

Financial Control Limited

THE INVESTOR

April 2003

Shopping for Hedge Funds: What to look for in the Risk Management Department

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When evaluating a hedge fund, an investor must ultimately make many critical decisions *subjectively*. Competency of management and viability of trading strategies being two examples where there is simply no objective measurement mechanism. But when it comes to the fund's risk management, an investor can in fact apply some quite objective criteria. There are axioms that can be used to assess a firm's ability to manage operational and financial risks. This article examines how to recognize a well (risk) managed hedge fund.

Operational Risk

Because hedge funds are typically small firms, the most significant operational risk in most is human resource attrition. An investor should be wary of a fund with ultra high dependence on one or two individuals. Note that it is not necessarily in the high profile front office positions where this risk is manifested. In fact, lack of depth in back office and IT can be more risky. A position can be unwound by a junior trader with minimal damage if the superstar trader quits. But if a one man IT department resigns, the ability of the organization to function can deteriorate quite quickly since a replacement might need weeks, if not months, to familiarize with in house systems. Robust hedge funds have redundancy in the IT department and depth in the back office so that a single resignation is not crippling. This is actually quite easy to assess by inquiring about out the number of professionals in various departments.

Financial Risk Management

The principals and senior staff in a hedge fund make money when the fund does well but incur minimal financial consequence should the opposite occur. This asymmetry, essentially a call option issued by the investor, can create a misalignment between the interests of the client and the managers. It cannot be said that this call option is mitigated by the fact that the failure on the part of the managers can severely damage their future earning potential. Many of LTCMs principals who, fairly or otherwise, bore blame for the events of 1998, are back in business, having successfully raised capital for new funds. Only good risk management practices within a hedge fund can assuage this concern for the investor.

It is a naïve investor who fails to acknowledge the risk of losing money when investing with a hedge fund. (Beware the fund that does not itself recognize this possibility.) A

good hedge fund acknowledges its fallibility and endeavors, via its risk policies, to control the dangers. An investor expects a certain level of risk to be taken with his funds. She should insist that the amount of risk the fund is willing to take be stated up front and clearly. Financial risk management in a hedge fund involves ensuring that this expectation is met. Thus a hedge fund is well risk managed if it can tell a customer how much risk she will incur by investing and assure her that this will not be violated. To achieve this, the fund must do three things:

- 1) define its risks and by some mechanism, **quantify** them
- 2) place **limits** on its trading based on this quantification
- 3) assure the investor that these limits will be **adhered** to.

Quantifying Risk

The problem of measuring risk in a hedge fund is actually quite different from a bank where the challenge is digesting information from potentially hundreds of desks in tens of locations continually trading hundreds of instruments. Thus quantification of risk in a bank is fundamentally a technological problem. A hedge fund however, does not face this problem as it typically has just a few bets. The number of positions could be as many as 20, but usually less than a half dozen positions constitute 90% of the risk. Thus a hedge fund risk manager *should* be able to measure risk on a simple spread sheet. This may seem unsophisticated and unglamorous but it demonstrates fundamental understanding. That is not to say systems should not be implemented for convenience and efficiency. But a hedge fund that *needs* complex risk measurement systems may well be doing things they do not fully grasp. This principle even applies to a fund doing high frequency automated trading: If a risk manager cannot measure the risk at a certain instant using a spread sheet, the implication is that the automated trading machine is a bit of a black box.

How to best quantify risk is the stuff of religious wars, but there are a few principles that need to be upheld in any good methodology. Firstly, the metric should be conceptually simple to understand and well defined. This usually means risk is ultimately reduced to one number rich in meaning. Value-at-Risk certainly meets this criterion.

The second principle is objectivity. The risk measurement should not be dependent on any person's "sense" or "perception" of current market conditions. Estimating P&L volatility based on a 90 day window meets this criteria perfectly: There is no subjectivity in the risk number at all.

Finally, the methodology needs to be conservative in nature, especially with respect to correlation assumptions. A risk number must not contain assumptions that negative correlation reduces potential losses because it is just such a supposition that can lead to unexpected suffering when correlations breakdown. The P&L volatility example cited above fails this criterion.

The following methodology meets all three of the above criteria. For any strategy, the risk manager identifies the worst-case scenario by statistical analysis. The risk of the strategy is then quantified by the loss incurred by such an event. Aggregation of risk across strategies makes no assumption that historical correlations will offset any loss: You just add up the worst case losses. The total of the aggregation represents a conservative estimate of worst case loss fund wide. This risk number is conceptually simple, objective and conservative.

Limits

This step is quite simple. Once risk is quantifiable, the hedge fund should state clearly how much risk it will tolerate. An investor should insist on this. Ideally, the fund should also define target risk levels.

Adherence

A stated risk limit is meaningless if the investor cannot be convinced it will be adhered to. The investor wants to see that there are mechanisms in place that ensure that risk limits are always observed. This is where the risk manager enters. The risk manager in a hedge fund has one prevailing, yet simple, responsibility: To ensure that the firm is risking an investor's money in the manner it said it would. The fund should invest where it said it would and within the limits it set for itself. In a hedge fund, the risk manager's *raison d'être* is to protect the investor.

But it is *not* the risk manager's job to prevent the fund from losing money, even if losses persist for long periods. As risk manager of a hedge fund, it was once implied by one of our creditors that our consistent losses over six months was indicative of a lack of diligent risk management. Nothing could be more incorrect. The fund took risk day to day and month to month within its constitutional limits. It was thus faithful to its investors by taking risk at a level promised. It just happened that our speculations were incorrect. An investor may be dismayed by the performance and wish to reconsider the investment. But the risk management of the fund could not be questioned. The point here is that good risk management does not mean the fund can't make sizable losses. Good risk management implies that if a fund is going to lose money, it will be done without taking risk in excess of what it promised. Indeed, a risk manager should not affect the performance of a fund.

Note that the existence of an individual with the title of risk manager is meaningless unless that person is mandated to actually limit risk and empowered to do so. There are many hedge funds with "risk managers" who advise, analyze, sit in on strategy meetings, crunch numbers and generally keep busy all day long. They may well add value to the firm, but they do not do the job the investor requires.

That said, a hedge fund does not necessarily need an individual with the title of "risk manager." But there should be some senior, non trader, ensuring risk is controlled.

Finally, if risk management is being practiced diligently at the fund, then there is no reason why that fund should not make its daily analysis available to the investor. Transparency of risk management measurements goes a long way in demonstrating a fund's commitment to the practice.

Summary

A fund cannot promise to make money. But it can promise to risk money subject to a set of constraints. An investment with a hedge fund is an implicit authorization by the investor to take up to "X" amount of risk. A good investor insists that "X" is precisely defined, measured frequently, disclosed and enforced.

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