

Investable indices of hedge funds: the illusion of passive investment in active strategies

In January 2006, the consulting procedure employed by the Committee of European Securities Regulators (CESR) re-launched the debate surrounding investable indices, following postponement of the decision on the eligibility of hedge fund indices for inclusion in UCITS III funds. Given how much is at stake for the promoters of these indices, the response showed mounting support for an index-based approach to alternative funds. For example, Amenc & Goltz (2006) make a distinction between index and benchmark and justify the eligibility of investable indices by pointing out the transparency contributed by platforms of managed accounts. By contrast, other articles referred back to the results of a number of previous academic papers on the subject (see below) and applied them to investable indices. Thus, Lhabitant (2006), having first dissected the biases and underlying heterogeneity and demonstrated the indices' lack of representativeness, listed a minimum fifteen quality criteria required for hedge fund indices and three for index products. Clearly, the products available to date do not satisfy these criteria.

The debate about hedge fund indices was triggered in the mid-1990s by the first analyses of database bias. In view of the extent of the biases, Fung and Hsieh¹ (2000) suggested using fund of funds indices as a more efficient proxy of the hedge fund universe. This search for greater representativeness by indirect means speaks volumes about the value of a direct approach.

At the beginning of this century, Amenc & Martellini (2003) studied the heterogeneity resulting from the hedge fund indices' lack of representativeness, and compiled indices of indices (the EDHEC indices), to reduce the bias inherent in each database. This approach, while imperfect², represented the optimal solution taking into account the information available, and was favourably received by both researchers and industry professionals.

However, in 2004-2005, the marketing campaigns conducted by the promoters of investable indices fuelled fresh debate. Géhin & Vaissie (2004) studied the heterogeneity of non-investable indices and those that can be replicated, while Duc (2004 a, b, c) demonstrated that this type of product amounts to nothing more than a passively managed fund of funds³. **Viewed in that light, accepting them as eligible for UCITS III funds is tantamount to admitting the eligibility of any fund of funds with systematic rules of portfolio management.**

The polemic surrounding investable indices in 2006 was less heated than that of 2004-2005. However, it raised a new point of contention regarding the indices' heterogeneity that was often used in the past to illustrate the lack of representativeness common to hedge fund indices: that lack was now said to be comparable with that of traditional indices. Empirically, it is difficult to credit such a similarity. Furthermore, the comparison disregards a fundamental difference: the hedge fund indices currently available are composed of managers, whereas the traditional indicators are made up of financial assets.

Denial of this difference also largely explains the success⁴ of the current investable indices in terms of assets under management and poses the question of whether this type of product is really eligible for the mass market. Granted, there is a real, overwhelming demand for hedge fund indices that resemble the traditional indices. But the idea of applying the criteria for passive indices to existing hedge fund indices is an illusion that consists mainly in believing that the active indices can represent their passive counterparts.

¹ The first version of this article dates from 1998.

² The indices of indices suffer from biases that cannot be totally diversified (survivorship, selection and instant history biases) and reduce the transparency in terms of hedge funds selected and weightings.

³ Or of funds of managed accounts.

⁴ In addition to various factors relating to delegation of responsibility and marketing.

The ideal passive index for alternative strategies

The passive approach by replication for alternative strategy indices

Within the framework of traditional investment, the indices represent passive application of the purchasing strategy. In other words, the manager buys the market or a given sector and keeps the positions over the long term. This approach contrasts with that of non-indexed traditional managers who select the market assets or sectors that they find most promising and maintain their positions for a variable period of time.

This duality between passive exposure to the whole market and active selection must be reflected in the construction of an alternative strategy index. The aim is to capture the normal or systematic element of the strategies whilst eliminating everything that could arise from the skill exercised in implementing the strategy. Hedge fund indices, like traditional assets, must not contain alpha; instead they must supply only the factor representing the beta exposure. In other words, passive indices of alternative strategies should offer the modelling of strategies in their purest form, without selection exposure. They would remain passive, even when the strategy was extremely active.

For some alternative strategies, this kind of modelling is fairly easy, at least temporarily. For example, in the case of merger arbitrage, the strategy's passive index is defined by the returns generated by investing in all the mergers/acquisitions announced. In the case of a stock-swap, the purchase of the target is combined with a short position on the buyer, whereas, in the case of a cash deal, only the purchase is made. The exposure is adjusted according to the announcements and then cancelled completely after the transaction is concluded or abandoned. A passive index of this kind is really the equivalent of a traditional index, since there is no selection from amongst the various investment opportunities. The index is thus distinct from the managers who implement this strategy actively by selecting only those mergers/acquisitions that they believe have the greatest chance of success.

Other alternative strategies may easily be replicated. For example, a passive convertible arbitrage strategy – in its classic form – is a portfolio comprising all the issues of delta-hedged convertible bonds. Obviously, the passive approach by replication is easily applicable in the case of systematic strategies. For example, Spurgin (1999) suggests a simple and ingenious method of replicating a diversified CTA.

The difficulty of creating passive indices for hedge funds: an example of evolution

Unfortunately, setting up passive indices for all the alternative indices entails several problems that have not yet been resolved, despite the efforts of numerous researchers and industry professionals. First of all, the strategies evolve: some that were once quite easy to model can become more complex and give rise to several very different passive approaches. Such is the case with merger arbitrage.

Up until the mid-1990s, any financial assets issued by a company targeted for a merger or an acquisition were considered highly risky and out of bounds for the management mandates of certain institutional portfolios. Indeed, when a deal was announced, the assets concerned were systematically sold by the institutional investors, whereas they were bought by arbitrageurs. The post-announcement risk premium therefore reflected not only the currency's time value and the transaction risk premium, but an inefficiency: namely certain institutional investors' barrier to entry. This barrier disappeared in 2000, when brokers and other players in the institutional segment set up a portfolio devoted to securities affected by restructuring. The annualised global risk premium after announcement, which had exceeded 13% between 1992 and 1999, declined to 5% at the beginning of the consolidation cycle in 2003 and rose only moderately during the interest-rate hikes. In Europe, by contrast, for more than 52% of the offers, the market price not only reached the bid price soon after announcement, but went on to exceed it, so that the premium turned negative (as seen with Arcelor and Elior).

And yet, hedge funds can take advantage of the current consolidation in the manufacturing sector by focusing on mergers and acquisitions that show a strong chance of closing – especially on the basis of an upwardly revised offer. In the case of a hostile bid, the target itself might make a counter-offer or negotiate a higher bid by the acquirer or another suitor (white knight). If the offer is friendly, the high likelihood of the deal's being closed reflects a win-win situation for both parties: the feasibility and profitability of the transaction for the acquirer should inspire the envy of its competitors, who will make higher, hostile bids. Under these conditions, the transactions that are the most profitable and contain the highest chance of escalating bids are those concerning small/medium capitalisations. It is therefore hardly surprising to see more and more merger arbitrageurs fishing in these particular waters.

This new way of applying the strategy is similar to that consisting of betting on restructuring before it is announced. In 2005, mergers funded entirely with cash represented over 75% of total transactions (stock-for-stock mergers having declined from 41% in 1998 to 9% in 2005). The strategy boils down to purchasing the assets of the target company. Since then, many portfolio managers have increased their exposure to unannounced transactions.

As a result of this trend, merger arbitrage, like many other relative-value strategies, is shoring up its profitability by increasing its exposure to market direction and/or liquidity risk. Strictly speaking, this is no longer arbitrage, and the passive approach outlined above thus ceases to be at all representative of the investment strategy.

The other difficulties entailed in passive hedge fund indices

Merger arbitrage is not the only strategy calling for new types of modelling. Ever since implied volatility plunged in 2003, very few hedge funds have engaged in convertible arbitrage simply by taking a long volatility position. Some managers are focusing on convertible debt, while others are betting on credit spreads and implied volatility. Even though the asset class is the same, the managers' investment styles are quite different.

In fact, passive indices assume that the various strategies are clearly defined. Classification remains a key point for hedge funds, given the freedom accorded by the mandates and the heterogeneity with which they are carried out. In 2003, the AIMA (the Alternative Investment Management Association Ltd.) set up a think tank to tackle standard classification of hedge funds. The members comprised five highly regarded researchers and 72 hedge fund professionals. A survey of them revealed that over fifty percent of investors used their own classification system and that there was no strong consensus amongst the others regarding external classification. The situation has barely changed since.

Moreover, even supposing that agreement were reached on efficient classification of the various strategies, and that this classification were updated continuously, the passive hedge fund indices would still be faced with a major problem. The complexity of certain strategies and the contribution of the discretionary element can be so great as to make efficient modelling virtually impossible for the time being. In such cases, one solution could be the representation of a pure strategy by means of an explanatory model incorporating a choice of financial factors, such as those proposed by Kazemi, Martin & Schneeweiss (2001). Accordingly, the CISDM passive indices would measure, for a group of hedge funds following the same strategy, the average sensitivities to a sub-group of factors over a given year, and then evaluate the strategy's average returns for the following year.

Unfortunately, this approach runs up against two major obstacles; first, constructing a factor model with sufficiently robust traditional indicators is not a simple affair. None of the methodologies proposed to date has shown satisfactory results, so that the out-of-sample projections have proved very disappointing. Second, this kind of modelling assumes a representative sample⁵ of managers using the same strategy, which, as we shall see later, is no mean task. That is why the passive indices produced by the Centre for International Securities and Derivatives

⁵ Or a sample average, i.e. an active index in the case of hedge funds, as discussed below. This is rather a self-defeating process: since the active indices are not relevant, it is better to have passive indices. However, for many strategies, these passive indices can only be constructed by replicating the exposures, which are obtained by means of active indices.

Markets (CISDM) are no longer published on its web site and why the alternative fund industry has not reached consensus on this type of approach.

Nevertheless, the academic world and the leading financial institutions have not abandoned the search for passive indices. Kat & Palaro (2005) and Hasanhodzic, Jasmina & Lo (2006) propose new passive approaches to representing the alternative strategies. Events speeded up in November 2006 with the announcement of a software program for replicating strategies. Elsewhere, Merrill Lynch's convertible research teams have been calculating passive indices for several months, and the trading desks of numerous banks continue to work on mechanical means of strategy replication. The odds are that, if 2003 was the year of the first investable indices, 2007 will witness the first investment vehicles offering passive replication of the alternative strategies. However, given the difficulties outlined above, it is still too early to deliver a verdict on approaches that have not yet stood the test of scientific contradiction and empirical validation⁶.

As a result, the vast majority of hedge fund indices (investable and non-investable) consist of the averages of the yields of a sample of hedge fund managers and not passive modelling of the strategy in its purest form. Any attempt to transpose the rationale for traditional indices to hedge fund indices is based on the illusion that the managers' averages offer a fair approximation of the passive indices or an efficient representation of the hedge fund universe.

Illusions fostered by the hedge fund indices

The illusion of achieving purity

The first illusion fostered by the active indices is that they can serve as a proxy for a passive index, i.e. provide an efficient approximation of the strategy in its purest form. This is like believing that one can create a proxy of the S&P 500 on the basis of the average of a few non-indexed traditional funds.

Furthermore, in the case of investable hedge fund indices, the way they are constructed and managed in practice proves that they do not claim to represent pure strategies. Close examination of the hedge funds comprising them makes it patently clear that there is little likelihood of their offering effective representation of the pure strategy.

For example, the Dow Jones Convertible Bond investable index has experienced a fair amount of long equity exposure and short convertible bond exposure. These exposures are exactly the reverse of those entailed in pure convertible arbitrage as modelled by a passive index. In addition, despite the fact that hedge funds with a virtually passive approach to merger arbitrage or convertible arbitrage already existed when the investable indices were launched, none of these strategies was included in the new indices, probably because their profitability had already declined significantly.

Lastly, when it comes to replacing the components of the investable indices, the choice is more a matter of the managers' quality than their implementation of the strategy (i.e. pure or complementary to that of other hedge funds). For example, at the end of February 2003, the S&P index replaced the Jemmco fund with the GLC Gestalt Europe fund. Both managers follow the statistical arbitrage strategy, but the former used several statistical models (including a pair-trading model) on mainly US equities, while the latter conducted pair trades on European stocks. It is hard to see how the two hedge funds could represent the same mean approach to the pure strategy or produce the same diversification effects.

The construction and management of investable indices shows, therefore, that the need to replicate a pure strategy counts for little compared with the need to select hedge funds deemed the most profitable. One must bear in mind that most of the investable indices are commercial products seeking the best returns and not the best

⁶ This validation must be based on real, and not pro forma, data, in order to gauge the out-of-sample robustness and its ability to adapt to the strategy's evolution.

representativeness. In 2005, an advertising campaign actually suggested that the CSFB investable was the best index in the field because it had posted higher returns than its competitors during the year. In other words, the main point was not to buy the market of pure alternative strategies, but to choose the best managers.

The illusion of representativeness

The second illusion is that the hedge fund indices currently available, whether investable or not, estimate the average of the total hedge fund universe⁷. Based on this assumption, hedge fund indices would be passive, not because they represented the pure strategy, but because they provided access to the whole hedge fund market, without being exposed to the selection of specific managers.

Unfortunately, the total inventory of hedge funds remains unknown, and the universe is estimated using information compiled by the commercial databases. But can samples composed on the principle of voluntary input and the indices derived from them offer a correct picture of the hedge fund universe? The non-investable indices' lack of representativeness has been studied in detail by academic research and obtained broad consensus following the work done by Amenc & Martellini (2003). Whilst the indices derive from heavily biased, fairly small samples, the population (unknown) is highly heterogeneous. This lack of representativeness is reflected in a total lack of homogeneity between the many indices in terms of construction and returns. For example, the monthly returns may vary by more than 17% and the correlation between indices supposedly representing the same strategy can be negative.

The investable indices inherit this lack of representativeness, since they are only non-investable indices subject to constraints. The situation has actually worsened, as a global investable index comprises between 20 and 120 hedge funds, whereas the non-investable version has between 400 and 2,600 hedge funds. Furthermore, as Lhabitant points out (2006), the database bias is accompanied by other shortcomings particular to the investable indices, such as biases in terms of under-representativeness, due diligence, managed accounts and pro forma data.

It is tempting to reason that the investable indices are of better quality than their non-investable counterparts. First, because their track records since inception⁸ are not exposed to survivorship bias and instant history bias as a result of their construction. In principle, this improvement should not have a significant impact on the quality of the indices. As noted by Amenc & Martellini (2003), the index-of-indices approach, which, as we have shown, significantly improves representativeness, does not diversify these two biases. Therefore, the biases do not represent a major pitfall in the non-investable indices. It would therefore be somewhat surprising if what was true of the one was not true of the other.

Next, one could reason that the investable indices must be more adequate because greater care is taken in composing a hedge fund portfolio of "live" investments than in the intellectual construction of an index that cannot be replicated. Accordingly, the classification of the hedge funds is bound to be less biased. And indeed, the promoters of investable indices will, at the very least, check the validity of the managers' claims and may also carry out extensive due diligence work on each of the hedge funds⁹. Similarly, the information supplied by each of the underlying funds is checked continuously, since six of the eight investable indices use managed accounts. Furthermore, the launch of these products demands considerable work from the promoter, not only on the funds selected, but on cleaning up part of the databases. For example, when HFR launched the investable versions of these indices, it created a sub-set of its own database, comprising around 200 funds that had been analysed in depth. This sub-set provided the means of determining the strategic allocation by capitalisation of the HFRX index

⁷ The point is no longer to capture solely the beta but also the average alpha and the average management of the dynamic betas compared with the pure strategies.

⁸ Prior to the launch, there was obviously a pro forma effect.

⁹ However, there is a fine line between improved information and due diligence bias. According to Lhabitant (2006): "Can one imagine Standard & Poor's refusing to add a major listed US corporation to the S&P 500 on the pretext that some of its activities are not at the cutting edge? Hardly".

and of building an index serving as reference for the process of allocation optimisation¹⁰ per hedge fund within the HFRX. The use of a sub-index rather than the non-investable HFR index could be perceived as an admission of weakness in the non-replicable hedge fund index.

However, despite these improvements, the fact that the investable indices have less components and more constraints as well as biases (both their own and others inherited from the databases), means that they fail to provide better representation than the non-investable indices. Their heterogeneity is higher, on average, than that of the non-investable indices. The opposite impression is given by the changes in volatility trends between the period studied by Amenc & Martellini (2003) and recent years, which saw the launch of the investable indices. For example, the volatilities of the 12 EDHEC indices average out at 1.9 times higher than those measured between October 2002 and September 2006 (3.2 times higher for the fixed income index).

In reality, the difference registered in February 2000 between the real return on the Zurich Long/Short investable index (+20%) and the pro forma return¹¹ on the FTSE Long/Short (+6.81%) is 14.67%. This difference is similar to that between the non-investable indices. Furthermore, for the period from April 2004 to September/October 2006, the differences in the returns of investable indices following the same strategy are often greater (and the correlations lower) than those between the non-investable versions, as the table below shows¹². Clearly, the two families of indices display an almost identical lack of homogeneity. Now, as we stated earlier, it is generally accepted that the non-investable indices are so highly heterogeneous that one must adopt an index-of-indices approach – despite the cost in terms of transparency and complexity. Similarly to the survivorship and instant history biases, it would be very surprising here if what condemned one family of indices did not do the same to the other.

		Convertible Arbitrage	Equity Market Neutral	Event Driven	Fixed Income Arbitrage	Global Macro	Long/Short Equity	Merger Arbitrage	Distressed Securities	CTA
Non Investable	Maximum difference	1.07%	2.48%	2.51%	2.19%	3.04%	1.41%	1.87%	1.55%	10.05%
	Minimum correlation	0.96	0.07	0.91	0.07	0.69	0.94	0.87	0.82	0.65
Investable	Maximum difference	1.95%	1.56%	1.78%	2.73%	4.68%	2.94%	1.74%	2.93%	5.39%
	Minimum correlation	0.81	0.18	0.81	0.56	0.19	0.70	0.69	0.49	0.85

Table 1: comparison of the heterogeneity of 53 investable indices and 45 non-investable indices

The maximum difference between the two long/short indices in February 2000 is greater than that between the traditional-style indices (such as the European equity value and growth indices). This is particularly true given that when comparing investment strategies, one must adjust the differences in return to the average volatility level of each of the styles. That being the case, the homogeneity of the investable alternative indices is significantly lower than that of the traditional indices, so that the correlations between the European equity growth indices¹³ are much higher than those between the hedge funds: from April 2004 to October 2006, the minimum correlation is 0.85 (0.95 for the value style) whereas for the investable indices, and depending upon the strategy, the correlations can be in the region of 0.2 (see Table 1).

Whether investable or not, the hedge fund indices are subject to a far greater lack of representativeness than the traditional indices. This is because, in the case of the alternative funds, the problem goes well beyond poor classification of financial assets. Rather, it concerns the averages of managers (active indices) with considerable

¹⁰ However, one must have some reservations about the results of optimisations performed on samples that are still heavily biased.

¹¹ As it is highly likely that the monthly return of the lower bound has been overestimated, the difference in performance is probably underestimated.

¹² Comparison carried out on the non-investable indices Altvest, CS/Tremont, CISDM, EACM, Hedgefund.nett, HFR, Hennesse, MSCI, vanHedge) and the investable indices CS/Tremont, DJ, FTSE, HFRX, MSCI, S&P. The inception date of the most recent family of investable indices determines the size of the sample.

¹³ For the S&P/Citigroup, MSCI, FTSE Style and Dow Jones Euro Stoxx TMI indices.

freedom in their mandates, drawn from biased, heterogeneous samples with weak intersections. In reality, by their construction, the investable hedge fund indices can represent neither **the hedge fund universe** nor **open funds** nor **funds available for investment**.

In fact, if the indices attempted to represent **the complete hedge fund universe** by means of open funds, they would actually suffer from an additional selection bias: that of using open funds to capture the performance of closed funds. This additional shortcoming may not apply in two cases: if there is no difference between the closed and open managers, or if these differences are smoothed out by a methodology particular to each of these indices. Where one of these assumptions applies, there should be very little difference between two indices (one investable, the other not), drawn from the same database, and the creation of two versions of the same index would be justifiable only on commercial grounds. However, there are substantial differences between the investable and non-replicable versions of the same family of indices (see Table 2 for the global indices).

Investable hedge fund indices cannot represent **the open funds universe**, because they are not composed solely of funds belonging to this universe. They contain many partially closed hedge funds i.e. funds that accept new investments only from investors that have reserved capacity. For example, several hedge funds in the S&P index were selectively open. The weak intersection between the investable indices derives also from the fact that only some of the promoters were capable of reserving sufficient capacity in these funds. Furthermore, certain investable indices plan on maintaining exposure to funds that actually close after being included in the index. In other words, the replicable indices are replicable only for their promoters and do not reflect the universe of open funds. For the indices to be consistent with the open fund universe, they should exclude any hedge fund that refuses the capital of an ordinary investor that complies with the laws governing investment.

The investable indices are also inadequate to represent the **universe of hedge funds accessible** to the ordinary investor, because the universe in question is made up of open funds and of all the closed hedge funds whose investors include funds of funds. An investor can gain access to a closed fund by investing in a fund of funds that, in its turn, is invested in the closed hedge fund. By their construction, neither the funds closed before the launch of the investable index nor the funds of funds may participate in a replicable index. And as the closed funds induce a discriminatory effect, the investable indices fail to represent the universe of accessible funds.

Since the investable funds fail to represent hedge funds in their entirety (open or not), **the investable indices can claim only to describe the sample from which they are drawn. And this sample depends ultimately upon the selections made by the promoters of the investable indices. From that viewpoint, the investable funds are almost indistinguishable from funds of funds.**

Thus, the investable indices do not offer passive exposure to the average of managers in the universe. Instead, they expose the investor, in real terms, to the selection of the hedge funds included, in the same way as funds of funds, but over a smaller group of alternative funds i.e. those that are willing to reserve capacity for the index and/or adhere to a platform of managed accounts. Indeed it is not surprising that one of the most perverse effects of the strong contribution from manager selection, in the case of both investable indices and funds of funds, is pro forma outperformance. Since inception, the MSCI, HRFX and CSFB investable indices have underperformed their non-investable versions, whereas they were all more profitable during the periods of simulation.

	Inception	Total return on the non-investable version	Total return on the investable version
CS/Tremont	August 2003	38.11%	20.69%
HFR	March 2003	54.06%	23.69%
MSCI	July 2003	32.19%	18.57%

Table 2: comparison of returns on global investable and non-investable indices

The illusion of optimality

Whilst true representativeness of the total universe thus proves impossible, it is also far from optimal, and is therefore not really desired.

The reason is that the hedge fund universe contains managers of varying quality. **Seeking to invest in the average portfolio of the universe amounts to seeking exposure to these mediocre hedge funds.** As demonstrated by Liew (2002), for a given universe of hedge funds, selection quickly becomes profitable. Furthermore, the opinion held by some financial players that fund of funds selection is not efficient arises from comparing the returns on non-investable indices with those of funds of funds. The latter tend to underperform the average indicators, owing not only to all the biases and methodological problems, but to the fact that they are not operating in the same universe. Many funds of funds tend to avoid funds that have a high exposure to certain risks, such as fraud or liquidity risks (Red D) or catastrophe risk. This is also the type of exposure that hedge fund investors seek to avoid.

Moreover, **if the hedge fund indices were truly representative, they would reveal substantial turnover.** Today, an estimated 12% of funds in the hedge fund universe cease to exist after a year. The hedge fund indices should thus reflect this aspect of the universe and offer at least the same degree of rotation.

Similarly, contrary to the case for traditional funds, **there is no fundamental justification for the allocation by capitalisation**, since hedge funds are not a class of financial assets. Their capitalisation does not reflect a company's performance and its financing needs, but rather, the capital flows into the strategy and the fund¹⁴; and these flows are destined primarily for the recent winners. For example, in a study of arbitrage strategies, Argawal, Daniel & Naik (2003) show a strong relation between flows in one year and average returns in the previous year. In other words, flows into the strategies reveal that, on average, investors are chasing returns. This allocation process is clearly sub-optimal, as it runs counter to the lack of an average persistency in hedge fund returns and to the existence of cycles between strategies¹⁵.

The investable indices, albeit only funds of funds in disguise, indirectly inherit these various shortcomings. For example, the components of the CS/Tremont index are weighted by capitalisation. Similarly, the FTSE, HFR and MSCI products, amongst others, use platforms of managed accounts and restrict determination of an average selection through their various biases. In fact, even if the investable indices' track record is not sufficient to demonstrate the lack of optimality, it is nevertheless revealing that, to date, none of the investable indices has

¹⁴ On this basis, weighting by capitalisation does not correspond to a buy-and-hold strategy, since the weighting is not only adjusted passively by the returns, but must be modified based on new capital inflows. Furthermore, the weighting by capitalisation is inadequate by the terms of alternative strategies. On the one hand, the hedge funds can make use of the leverage effect by borrowing capital, so that two hedge funds of the same size may have very different exposures to the strategy. On the other hand, hedge funds do not have the monopoly of the alternative strategies. For example, banks' trading desks make extensive use of alternative strategies (indeed, they are the prime source of hedge fund managers).

¹⁵ See, for example, Amenc, El Bied & Martinelli (2003).

offered, since inception¹⁶, higher profitability¹⁷ than the average for funds of funds, as measured by the EDHEC index.

	Inception	Return on the investable index	Return on the EDHEC fund of funds index
CS/Tremont	August 2003	20.69%	26.67%
FTSE	April 2004	6.52%	17.08%
HFR	March 2003	23.69%	33.20%
MSCI	August 2003	18.57%	26.67%

Table 3: comparison of returns on global investable indices and the funds of funds

¹⁶ Since the investable indices are funds of funds, using data from prior to the index's launch is equivalent to using the simulated returns on a fund of funds, an error that any sophisticated investor is reluctant to commit. The "pro forma" data either is the result of an optimisation process (and thus always highly favourable) or has influenced hedge fund selection. Although all selectors are aware that past performance is no guarantee of future results, there remains a natural tendency to prefer hedge funds that have delivered attractive returns in the past.

¹⁷ And yet, the comparison of the indices' returns as provided by their promoters on the Web and by Bloomberg would seem to favour the investable indices. Indeed, the investor is only informed of the returns on the indexed funds; and these may include tracking fees, management fees, entry and exit fees and differences due to tracking error.

Conclusion: three possible routes

Up until the mid-1980s, only a handful of wealthy private clients invested in hedge funds. Such investments took the form of a discretionary mandate whose target was formulated in absolute terms, i.e. with no reference to the market's average return or the peer group's performance. Therefore, there was no demand for a statistical indicator of the performance of the hedge fund universe.

The mid-1980s onwards saw spectacular growth in the number of hedge funds and investors, and the emergence of private databases charging for their services, to compensate for the lack of official data. In most instances, their promoters calculated an average indicator of returns on the hedge funds in their database. They thus gave birth to the first hedge fund indices, whose purpose was mainly indicative.

The academic researchers who set themselves to investigating the validity of these indices immediately pointed out that compiling a sample aimed at representing the total universe was scarcely compatible with the manner in which hedge fund databases were built, i.e. on a foundation of voluntary participation. In terms of methodology, it was clear that these so-called indices could not claim to represent the hedge fund universe to any useful extent.

In the early years of the new millennium, the massive influx of institutional investors created a real demand for efficient hedge fund indices. Given the lack of a representative sample, the indices-of-indices method quickly imposed itself as the best solution to hand, despite the sacrifice in terms of readability of the underlying hedge funds and their weightings.

The early 2000s also brought the first investable indices, followed more recently by others from the major providers of traditional indices, such as MSCI, S&P, Dow Jones and FTSE, as well as from high-profile names in finance (CS and Royal Bank of Canada) and alternative investment (HFR). It is estimated that in 2006, over 12 billion US dollars were invested in index products for alternative funds.

This boom stems above all from the sheer force of marketing. After all, for both the promoters and their investors, the investable indices are the ideal tool for delegating responsibility. For hedge fund analysts, the pseudo-representativeness offers a ready-made excuse for selection errors. For the managers of the index-linked vehicles, the task consists of managing a fund whose benchmark is its own performance. For the sellers of the indexed products, the confusion created by the various levels of return and the assumed representativeness enable the use of either pro forma data, or gross data or even those of another product. Finally, for the managers of institutional portfolios, allocating funds to a product reputed to be an index provides a means of avoiding all responsibility for selection. Nevertheless, the advantages to institutional investors of delegating responsibility for index selection were contradicted recently by the Refco bankruptcy, which hurt investors in the Standard and Poor's hedge fund index.

But the success of the investable indices also relates to the strong demand for two types of product that are missing from the market, a fact from which they benefit.

First, a portion of the shareholders in the investable indices wishes to obtain exposure to the alternative strategies without being dependent upon the choice of managers. They could thus create a core portfolio geared to the beta of the alternative strategies and add a portfolio of a few hedge funds carefully picked to capture their alpha. The selectors of hedge funds could limit their exposure solely to the managers' talents by short-selling the strategic indices and investing in the strategy's best hedge funds. These viable approaches require the creation of so-called passive indices i.e. indices that represent only the strategy without the added value of the manager. Clearly, these indices cannot be obtained by grouping the allocations to a large number of hedge funds. Instead one must replicate the strategies by means of derivative products and systematic management. It is highly likely that the first investment vehicles of this type will be available in 2007. **However, given the way the strategies evolve, these vehicles could rapidly find themselves replicating approaches that no longer correspond to the current pure**

approach and so would end up simply as individual hedge funds. Without attempting to predict the quality of the robustness of these products¹⁸, we may assume that these approaches will play an active role in financial innovation and that it will take some time to achieve a consensus.

The second type of product sought after through the investable indices is not a type of index, since representation of the hedge fund universe is not really the point. On the contrary, the investor is mainly seeking portfolios that reflect the selection.

The indexing revolution that began for traditional assets in the early 1970s also ushered in a new trend: the diminishing role of the arbitrary element in financial management. Nothing could be more fundamentally opposed to indexing than hedge funds, in view of the freedom of their mandates: the manager's renowned skill, his "alpha", is a monument to all that is arbitrary. To this must be added a second layer of discretionary influence, induced by the active management of a hedge fund portfolio. For many years, allocation by strategy was determined in the early stages of portfolio construction according to the portfolio's aims and constraints, and any subsequent adjustments were minor ones. There were two main justifications for this approach: first, the different strategies and styles displayed a certain stability in their risk-reward profiles over a twenty-four month horizon; second, the hefty returns on hedge funds at the time did not justify tactical allocation, which was rendered difficult by the subscription and redemption restrictions imposed by the hedge funds. As of the beginning of this century, the situation changed profoundly. Empirically, the relations between the risk-reward profiles of the various strategies/styles were no longer as robust in the medium term, and the decline in returns was accompanied by changes in the cyclical behaviour of the styles' performances. Today, within a fund of funds, the tactical re-allocations, particularly for the various arbitrage styles, are a significant source of upside potential, as demonstrated by Amenc, El Bied & Martellini (2003).

For institutional investors accustomed to benchmarks, this increase of the arbitrary element in fund of funds management was a spur to seeking a more objective approach, such as that proposed by the investable indices. However, in reality, the demand focused on highly diversified portfolios, managed passively and composed of hedge funds that, on the one hand, satisfied the stringent due diligence requirements of institutions, and, on the other, were used in various funds of funds or portfolios with special mandates seeking something other than pseudo representativeness. In fact, investors were hoping to gain access to a portfolio of the list of approved funds, i.e. the raw material of the fund of funds managers¹⁹.

Unfortunately, the investable indices do not really answer this demand. Six out of the eight index families use platforms of managed accounts and expose their investors to an additional bias: that of managers that agree to offer managed accounts or whose strategy is not incompatible with the liquidity requirements of this type of platform. As a result, only three of the twenty biggest hedge funds are found on these platforms. In addition, the two families of indices composed of funds and not of managed accounts seek to represent the universe by weightings that reflect either the capitalisation or the strategy allocation. Finally, the index products are generally these promoters' core business and the hedge funds selected are not used primarily for differentiated mandates.

To our knowledge, no investment vehicle to date replies to this specific demand. Rare indeed are the fund of funds managers with a list of approved funds and a sufficiently large range of products to offer their clients access to a portfolio of at least 150 open hedge funds. Furthermore, these hedge funds must be allocated to one of their funds of funds or to managed accounts. In reality, when the managers meet these two conditions, they prefer to reserve the hedge funds' capacity for the products on which they are likely to earn the highest fees.

¹⁸ Despite the unsuccessful attempts of the past.

¹⁹ The optimal approach in terms of representativeness is to invest in a portfolio of portfolios of the approved list of the ten largest alternative fund investors. Here too, the use of an index of investable indices currently available would be an unsatisfactory approach, due to the biases of under-representativeness and managed accounts.

Therefore, the 12 billion dollars invested in hedge fund indices must not be allowed to sway our judgement. The assets under management do not reflect an industry consensus²⁰. In fact, these indices are more like default products profiting from the illusion that they can be different from funds of funds. **The inclusion of hedge fund indices amongst the assets eligible for UCITS III vehicles tends to signify in practice that any fund of funds or fund of managed accounts could be distributed to retail investors.** The fund of funds managers would only have to disseminate a few arbitrary systematic rules describing the way they manage their hedge fund portfolio, with no need for representativeness, and proclaim themselves indices. **For in reality, the question arising from the consultation paper by the Committee of European Securities Regulators is the following: should funds of hedge funds be eligible for mass market funds?**

Bibliography

- Agarwal, Vikas and N. Naik, 2000, "Flows and performance in the hedge fund industry", Center for hedge funds research and Education, Working Paper.
- Amenc, N., El Bied, S. and L. Martellini, 2002, "Evidence of predictability in hedge fund returns and multi-style multi-class tactical style allocation decisions", working Paper Series, USC Marshall School of Business.
- Amenc, N. and F. Goltz, 2006, "A reply to the CESR recommendations on the eligibility of hedge fund indices for investments of UCITS", EDHEC Risk & Asset Management Research Centre, Working Paper.
- Amenc, N. and L. Martellini, 2003, "The brave new world of hedge funds indices", EDHEC Risk & Asset Management Research Centre, Working Paper.
- Duc F., 2004a, "Hedge funds indices: Status review and user guide", 3A Alternative Investments, Working Paper.
- Duc F., 2004b, "Investable indices: a viable alternative to funds of funds?", 3A Alternative Investments, Working Paper.
- Duc F., 2004c, "Investable indices: illusion or reality?", 3A Alternative Investments, Working Paper.
- Fung W. and D.A. Hsieh, 2000, "Performance Characteristics of Hedge Funds and Commodity Funds: Natural Versus Spurious Biases", Journal of Financial and Quantitative Analysis, 35 (3).
- Gehin W. and M. Vaissie, 2004, "Hedge Fund Indices: Investable, Non-Investable and Strategy Benchmarks", EDHEC Risk & Asset Management Research Centre, Working Paper.
- Hasanhodzic, J. and A. W. Lo, 2006, "Can hedge funds returns be replicated", MIT, Working Paper.
- Kat, H. M. and H. P. Palero, 2005, "Hedge Funds returns: you can make them yourself", Cass Business School, Working Paper.
- Kezemi, H., Martin, H. and T. Schneeweis, 2001, "Understanding Hedge Fund Performance: Research Results and Rules of Thumb for Institutional Investor", Lehman Brothers, Working Paper.
- Lhabitant, F.-S., 2006, "Les indices de hedge funds doivent-ils être éligibles ou non aux fonds grand public", Autorité des Marchés Financiers, Les cahiers scientifiques n°2.
- Liew J., 2003, "Hedge Fund Index Investing Examined", Journal of Portfolio Management, 6(1).
- Spurgin R., 1999, "A benchmark for commodity trading advisor performance", The Journal of alternative investments.

²⁰ Furthermore, while there is no denying the success of the investable indices in absolute terms of assets under management, it is relatively mediocre compared with the estimated 400 billion dollars managed by the funds of funds.