

HEDGE FUND MANIA

Some Words of Caution



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Hedge funds are on their way to become the next big thing in investment management. New funds start every day, hedge fund marketing is intensifying and many institutional investors are showing interest. However, hedge fund investing is not without complications. It is therefore important for investors to understand what hedge funds are and especially what they are not. This article gives some background information and provides some critical comments in the process.

More and more investors, private as well as institutional, are seriously looking at hedge funds as a new alternative asset class. Although the hedge fund industry is just in its infancy, many books, working papers and articles have already been written on the subject⁽¹⁾. Conferences and symposia on hedge funds and other alternative investments sell out within days. The picture that emerges is that of a group of super investors, offering risk-return profiles that other investors can only dream of. Hedge fund managers charge hefty fees but this does not seem to deter investors. Currently there are more than 6,000 hedge funds managing around \$400 billion in capital, with approximately \$1 trillion in total assets. About 90% of hedge fund managers are based in the US, 9% in Europe and 1% in Asia and elsewhere. Most funds have not been in existence for long. In the last five years the number of hedge funds has doubled. Around 80% of hedge funds are smaller than \$100 million and around 50% is smaller than \$25 million, which reflects the high number of new entries.

So far, hedge funds have primarily been an American phenomenon. Interest in Europe, however, is picking up quickly. On November 29, 2000 the first Dutch hedge fund was launched by three ex-ABN AMRO ana-

lysts and a number of others are expected to follow. In addition, all the major asset managers are currently working on or are already offering hedge fund linked investment products. This means that Dutch investors can expect marketing efforts in this area to pick up substantially. Time therefore for a quick objective briefing.

'Hedge Fund' not 'Hedged Fund'

A hedge fund is typically defined as 'a pooled investment vehicle that is privately organised, administered by professional investment managers, and not widely available to the public'⁽²⁾. Due to their private nature, hedge funds have less restrictions on borrowing, short-selling, and the use of derivatives than more regulated vehicles such as mutual funds. This allows for investment strategies that differ significantly from the long-only, non-leveraged strategies traditionally followed by investors. So what is the typical strategy followed by hedge funds? It is here where the confusion starts, as there is no typical hedge fund strategy. Nowadays, every non-traditional investment strategy tends to be referred to as a hedge fund strategy. Even particular long-only, non-leveraged funds, such as emerging market funds for example, are sometimes classified as hedge funds. This means that hedge

funds are an extremely heterogeneous group, which in turn has two important consequences. First, it is dangerous to make general claims regarding hedge funds. Second, many hedge funds are not 'hedged' at all, i.e. hedge funds can be a lot more risky than the name suggests.

In principle every hedge fund follows its own proprietary strategy. There are, however, a number of ideal types to be distinguished. There are three main groups. So-called Global funds concentrate on economic change around the world and sometimes make extensive use of leverage and derivatives. This type of funds is responsible for most media attention and includes well-known names such as George Soros's Quantum Fund and Julian Robertson's Tiger Fund Management. Event-Driven funds trade securities of companies in reorganization and/or bankruptcy (distressed securities) or companies involved in a merger or acquisition (risk arbitrage). Market Neutral funds are the largest group. These funds simultaneously enter into long as well as short positions. Some use fundamental analysis to decide what to buy and what to short. Others use technical analysis, statistical analysis and/or complex theoretical models. The risk profile varies per group. Roughly speaking, global funds tend to be the most and market neutral funds the least risky. Because many investors see hedge fund managers as true investment wizards, the latter have no problem charging hefty management fees. Most hedge funds charge a fixed annual fee of 1-2% plus an incentive fee of 15-25% of the annual fund return over some benchmark. It is interesting to note that although they are completely different animals, funds of hedge funds, i.e. funds that invest solely in hedge funds, charge fees similar to hedge funds. The average fund of funds charges an annual management fee of 1.4% plus an incentive fee of around 10%. Although funds of funds generally obtain rebates from the managers they invest in, the extra layer of fees puts substantial pressure on fund of funds' performance.

Biases in Hedge Fund Data

With the industry still in its infancy and hedge funds under no obligation to disclose their results, gaining insight in the performance characteristics of the different types of hedge funds is not straightforward. Fortunately, many hedge funds release monthly return information to attract new and accommodate existing investors. These data are collected by a number of parties, some of which make them available (at a fee) to the public over the internet. The most noteworthy databases are compiled by HFR (www.hfr.com), TASS (www.tassresearch.com) and MAR/Hedge (www.mar-hedge.com)⁽³⁾. Apart from performance data these

data vendors also collect many other useful pieces of information such as type of strategy followed, assets under management, management fees, formal structure, manager details, etc. In addition, they use their databases to calculate a number of hedge fund indices. Most academic and commercial studies of hedge fund performance use data from the above databases. Unfortunately, as we will discuss below, these data are not necessarily representative for the entire (unobservable) hedge fund universe.

Survivorship Bias

Survivorship bias occurs when the data do not realistically reflect survivors and failures. When the emphasis is on survivors, average returns will be overestimated and volatility will be underestimated. Survivorship bias can creep in at the database level as well as at the user level. A database may be biased because, based on the argument that subscribers are only interested in funds in which they can actually invest, the data vendor deletes funds as soon as they become defunct⁽⁴⁾. Fortunately, this is not the case with the HFR, TASS and MAR/Hedge databases. The proportion of defunct funds in these databases varies strongly, however. Compared to both others, the HFR database contains a very low proportion of defunct funds. It is unclear why this is, but it implies that either the HFR database or the TASS and MAR/Hedge databases are definitely a biased reflection of the hedge fund universe that is actually out there. In this context it is also important to note that many funds seem to report to only one data vendor. Liang (2000) found only 465 common funds when he compared the HFR (1,162 funds per July 1997) and the TASS (1,627) databases.

But there is more. When a fund is added to a database, data vendors tend to backfill that fund's performance history. This procedure allows a data vendor to provide data that go back beyond the start date of the database itself. This is a good thing. The downside, however, is that the database will not contain any funds that ceased operation during that period. Since most hedge fund databases started around 1994, this means that even databases that normally do not eliminate defunct funds suffer from survivorship bias for the years before 1994.

As mentioned, survivorship bias can also be introduced by the user himself. Even if a database itself is unbiased, a researcher may choose to study only surviving funds. Most performance studies only look at funds that are still in operation and for which there is at least a certain amount of data available, such as the last five or the last ten years for example. This automatically roots out all funds that ceased operation in that

period and therefore introduces survivorship bias where there might have been none.

Several authors have tried to measure the extend of possible survivorship bias. Brown, Goetzmann and Ibbotson (1999) studied the US Offshore Funds Directory. They estimated survivorship bias at around 3% per year. The same conclusion can be found in Fung and Hsieh (2000), based on the TASS database. In other words, concentrating solely on surviving funds will overestimate the average hedge fund return by 3% per annum. The above also sheds some light on how many hedge funds actually cease operation. As of September 1999, the TASS database contained 1,120 surviving and 602 defunct funds!

Selection Bias

There are other reasons why hedge fund data may be biased as well. First, database vendors have certain criteria that need to be satisfied before a fund is included in a database. Second, with most hedge funds seeing inclusion in a database primarily as a marketing tool, funds with a good history are more likely to apply for inclusion than funds with a less satisfactory performance history. Since after inclusion a fund's performance history is backfilled, this will cause a significant upward bias. This is confirmed by Fung and Hsieh (2000), who estimate this bias to be responsible for an extra average return of 1.4% per annum. It is sometimes argued that successful funds will stop reporting when they have reached their target size and that this will offset the above effect. Given the high number of new entries, however, at least for now the net result is likely to be upward.

Marking-to-Market Bias

Some hedge funds invest in relatively illiquid securities for which there is often no recent or observable market price available. To produce a monthly return figure, these funds will typically either use the last available price or their own estimate of the current market price. This may not be too relevant for the average return that is ultimately reported, but it most certainly is for risk management purposes. As shown by Dimson (1979), stale prices can lead one to underestimate true variance and correlation. Since the latter are crucial inputs for standard performance measures (see next section), this will make these funds look better than they really are.

The Superior Performance Argument

Hedge fund marketing rests on two pillars: superior performance and correlation. Most hedge fund managers have substantial experience in capital markets, either as an investment manager, investment

analyst or as a proprietary trader. This expertise is typically presented to investors as a virtual guarantee for superior performance. A recent report by KPMG Consulting (1998, p. 3) for example states boldly that 'the long-term average performance of hedge funds as a group can be estimated to be in the range of 17-20%, several percentage points higher than traditional equity returns'. Especially in today's environment of low interest rates and declining stock markets, many private as well as institutional investors are very sensitive to such arguments.

The standard way to investigate claims of superiority is to calculate either the Sharpe ratio or the alpha of the fund in question. The Sharpe ratio is calculated as the ratio of the average excess return and the return standard deviation of the fund in question. Roughly speaking, it measures the excess return per unit of risk. The benchmark value is the Sharpe ratio produced by the relevant market index. Theoretically, the Sharpe ratio derives directly from the CAPM. Assuming all asset returns to be normally distributed, the CAPM tells us that in equilibrium the highest attainable Sharpe ratio is that of the market index. A ratio higher than that therefore indicates superior performance. Alpha equals the intercept of a standard OLS regression of the excess fund return on the excess market index return. Alpha therefore measures the excess return that cannot be explained by a fund's beta. Like the Sharpe ratio, alpha is deeply rooted in the CAPM and therefore relies heavily on the assumption of normally distributed returns. According to the CAPM, in equilibrium all (portfolios of) assets with the same beta will offer the same expected return. Any positive deviation therefore indicates superior performance.

If we go by fund alphas and Sharpe ratios, many hedge funds have shown superior performance over the last decade; a fact often quoted by hedge fund managers and marketers. But is this really the case? As discussed, the data used may suffer from biases that seriously inflate average returns and deflate variances and correlations. In addition, anybody who has ever taken a closer look at hedge fund returns will know that many hedge fund return distributions are far from normal. Many of them tend to be negatively skewed. This is not unlike the return distribution of a covered call option. Over the past 10 years the monthly S&P 500 return was more or less normally distributed with an expected value of 14.88% per annum and a volatility of 12.43% per annum. The index paid an average dividend yield of 2.65% per annum and the average risk free rate was 5.35%. This yields a Sharpe ratio for the index of 0.28. According to the Black-Scholes (1973) model, an ordinary at-the-money call on the

S&P 500 with one month to maturity would cost \$1.55. Now suppose we bought the S&P 500 and wrote the call. We would receive \$1.55, eliminate all upside potential while retaining all downside risk. Obviously, creating this payoff profile requires no special skills. However, this is not the conclusion one would draw from the portfolio's alpha and Sharpe ratio. By writing the call, alpha goes up from zero to 0.34 and the Sharpe ratio rises from 0.28 to 0.42. This is purely the result of the changed shape of the return distribution though. By giving up all upside, the monthly standard deviation drops from 3.59% to 1.67%. The expected return drops as well, but this is partially compensated by the option premium that is received. As a result, the Sharpe ratio goes up. Although the above is just a simple example, it makes it painfully clear that traditional evaluation methods will reach an incorrect conclusion when dealing with the skewed distributions that characterize many hedge fund returns.

The basic message here is that investors should always look at the whole return distribution, not just parts of it. A recent study by Amin and Kat (2001) does exactly that. These authors show that over the period 1990-2000 only 1 of the 13 hedge fund indices and only 5 of the 77 individual funds studied beat the benchmark. This means that on average as a stand-alone investment hedge funds do not provide investors with a superior risk-return trade-off. Although the mean and variance of hedge fund returns look good, the remainder of the distribution often does not. For supporters of the efficient markets hypothesis, this of course makes perfect sense. The same study also shows that funds of funds are typically not able to add enough value to make up for the double fee structure. This means that the costs of externalising hedge fund portfolio management can be very substantial.

The Low Correlation Argument

The second marketing argument derives from the fact that many hedge funds follow strategies with low systematic exposure. As a result, hedge fund returns exhibit a low degree of correlation with the returns on other asset classes, making them attractive portfolio diversifiers. Apart from the fact that historical correlation coefficients may be biased, there are two other important points to keep in mind here. First, correlation measures the relationship between two variables. Doing so, it is implicitly assumed that this relationship is linear. The fact that hedge fund return distributions differ significantly from that of the S&P 500, however, suggests that this is not the case. This means that it is not clear what exactly we measure when we calculate the correlation coefficient between hedge fund returns and index returns. Second, low systematic exposure is

not synonymous with low risk. Despite being (close to) zero-beta, many funds carry (very) substantial idiosyncratic risk. Remember that Long-Term Capital Management's returns also showed low correlation with the major asset classes. We all know how that story ended. Since hedge fund returns are neither normally distributed nor linearly related to the returns on other asset classes, the only way to see how hedge funds perform in a portfolio context is to form portfolios and study their return behaviour. Various authors have done so, but unfortunately none of them has looked beyond mean and variance. More informative is the study by Amin and Kat (2001) who evaluate the performance of a large number of portfolios taking the whole return distribution into account. Especially when compared to the stand-alone results, their portfolios perform very well. When combined with equity, the majority of the indices and funds studied beat the benchmark when 10-20% of a portfolio's net asset value is invested in hedge funds.

Although the weak relationship with other asset classes makes hedge funds an attractive portfolio component, it is important to note that this is primarily the result of the general type of strategy followed by many hedge funds and not special manager skills. Any fund manager following a typical long/short type strategy can be expected to show low systematic exposure, whether he has special skills or not. This leads us to the following question (which we will leave unanswered): why should investors pay those high management fees if the main attraction of hedge funds is not a manager specific feature?

Conclusion

Hedge fund data can be seriously biased and standard performance studies only tell half the story. Investors interested in hedge funds should therefore not take the typical marketing pitch for granted. Even more than usual, investors should ask the right questions, do their homework, and take time to think things over. When in doubt, don't do it. Always remember that in the end they need you a lot more than you need them.

Footnotes

- ¹ Books can be found by searching for 'hedge funds' on www.amazon.com. Likewise, academic papers can be found by searching on www.ssrn.com.
- ² See President's Working Group on Financial Markets (1999, p. 1).
- ³ The TASS database is accessible through HedgeWorld (www.hedgeworld.com) and also forms the basis of the CSFB/Tremont Hedge Fund Index and sub-indices (www.hedgeindex.com).
- ⁴ Failure is of course not the only reason for a fund to become defunct. A fund may also leave a database because of a merger, a name change or lack of reporting. All of these, however, are often linked to poor performance.

References

- Amin, G. and H. Kat (2001). Hedge Fund Performance 1990-2000: Do the Money Machines Really Add Value?, ISMA Centre Working Paper (downloadable from www.ismacentre.rdg.ac.uk).
- Black, F. and M. Scholes (1973). The Pricing of Options and Corporate Liabilities, *Journal of Political Economy*, Vol. 3, pp. 637-654.
- Brown, S., W. Goetzmann and R. Ibbotson (1999). Offshore Hedge Funds: Survival & Performance, *Journal of Business*, Vol. 72, pp. 91-117.
- Dimson, E. (1979). Risk Measurement when Shares are Subject to Infrequent Trading, *Journal of Financial Economics*, Vol. 7, pp. 197-228.
- Fung, W. and D. Hsieh (2000). Performance Characteristics of Hedge Funds and Commodity Funds: Natural vs. Spurious Biases, *Journal of Financial and Quantitative Analysis*, Vol. 35, pp. 291-307.
- KPMG Consulting (1998). The Coming Revolution of the Hedge Fund Industry: A Case for Growth and Restructuring, KPMG Peat Marwick LLP (downloadable from www.rrcm.com).
- Liang, B. (2000). Hedge Funds: The Living and the Dead, *Journal of Financial and Quantitative Analysis*, Vol. 35, pp. 309-326.
- President's Working Group on Financial Markets (1999). Hedge Funds, Leverage and the Lessons of Long-Term Capital Management, Report of The President's Working Group on Financial Markets, April 28, 1999 (downloadable from www.cftc.gov).

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