the return rate required to meet the obligations of the Note. Clearly this is on the basis that the spread achieved by the Fund of Hedge Funds is potentially superior to that of an equivalently-rated instrument linked to more traditional assets such as Credit Default Swaps. The market for synthetic, single tranche CDOs has been the fastest growing.

In line with Hedge Fund investing generally, Structured Products linked to Fund of Hedge Funds are now firmly established as a useful product area which will continue to offer investors access to an interesting asset area in a format compatible with their needs and ambitions.
In this article we consider some technical questions on the construction of investable indices before briefly reviewing the main indices commercially available.

General considerations in hedge fund index construction

An index is a means of summarising information about a broader population. In the case of public exchange traded financial securities such as equities, this population can be identified exactly and the various competing indices can be compared in respect of their ability to capture the information in the population in an efficient manner. Even so there may be no single ideal index because sometimes a capitalisation-weighted index will be preferred to an equal-weighted index but sometimes not. But everything is transparent and users can make clear choices.

Matters are less much less clear with hedge funds because there is no way of identifying the total universe or segments within it. This is because hedge funds are broadly unregulated and are not obliged to provide details to outsiders. So the starting point for any index is the database of funds the index hopes to represent.

Several providers have established databases of hedge funds (usually including commodity trading advisers but not always) in the last decade or so. One might expect that they would track substantially the same set of funds, so that each database could be seen as a “sample” from the underlying but unobservable population. In this case the growth of samples would lead to a growing confidence about the scale and characteristics of the underlying population.

Unfortunately the various databases have surprisingly limited overlap. Lhabitant (2004 p.114) shows that the TASS, HFR and CISDM/Hedge databases only overlap for some 10% of the total funds in the combined group. Each fund accounts for little more than half of the combined total of funds. Users therefore may lack confidence in the ability of any one database – and therefore index – to capture the whole hedge fund universe at this point.

The lack of transparency of hedge funds leads to other problems that are partly familiar from the mutual fund world. These are potential biases that can creep into indices and provide an inaccurate measure of what is going on in the population. The main biases that have been identified in hedge fund indices are:

- Survivorship bias. Many hedge funds cease operations and drop out of the universe and therefore the index; commentators normally assume that these funds have failed or suffered large redemptions although there is evidence that many funds close because their managers want to move on, in which case the funds may have been successful. But, to the extent that most funds that drop out are poorer than average performers, the index will overstate the returns an investor in a “typical” hedge fund would expect. This problem is equally applicable to conventional equity indices (and to the population of stock market indices as a whole) but it matters more in the hedge fund world because of the relatively short
time periods over which the effect can occur. Most index providers therefore now continue to include defunct funds in the index as of their last reported performance.

**Self-selection bias.** Owing to the private nature of the industry, hedge funds may choose whether to report to a database. If non-reporting funds are systematically different from the reporting funds then the database and any indices based on it will be biased. But the nature of the bias is ambiguous. Poorly performing funds may choose not to report, which would mean the index was biased upwards. But well established and well performing but closed funds may also choose not to take part, in which case the bias could be negative. Of course if funds are closed they are not relevant in any case to an investable index, which therefore must necessarily diverge from the established universe of funds, even if that could be accurately established.

**Criteria for a good index**

Assuming that the database from which an index is constructed is good enough to represent the underlying population of hedge funds, a useful index ought to be:

- **Transparent:** the index provider should readily provide the constituents, criteria for inclusion and process for making changes
- **Representative:** the index should include funds from the full range of fund types, including various strategies, sizes and ages of fund; most importantly the fund should include both the best established and very successful funds as well as the less successful ones
- **Timely:** the index needs to be published regularly, at least monthly
- **Stable:** there should be no revisions to the index

The question of **weighting** is somewhat controversial. Whereas the original Dow Jones Industrial 30 index of leading US stocks was and remains equally weighted, the main indices of the US stock market are now capitalisation weighted eg the S&P 500. This is regarded as obviously correct by most users.

But in the hedge fund world the scale divergence between the largest and smallest funds is enormous. Most hedge funds indices are therefore equally weighted, the main exception being MSCI. An index weighted by assets under management (AUM) would arguably be more representative of the industry, but would practically exclude the influence of many new and small funds. These funds are more likely to be open to investors so an investable index is, in effect, forced to be equally weighted.

Another argument for equal weighting is diversification. To the extent that the index intends to capture the experience of a “representative” hedge fund investor, that investor would probably wish to have some degree of diversification over funds and strategies. An equally weighted index should achieve this. An AUM-weighted approach would potentially concentrate the index on more successful strategies and funds, as well as being influenced by the latest fashionable money flows. On the other hand, if the index is intended to capture the reality of what is happening in the global hedge fund universe, it should reflect these flows. There is no ideal answer to this question but in practice equal weighting is more commonly used.

The final criterion for an index is **investibility.** The Standard & Poors Hedge Fund Indices were created from the beginning as investable. Most other index providers initially provided non-investable indices and then added investable indices later on. The main reason for offering both is the conflict between investibility and some of the criteria above, chiefly that the index be representative. An index can be relatively broadly based and achieve high representativeness, but be non-investable. Or it can be investable but much more narrowly based and therefore potentially less representative. Index providers rely heavily on statistical tests to maximise the efficiency of this representative/investable trade off (see below).

**Construction of an investable index**

Investable index providers, starting from a database of hedge fund data, typically go through the following steps in constructing their index:
Quantitative screening

1. Quantitative screening
   The key challenge for an index provider is to find a number of funds that are open to new investment and satisfy the other criteria (see below) but are representative of the strategy that the index seeks to capture. In practice this means using a very small number of funds relative to the whole database of hedge funds, or even relative to a broad non-investable index (see figure 1).

   The first step is classifying the funds by strategy. It is not enough to take the fund managers’ self reported description as given. Instead index providers use correlation analysis and/or cluster analysis to identify funds that clearly behave in a group with other funds of a given strategy. Funds that appear to be too far from the group are excluded. This of course excludes any fund that achieves good performance but in an “undisciplined” way. It also assumes that all strategies do fall into statistically neat groups. For conventional and well established strategies such as convertible arbitrage or merger arbitrage this is a reasonable assumption and funds employing these strategies do show a low level of diversity. But more innovative and unusual strategies may not easily be classified and so may be excluded.

   Assuming that a sub-universe of strategy-defined funds has been identified, the next step is to find a subset of these that are investable and fulfil the other index criteria. The question is how many funds are needed for the index accurately to capture the performance of the overall strategy? This is normally approached by using numerical simulations (Monte Carlo analysis). These simulations show that some strategies can be pretty well captured by only 10-15 funds but for others it may need to be over 20. For an aggregate index over all strategies (capturing the whole hedge fund universe) a total of 50-60 funds is normally sufficient to give very good correlation.

   Clearly the more broad the index, the easier it is to find enough funds that meet the investable criteria to make it statistically robust. It is relatively straightforward to find enough funds to construct broad style indices (eg market neutral or absolute return). Finding enough for single strategy indices is much more difficult so although there are various sub-indices for detailed strategies they are not always intended for stand alone use.

2. Qualitative screening (due diligence)
   Unlike say the S&P 500 index, the components of a hedge fund index require some form of qualitative assessment. All index providers include a due diligence stage in selection which would include auditing the fund’s accounts, checking the educational and other credentials of the employees, verifying the style consistency and perhaps taking up investor references. This process is often conducted by a third party, since expertise in index provision is quite separate from expertise in fund due diligence1.

   In this respect the index provider is straying into the territory of fund of hedge funds (FoF) managers. Many FoF managers would argue that much of their expertise lies in the - inevitably subjective - assessment of individual fund manager quality, integrity and business competence. Screening out the...
clearly inept managers is a key way to ensure superior returns. FoF managers also claim to add other skills – identifying interesting new investment strategies, asset allocation among different styles and negotiating access to otherwise closed funds. Whether FoFs are in direct competition with investable indices is partly a matter of how well one judges FoFs to achieve these other goals.


Any fund willing to be in the investable index must reach a high level of transparency and reliability in its data provision. Normally index providers want daily data and they may use additional third party specialists to verify the pricing of investments in illiquid or unusual securities. The pricing of illiquid investments can involve a significant degree of judgement and is known to provide hedge funds with some scope for smoothing their returns, so this step adds value to the index user who might not otherwise be in a position to verify pricing.

4. Filtering for various criteria.

The index providers have various criteria for fund inclusion, including the history and size of the fund. These are shown in figure 2 for some of the main investable index providers. Figure 2 shows that the index methods are not very different from one another, although the actual performance varies quite a lot. It would be wrong to conclude too much from these figures without analysing the riskiness of the indices.

Additional descriptive information on the indices is provided in figure 3.

Figure 2 Investable Index Comparison

| Index Provider | Investable Index | Representative of Investable Index | Investable Index Benchmark | Investable Index Launch | Historical Returns | Index Construction | Counterparty Management Requirements | Annual Tracking Error (%) | Trading Date (Start to End) | Number of Funds in Benchmark | Number of Funds in Investable Index | Number of Funds in Benchmark Managed Accounts | Minimum Managed Account Size | Required Size
|----------------|-----------------|------------------------------------|-----------------------------|-------------------------|------------------|------------------|--------------------------------------|--------------------------|-----------------------------|-----------------------------|----------------------------------|-----------------------------|-----------------------------|--------------------------|
| Van            | Van Composite Investable Index | HFR Index | HFR Index | January 2003 | January 2003 | 10.84% | 6.34% | 45 | Proportional Manager Exposure | Van Composite Index | Monthly | Yes | $2,000,000 / Year
| CSFB/Tremont   | CSFB/Tremont Index | HFR Index | HFR Index | August 2005 | Yes | January 2005 | 10.52% | 4.93% | 60 | Monthly | No | Weekly | No | $3,000,000 / Year
| HFR            | HFR Index | HFR Index | HFR Index | April 2003 | Yes | January 2003 | 10.52% | 4.93% | 60 | Monthly | No | Weekly | No | $3,000,000 / Year
| MSCI           | MSCI Investable Index | MSCI Hedge Fund Index | MSCI Hedge Fund Index | July 2003 | Yes | January 2003 | 10.52% | 4.93% | 120 | Monthly | No | Daily | Yes | $3,000,000 / Year
| S&P            | S&P Index | S&P Index | S&P Index | October 2004 | Yes | January 2004 | 10.52% | 4.93% | 60 | Quarterly | No | Daily | Yes | $3,000,000 / Year
| FTSE           | FTSE Hedge Index | HFR Index | HFR Index | July 2004 | Yes | January 2004 | 10.52% | 4.93% | 60 | Quarterly | No | Daily | Yes | $3,000,000 / Year
| Dow Jones      | Dow Jones Composite Index | Dow Jones Composite Index | Dow Jones Composite Index | January 2003 | Yes | January 2003 | 10.52% | 4.93% | 39 | Quarterly | No | Daily | Yes | $3,000,000 / Year

Figure 3 Additional Information on Some Major Investable Index Providers

Source: Index provider websites and methodology documents; tracking error calculations by Hedgequest.

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