Fund of hedge funds: implementation and operation

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RESUMO

Fundos de hedge são uma alternativa interessante de investimento para aqueles que buscam diversificação internacional. A tarefa de analisar e selecionar fundos de hedge para investir é muito demandante para o investidor usual. Um fundo de fundos de hedge é também uma alternativa interessante para aqueles que buscam diversificação internacional. É um produto especializado oferecido por alguns administradores de recursos. O objetivo é maximizar a razão esperada retorno-risco pela diversificação dos investimentos de clientes em uma carteira de fundos de hedge. Nosso objetivo neste artigo é discutir a implementação e operação relacionadas a fundos de fundos de hedge. Nossa discussão aborda questões práticas importantes, tanto para investidores quanto para administradores de recursos.

Palavras chave: fundo de fundos, fundos de hedge, diversificação internacional.

ABSTRACT

Hedge funds are an interesting investment alternative for those seeking international diversification. However, the task of analyzing and selecting a hedge fund to invest in is a very demanding one for the average investor. A fund of hedge funds is also an interesting alternative for those seeking international diversification through hedge funds. It is a specialized product offered by some investment companies. Its objective is to maximize the expected return-risk ratio by diversifying the clients' investments in a portfolio of hedge funds. Our objective in this article is to discuss implementation and operational details related to funds of hedge funds. Our discussion will address important practical questions for both investors and investment companies.

Key words: fund of funds, hedge funds, international diversification.

JEL Classification: C15, C61, F31, G11.

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Introduction

Hedge funds are mutual funds that rely on hedging techniques for their management. Hedge funds are supposed "*to make money in any market environment.*" (Downes and Goodman, 1991)

Hedge funds are an interesting investment alternative for those seeking international diversification. However, the task of analyzing and selecting a hedge fund to invest is a very difficult one for the average investor.

A rigorous analysis of hedge funds requires two complementary approaches:

1) **Quantitative approach**. This first case involves topics such as the risk-adjusted performance analysis of the hedge fund compared to its benchmarks and competitors (Sharpe's ratio, Treynor-Mazuy's test, etc.), behavior under past stress situations, and quantitative tools used as decision support (computer systems to estimate the Value-at-Risk of portfolios and compute optimal hedges, portfolio optimization models, econometric models, etc.).

2) **Qualitative approach**. This second case involves topics such as due diligence meetings to investigate the internal operational discipline, obtaining references from other market participants (investors, portfolio managers, etc.), analyzing the quality of the global market economic consultants used for decision making, and investment strategies/tactics used to meet long/short term objectives.

If we add to this analysis the variety of investments strategies offered by hedge funds (Distress, Arbitrage, High Yield, Asia, Global Equities, etc.), and the importance of following closely the fund routine operational management (as illustrated by the almost collapse of the Long Term Capital Management, and the closure of the Tiger Management LLC), it becomes clear that it is very difficult for the average investor to select and monitor on a continuous basis the most suitable hedge funds for him.

A fund of hedge funds is also an interesting alternative for those seeking international diversification through hedge funds. It is a specialized product offered by some investment companies. Its objective is to maximize the expected return-risk ratio by diversifying the clients' investments in a portfolio of hedge funds.

Analyzing the appropriateness of a fund of hedge funds requires taking two different perspectives:

1) The investor's perspective.

2) The investment company's perspective.

From the investor's perspective, a fund of hedge funds is interesting mainly because:

1) It gives the investor access to a larger number of hedge funds, especially those that require a larger initial investment.

2) It allows the investor to diversify among different investment strategies and/or management styles, maximizing the return-risk ratio.

3) It gives the investor access to both the qualitative (global markets analysis, due diligence, etc.) and the quantitative (portfolio optimization systems, risk-adjusted performance analysis, etc.) support developed by the manager to optimally select and diversify among hedge funds.

4) It gives the investor access to the monitoring framework developed by the manager to track on a continuous basis the performance of each hedge fund.

From the investment company's perspective, a fund of hedge funds is interesting mainly because:

1) It gives the company access to the global market research and the opinion of distinguished hedge fund managers, as well as to their *modus operandi*.

2) Since it has most of the operational support available for its investment funds (including research, back office, etc.), it allows the company to offer a "sophisticated" product with very low implementation costs.

Let us not forget that there are always new interesting investment opportunities being offered by asset management firms. A recent example is given by the enhanced-index funds. (Bruce, 1998) A fund of hedge funds must be considered only as another product available for investors and investment companies, and its importance judged given the long-term objectives sought.

Our objective in this article is to discuss implementation and operational details related to funds of hedge funds. The focus of our discussion will address important practical questions for both investors and investment companies.

Important implementation details

Five steps that need to be followed to set up a fund of hedge funds are:

1) Choose an initial approach to select hedge funds.

2) Buy a database on hedge funds.

3) Use risk-adjusted performance analysis to obtain an initial set of hedge funds for further consideration.

4) For each hedge fund in the initial set (Step 3), carry on due diligence meetings.

5) From the initial set of hedge funds (Step 3), choose a subset of "suitable" funds for investing.

The two most used approaches to select hedge funds are:

1) **Fund managers.** In this case, well-known fund managers, such as George Soros and Julian Robertson, are preferred. All international diversification, asset class and security selection is left to the renowned managers chosen.

2) **Investment strategies**. In this case, the choice of hedge funds is based on their investment strategies. For example, if Latin American emerging markets are considered to be undervalued, a hedge fund with an investment strategy concentrated in Latin American emerging markets is overweighed in the portfolio composition. The selection of hedge funds according to their investment strategies is usually associated with the segmentation of the fund in a small number of series, with clearly defined expected return and risk exposures, as illustrated in Exhibit 1.

The acquisition of a comprehensive database for hedge funds is the second important implementation step. Several companies, such as Micropal and Marhedge, sell databases on hedge funds. Databases provide information on fund sizes, managers, investment strategies, addresses, turnover ratios, performance over any period of time, etc. Updates (weekly, monthly, quarterly, etc.) can vary according to the interest of buyers. The cost for hedge fund databases depends basically on frequency update, amount of historical information desired and computer systems support required.

With the database bought, it is possible to select a set of hedge funds for further analysis. This should be achieved through a risk-adjusted performance analysis. In this case, it is important to consider questions related to subjects such as:

1) Management and/or performance fees.

2) Compute and compare numerical indicators such as past return and volatility, Sharpe's ratio, correlation and downside risk with respect to benchmarks, turnover ratio, style analysis, etc. (Elton and Gruber, 1991)

3) Analyze market timing using statistical tests such as Treynor-Mazuy's test. (Treynor and Mazuy, 1966)

4) Investigate diversification effects among the subset of hedge funds using a Farrar's analysis. (Farrar, 1962)

At the end of this step, the initial list of hedge funds should be substantially shortened. It is time to schedule due diligence meetings.

The objective of due diligence meetings is to review, *in loco*, issues related to personnel, infrastructure and operational routine. Since this is the last step before reaching the final set of hedge funds used for investing, it should be conducted very carefully, and concentrate on the following points:

1) **Personnel**. It is important to interview and analyze the *résumé* of portfolio managers, to compute personnel turnover, to consider the gratification of portfolio managers (regular pay and bonuses), the back office group, the risk management group, to verify the availability and ability of officers to communicate with clients, and the internal segregation of activities.

2) **Infrastructure**. It is important to analyze political and economic consultants used, computers and computational systems available, the brokers used, and external auditors.

3) **Operational routine**. It is important to analyze investment policies (maximum leverage allowed, return and risk targeted, if derivatives are used, etc.), internal risk-adjusted performance analysis and its impact on portfolio managers' gratification, to understand the importance given to the work of risk managers and auditors (internal and external) in the hedge fund daily routine, dividend policy, reporting activities (internal and external), policies for investing employees' money, redemption procedures, and internal ethical principles and controls enforced.

At this point, with the final set of hedge funds on hand, it is possible to start the fund operations.

The previous author's international experience showed that a group of four officers, dedicated full time, required four months to complete the five implementation steps listed above.

Important operational details

Five steps that need to be followed to run a fund of hedge funds are:

1) A scenario generation process incorporating market expectations.

2) Structuring of several optimal portfolios of hedge funds to support a decision making process on the final allocation.

3) Follow closely the investment policy of all hedge funds in the list.

4) Keep a constant prospective work in order to find new hedge funds that could be included in the list of funds available for investing, as well as remove those funds not performing as expected.

5) Keep a regular contact with clients in order to keep them informed about investment objectives.

Incorporating portfolio managers' views in scenarios for optimally structuring portfolios is an important and quite interesting task. (Black and Litterman, 1992; Koskosidis and Duarte, 1997) It is important because it is the basic input when optimally structuring the fund of hedge funds allocation. It is interesting because it requires reaching a consensus (what is not always simple) in terms of future investment objectives/positions, taking into account internal and external opinions (for example, macroeconomic consultants). Although this is an interesting exercise, we can mention from our previous work experience that it can be considered "inconclusive" (reaching a consensus among traders and portfolio managers is not always easy!, as practitioners know well) in the beginning, requiring a firm commitment from the participants (that is, the fund of hedge funds portfolio managers) before the final *modus operandi* is in place.

Several portfolio optimization methodologies can be used to generate the optimal portfolio for the fund of hedge funds. It is important not to forget that portfolio optimization models must be viewed only as tools to create portfolios in a rational and systematic way, according to expectations for financial markets (which have been incorporated in the decision making process in the scenario generation process). That is, they are tools to help in the process of choosing an allocation for the fund of hedge funds. We do not favor any particular portfolio optimization

methodology, but rather suggest the one that the user is most familiar with. Whichever methodology is adopted, it is to be used only to investigate possible optimal allocations, not to provide *the* optimal allocation. (During our practical experience managing a fund of hedge funds in international markets we used a combination of the methodologies presented in Duarte and Maia, 1997 and Koskosidis and Duarte, 1997) International portfolio optimization is not an easy task, however. (Reyna *et al.*, 1999; Scholes and Williams, 1977, among others)

A close monitoring of all hedge funds available for investing must be seen as a basic step in the risk management program adopted for the fund of hedge funds. The importance of this monitoring is exemplified by the Long Term Capital Management, which most often refused to inform investors its investment objectives/positions. The Long Term Capital Management behavior must be always considered unacceptable. If any hedge fund ever uses this excuse not to inform investment objectives/positions, it should be immediately removed from the list of funds available for investing. Also, periods with high volatility require special attention, with visits to analyze, *in loco*, whatever may be happening with the fund management.

Given the dynamic nature of financial markets, new hedge funds should be always under consideration for the list of funds available for investing. The approach outlined before, in the implementation phase, should be applied in full when analyzing prospective funds. The same comments are valid when removing funds from consideration. That is, the list considered for investing is to be updated (adding or removing hedge funds) on a continuous basis.

Finally, keeping clients informed on a regular basis of the fund of hedge funds investment objectives is not only a good marketing practice, it is also an important risk management procedure. For instance, transparency is crucial to avoid image risk, especially when the performance delivered is not as expected. Justifying a poor performance is always easier when consistent investment objectives were clearly explained to clients, beforehand.

Conclusion

A fund of hedge funds is an interesting investment product for both investors and investment companies. Investors can benefit from a fund of hedge funds because the product provides diversification, gives access to a larger number of hedge funds, and to the qualitative support, the quantitative support and the monitoring framework developed by the investment company. It is an interesting product for an investment company because it gives access to the global market research and the opinion of hedge fund managers, and it is a "sophisticated" product that can be implemented at a very low cost.

The process of implementing and operating a fund of hedge funds is fairly straightforward. The basic steps were outlined in this work. Besides a good quantitative and qualitative support, well-defined operational controls are a crucial requirement in order to guarantee that risk management principles are enforced throughout the investment process. Transparency with respect to clients is another important operational ingredient.

Finally, although in this article we concentrated on hedge funds, the basic principles outlined can be adapted to any other type of investment fund.

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Exhibit 1
A Fund of Hedge Funds with Four Series

Series	Annual Expected Return (above T-Bills)	Expected Risk	Investment Strategy
A	4%	Low	Fixed Income, Arbitrage, US Merger Arbitrage, Mortgage Backed, Diversified
B	8%		Global Equities, Real State, Distressed, Market Timing, Event-driven
C	12%	High	Energy, Technology, Macro, Equity Non-hedge, Global Markets (except Emerging Markets)
D	16%	Very High	Asia, Latin America, East Europe, Emerging Markets (Global)