The Education Committee of

The Greenwich Roundtable

Knowledge, Veracity, Fellowship

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Bridgewater Associates, Inc.

BlackRock, Inc.

Moore Capital Management

The Lumina Foundation

The Research Council enables the Greenwich Roundtable to host the broadest range of investigation that serves the interests of the limited partners and investors. This group wishes to help investors document the allocation process. Their business activities serve as an example to all of their sincere desire to educate investors and of their belief in our mission. Members of the Research Council not only provide no-strings funding but have also assisted the members of our Education Committee.

About the Greenwich Roundtable

The Greenwich Roundtable, Inc., is a not-for-profit research and educational organization located in Greenwich, Connecticut, for investors who allocate capital to alternative investments. It is operated in the spirit of an intellectual cooperative for the alternative investment community. Its 150 members are comprised of mostly institutional and private investors, who collectively control $4.5 trillion in assets.

The purpose of the Greenwich Roundtable is to discuss and provide current, cutting-edge information on non-traditional investing. Our mission is to reveal the essence of both trusted and new investing styles and to create a code of best practices for the alternative investor.

Education Committee

Best Practice Members

Robert M. Aaron
Gilwern Investments, LLC

Benjamin Alimansky
Glenmede Trust

Edgar W. Barksdale
Federal Street Partners

Ray Gustin IV
Drake Capital Advisors, LLC

Damian Handzy
Investor Analytics

Brijesh Jeevarathnam
Commonfund Capital, Inc.

Jennifer Keeney
Tatanka Asset Management, LLC

Jeffrey P. Kelly
Summit Rock Advisors

Russell L. Olson
Former Director
Pension Investments
Eastman Kodak Company

The Education Committee has been working as a group of altruistic investors who contributed their time and worked to raise professional standards. The final result is intended to demystify alternative investing and to bring about greater understanding. Investing in alternatives is not well documented. The Education Committee is chartered to conduct original research and develop best practices from the investors' point of view.

Acknowledgements

Once again I am grateful for—indeed humbled by—the dedication and commitment of so many friends, investors, and members. This was truly a team operating at its best.

It would be difficult not to acknowledge, first and most important, Rusty Olson. In his second Best Practices project with the Roundtable, Rusty literally wrote the book. Armed with 40 years of wisdom and relationships, Rusty set the tone for this study by weaving together many different philosophies and techniques. His clear thinking and his clean writing style transformed this work into a readable, enjoyable summary.

Ed Barksdale, a Roundtable trustee and chairman of the Education Committee, once again hosted the group around his round table in Federal Street's conference room. Also armed with 40 years of seasoning, Ed frequently weighed in with his wisdom and challenged conventional points of view.

As we were finishing our white paper last year on portfolio construction, Jennifer Keeney was an angel who knocked on our door and suggested that we start writing on due diligence. She rolled up her sleeves and drafted sections on operational due diligence.

Ray Gustin, also in his second committee project, provided a lot of our intelligence on hedge funds. But this time Ray pushed to raise the bar and write what "no one has written before." His ability to articulate nuances was invaluable, as was his willingness to carefully proofread our manuscript multiple times.

Brijesh Jeevarathnam wrote a valuable initial draft on private illiquid investments, sharing not only his own experience but also that of the Commonfund in venture capital and private equity.

Jeff Kelly contributed many basic ideas for the white paper. Damian Handzy added some unique points of view on risk management and a fresh perspective on manager behavior. Ben Alimansky, having written our second Best Practices study in 2006, provided this group with edits, insights and institutional memory. Finally, Bob Aaron weighed in with his 30+ years of operational experience. Bob was one of the first members of this committee; he drove through a New England blizzard to make its initial meeting in 2002.

We are deeply grateful to our colleagues in the general partner community. John McDonald helped us navigate the nuances of convertible arbitrage. Ed Kavounas described how to approach real estate strategies. Hardy Murchison helped us understand how to evaluate hydrocarbon and other energy strategies. Lee Graber provided profitable perceptions about mining strategies. Clark Binkley, Joe Bachman, and Bill Proon shared the depth of their experience in timber strategies. Jan Perrson guided us on how to graciously decline an opportunity.

The entire investor community is eternally grateful to Ray Dalio, Brian Feurtado, Paul Jones, Wim Kooyker, the Lumina Foundation, and Louis Bacon. These wonderful philanthropists provided the funding to make this study possible. Not only did they respect our need for independence but they also have a deep-seated belief in providing education for investors. We thank them mightily.

Steve McMenamin
Executive Director

"Investor education is one of the greatest needs in the marketplace."

Stephen McMenamin
Executive Director

Introduction

> "Alternative assets are founded on trust . . . Our only protection is due diligence."

The searing pain many investors suffered during the global financial crisis of 2008 provided stark lessons for us. Many of the worst losses – headlined by the stunning collapse of Bernie Madoff's Ponzi scheme – could not have happened if investors had undertaken the kind of investment and operational due diligence each of us should do before entrusting our money to another person, especially a manager of alternative assets such as a hedge fund or a private illiquid investment fund.

Alternative assets are founded on trust, as we give managers an essentially free hand to do as they wish. Alternative assets are less regulated than traditional investment options, and such flexibility can help by allowing the manager to be more adaptive and to pursue more creative strategies. But it can hurt, as the high fee structures attract investment managers of all levels of competence and integrity and can give them heightened incentive to take undue risks, or even to cheat. Firms can fail not only as a result of poor investment performance or fraud, but also for non-investment-related reasons, such as poor risk management, weak operations, compliance gaps, and promising too much liquidity to investors.

Our only defense is due diligence – the tremendous amount of research that we should do before deciding to make an investment. It's the painstaking discipline of investigating every aspect of an opportunity, not only the investment capability of the manager but also the equally important but more mundane operational structure of his organization. If we decide to proceed, we should pursue this due diligence as long as we continue investing with that manager.

For five years the Greenwich Roundtable has sponsored extensively researched white papers to help investors understand the best practices in investing in alternative assets. The Roundtable began with several white papers about due diligence on certain kinds of hedge funds, and then in 2009 the Roundtable issued a seminal white paper entitled *Best Practices in Alternative Investing: Portfolio Construction*. If one is not already familiar with the range of alternative investments and how they can fit into an overall portfolio, one would find it beneficial to read the Roundtable's white paper on portfolio construction before reading this one on due diligence.

The questions included here reflect the insights of the various members of the Roundtable's Education Committee, which encompasses a remarkable range of experience in different capital markets, finance, business, accounting, legal, and regulatory arenas.

Chapter 1 discusses the due diligence process and covers the kinds of questions an investor should ask when considering any kind of alternative investment program. In fact, the process and most of the questions in Chapter 1 are equally as relevant for more conventional investment programs, not just for alternative investments. These questions, however, are only some of the questions we must ask.

Subsequent chapters provide additional questions tailored to each kind of alternative investment. Therefore, as we pursue due diligence on an investment opportunity, we should combine the questions in Chapter 1 with those of each subsequent chapter that relates to the type of manager we are considering.

Introduction (cont'd)

If we had followed the due diligence process advocated in these chapters in prior years, we could have avoided some of the worst disappointments we experienced with investment programs during the credit crisis of 2008. Nothing is surefire. With any investment, alternative or not, we can perform the best possible due diligence, and we are still likely to suffer a certain share of disappointments. In very rare instances, despite our best due diligence, one of our managers might even become involved in fraudulent activities. Investing comes with no guarantees. But we believe that by following the processes recommended here we can materially improve the reliability of results with our manager selections in the years ahead.

A caveat: This is, and will always be, a work in progress. For years the Education Committee of the Greenwich Roundtable has been gathering and refining the best due diligence practices. We've tried to be interpretive as well as comprehensive. The process is a collaborative one, and it is in this spirit that we encourage you to add your wisdom and your experience to this growing body of knowledge.

Please give us your comments and suggestions at The Greenwich Roundtable, One River Road, Cos Cob, Connecticut 06807, 203-625-2600, info@greenwichroundtable.org.

"The art of asking questions is one of the greatest challenges for investors."

Throughout this review, in referring to investment managers, we have, for the sake of convenience, used the masculine pronoun. In all such cases, the *he* is used in the classical sense as shorthand to designate *he* or *she*. In the current age, this might open us to criticism, and we are sorry if it does.

Clearly, investing is every bit as much a woman's world as a man's world. But we prefer to avoid the imprecision of modern usage, such as *each person does their own thing*. And it is unwieldy to repeat e*ach person does his or her own thing*. That leaves us with only the classical approach.

One could ask, why we do not use the pronoun *it* in referring to investment managers, because the manager of an investment program is usually an institution. We have chosen the personal pronoun, however, to remind us that all investment decisions are made by persons – often an individual, sometimes a small group – and, in every case, the particular person or persons matter, and matter a lot.

NOTE: This white paper is intended for investors worldwide. Mentions of tax considerations, however, are mainly U.S.-oriented. Non-U.S. investors should consider tax considerations that may pertain to them.

Basis for DDQs?

This white paper has been written entirely from the standpoint of the investor – any investor – to help him understand complex investments and to identify the best alternative managers. But we believe it may also be of value to *sponsors* of alternative investment funds.

A number of hedge fund managers currently prepare DDQs (due diligence questionnaires) to help prospective investors. Managers of all alternative investments might profitably use this white paper as the source of questions in preparing comprehensive DDQs. Such a DDQ would benefit the manager in two ways: (a) It would demonstrate to investors that he understands their needs and is prepared to answer candidly all the hard questions investors should ask, and (b) it would reduce the time the managers would have to spend with prospective investors by responding to most of their questions before they can ask them.

“The best investors are those who have developed not only good people skills but also a wide understanding of the mechanics of many different capital markets.”

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“Approach the due diligence process with an open mind and an attitude of respect for the hedge fund manager’s skill—but also with a healthy dose of skepticism.”

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"Due diligence is an interactive process, with the prospective investor rarely taking a linear approach but, more practically, shifting from topic to topic to uncover important details as experience directs."

Chapter 1 — Due Diligence on Any Alternative Investment

As an investor – either an institutional investor or an individual investor – we have heard of a hedge fund or other private investment opportunity that sounds as though it might be of interest to us. How should we pursue it?

Our first step is to collect all available information about it – a copy of the fund's marketing materials, its offering memorandum, subscription agreement, and any other relevant documents, such as its DDQ (due diligence questionnaire) if available, and any published information we might be aware of in the trade press and databases. Perhaps the fund's client service director has already been in touch with us and sent us a recent manager's letter or performance report.

If this material interests us, we might then try to arrange a meeting with the manager. Many investors, however, find it highly advantageous to do homework before arranging such a meeting. Their purpose is to determine whether a meeting would be worth their time and, if so, to glean the most from the conversation. Our benefit from such a meeting will likely be directly proportional to the quality of our preparatory work.

Preparing for an Initial Meeting

Basically, what are we trying to do? We must view the historical pieces of the manager's track record in the context of his strategy, the risks he has taken, and the particular markets he has operated in. We must then assess the unique opportunities and risks his program entails for the years ahead and its likely impact on our own portfolio.

What are the things we should know about the manager of any alternative investment before we meet? Part A (Why We Might Want to Consider This Opportunity) of Chapter 1 includes questions that are relevant to *any* alternative investment to help us judge whether the manager might be an attractive addition to our overall portfolio. To these questions we must add those from subsequent chapters that are applicable specifically to hedge funds or private illiquid investments, depending on what kind of fund we are considering. And we may come up with other questions that apply uniquely to that particular manager.

We should try to answer most of our questions by reviewing available printed materials. But there are usually many questions that are not answered and other questions that are raised by these materials. Experienced investors often try to gain responses to the additional questions applicable to a particular manager by asking them of the manager in writing *prior* to the meeting.

Managers receive a large number of investor questionnaires. They cannot be blamed for shunting aside "canned questionnaires," standard forms that an investor may send to all prospective managers. To gain the manager's attention, and to let him know that we are serious, we should include *only those questions that cannot already be answered from available printed materials*. This is a lot of work. We need to expend a good deal of effort in preparing our questions to the manager.

Our objective should be to receive a written response to our questions. A written response is most valuable because it is far more concrete than the ephemeral spoken word. It is clearly

"Our benefit from a meeting with the manager will likely be directly proportional to the quality of our preparatory work."

"If we seriously determine we want to consider this opportunity, we have only begun the due diligence process."

more accurate than whatever notes we make from a conversation. A manager, however, may decline to put his answers in writing. He may be willing to answer them over the phone or even wait until a meeting to respond. It's possible that the manager may be limiting the amount of time he is willing to spend on matters not directly related to managing his portfolio. Conversely, he may not want to be pinned down on the facts, and if so, it raises a question as to why.

If a telephone response is the best we can get, that still may be well worthwhile. One way to avoid misunderstandings or misinterpretations is to send the manager a copy of our factual notes about his verbal responses and ask the manager if we have understood him correctly.

Experienced investors sometimes draft their own summary of the manager's investment approach in 100 to 200 words, using their own words. We remove all the "motherhood and apple pie" from the manager's published description and focus on what distinguishes this manager from other managers in his category. Also, this exercise forces us to articulate our understanding of the manager's unique approach. We then ask the manager to comment on our summary, giving him an opportunity to see if he has succeeded in communicating the essence of his investment program.

Once initial questions are answered, provided the manager still seems of interest to us, it is time for a meeting. His advance response to our questions inevitably leads to follow-up concerns and more probing, qualitative questions. These should form our agenda for the meeting. Much of the initial meeting may be with the fund's director of client services, but quality time should also be spent with the chief investment officer or senior portfolio manager. Their unwillingness to meet with us, especially after we have done our homework, is an indication that we may not be important to the manager, and perhaps we should look elsewhere.

In interviewing a manager, we can make it evident that we've done our homework without showing our whole hand. We can ask questions to which we already know the answers. This helps to determine whether the manager is forthcoming. Offering our own opinion often elicits a more detailed response than posing a direct question.

Following a due diligence meeting, a good practice is to hold a brainstorming session, to harness the intuitive insights of our team and identify alternative opinions regarding the investment opportunity. We must recognize our intuitive reactions and then use our experience and knowledge to find out what is causing them.

We should make good notes of our meeting and review them in the context of all our advance information. Is this still a viable opportunity for us? What questions occur to us subsequently that we should get answered? This process could lead to a short follow-up list of questions to be sent by email or discussed by phone. And possibly even another meeting.

Follow-Up

If then we determine that we want to consider this opportunity seriously, we have only begun the due diligence process. There is a second set of concerns about which we need satisfaction before we may be ready to invest or make a recommendation to our colleagues or committee. Part B (Why We Might Choose Not to Pursue This Opportunity) of Chapters 1 and 2 lists these questions, focusing more on operational areas. To help us prepare for these questions, we should obtain and review relevant documents from the Review List on page 73.

Responses to any of the questions in Part B could raise sufficient concerns to preclude our investment. But if all are answered to our full satisfaction, that would not determine whether the opportunity is attractive to us unless both (a) the investment program itself is highly attractive and (b) the fund's strategy and risks complement our portfolio's existing investments.

Many investors like to address all these questions up front rather than having to initiate a second round. And some investors may move a question from Part A to Part B, and vice versa, depending on the particular manager under consideration and on the investor's own judgment of the question's relevance. Ultimately, the key concern is: Have we covered all the bases properly?

We should ask to speak with those who are responsible for specific functions. A non-verbal clue to a firm's credibility is when one person insists on addressing all topics rather than providing access to the team's individual experts. If key people are not available to participate in the due diligence process, we should proceed with caution.

Is our qualitative information (the strategy, reference calls, and our interaction with the investment team) consistent with our quantitative information (based on performance attribution, data analysis, etc.)? Has the manager stayed true to his core investment philosophy?

During due diligence, issues may arise that cause concern. We can't assume that a sense of comfort with the manager translates into a pristine past. Was there a disciplinary action, an inconsistency, or a misrepresentation in the manager's resume? Are there details about the manager's personal life that cause concern? Even if nothing negative surfaces, our instinct may still raise red flags. Red flags can often be corroborated or dismissed by interviews and references. Others who have walked the same path might share their experiences and impressions.

We need to triangulate multiple sources of diligence and ask ourselves if it all adds up. The process should include channel checking, internet searches, and outside investigative reports. There is no substitute for speaking with a wide range of sources who can provide insights from different perspectives.

There's enormous complexity in alternative investments. We shouldn't invest in anything we can't comprehend or that the manager can't explain in understandable terms. We shouldn't be afraid to ask "stupid" questions. If it sounds too good to be true, it probably is. Do we feel comfortable with our level of understanding of the strategy and risks? Can we explain it well to others? We should invest only in what we understand and where we can properly assess the risks.

If this all sounds like a cookie-cutter checklist, it can never be just that. Ultimately, due diligence is an art. Participating in private investment funds is about investing in people rather than in an asset class. It's about uncovering unique skills. But before that, it's about integrity: Trust is a *sine qua non*.

"Ultimately, the key question is: Have we covered all the bases properly?"

"How scalable are the strategy and the investment process? Can the market absorb this incremental capital?"

And the question is not just how attractive the opportunity is – but how attractive it is for *our particular portfolio*? We must view the opportunity in the context of our overall portfolio. Does it add to existing portfolio risks, or does it complement them? Will it add to our aggregate risks in an illiquid market (such as 2008) in a way that might cause us liquidity problems?

We must exercise particular caution in areas where we are uncertain or less familiar. We can't allow ourselves to be rushed. We must let our investment convictions build in calibrated work steps. Then in the end we must trust our gut.

PART A.
WHY WE MIGHT WANT TO CONSIDER THIS OPPORTUNITY

The Market Opportunity

A starting point is to learn about the market opportunity. We can learn some of this from the manager, but unless we happen to have our arms around this information already, we will need to do some independent market research, including discussions with our network of industry peers. Background information about the market opportunity is necessary in order for us to gain perspective in evaluating the manager.

1. What is the investment universe the manager is targeting, and what is the niche encompassed by the manager's strategy?
    a. Which geographic markets does it include?
    b. What is the specific range of securities or markets in which the strategy is invested? How diverse or liquid are the companies, sectors, or regions?
    c. How much money, adjusted for leverage, is flowing into this strategy, and how has that changed each year over the last decade? Can the strategy absorb much more capital?
    d. Who are the key players?
    e. How accessible is the universe to new entrants?
2. Is there a meaningful benchmark for this strategy?
    a. If so, what kinds of net returns has the strategy earned over the years, and how has that changed?
    b. Are the returns commensurate with the level of risk inherent in the strategy?
3. What are the risk factors in this strategy?
    a. To which risk factors is the strategy most sensitive?
    b. To what kinds of external shocks is it vulnerable?
4. How cyclical have been the returns on this strategy?
    a. What drives this cyclicality? What conditions are favorable?
    b. Where is the cycle currently, and where is it heading?

    Beware of conspicuous out-performance that might indicate that the strategy is generally peaking.

The Strategy

Understanding the manager's strategy is crucial. A thorough understanding can require a great deal of effort in studying his printed materials and asking the manager for clarification, possibly again and again, until we understand his approach thoroughly. We then must analyze the strategy in the context of the market opportunity.

After we have done this, we should ask ourselves: Does this strategy make sense? Intuitively, can we understand why this particular strategy should be able to add significant alpha or uncorrelated performance to our portfolio?

1. What is the manager's investment strategy? We might try to summarize it in 100 to 200 of our own words.

   This can be one of our more demanding but also more helpful tasks. We must remove all the promotional jargon and generalities from the manager's materials and focus on what, if anything, differentiates his strategy from the strategy of others in his field. The following questions can contribute to our understanding of the manager's particular investment strategy and its special edge.

2. What kinds of returns, with what level of confidence and volatility, does the manager expect to achieve?

   This is *his* target return, not our expectation from him.

3. What is the manager's edge?

   a. What uniqueness does the manager bring to the strategy that should enable him to achieve his target?

   b. How sustainable is the uniqueness?

   c. Is the edge a tangible combination of experience, process, and research, or is it more intangible, a kind of sixth sense?

      The edge of some managers is more intangible, in the sense that they cannot articulate it clearly. Some of the best managers fit this category, and we may need an extra-long and compelling track record for us to invest in their fund.

   d. Does success depend on one or two key members of the investment team?

   e. Does the manager try to exploit persistent or periodic market inefficiencies? Under what conditions do these periodic inefficiencies appear?

   f. How has the strategy been impacted by, and adapted to, cycles in its relevant market?

   g. Will the strategy remain relevant in future market environments unlike previous ones, or might it wither as markets change?

4. How much money do the manager and any affiliates manage?

   a. How how much do they manage in total assets, and how has that changed over the years?

   b. What other strategies does the manager pursue that overlap the fund's strategy, and how has that changed?

   c. How much money does the firm manage in this and overlapping strategies, and how has this changed year by year since inception? How does this compare with the particular market universe?

"How is the manager's edge different from that of other major competitors? How sustainable is this edge?"

"It may sound trite, but if it sounds too good to be true, it probably is."

This information will be especially relevant as we assess the predictive value, if any, of the manager's prior performance.

d. How scalable are the strategy and the investment process?

e. What is the total amount of money the manager aspires to manage in this strategy? At what point will he stop accepting additional money in this strategy?

f. Can the market absorb this incremental capital, plus that of competitors, without creating a bubble?

The manager's limit can be measured in terms of dollars or a percentage of the particular universe. We must judge how much it will begin to cut into the manager's future returns by decreasing his liquidity, raising transaction costs, or including his secondary opportunities. We must guard against the siren of incremental management fees leading the manager to rationalize the acceptance of additional money that may water down future returns.

Where the particular universe has a limited size, some investors insist on a commitment from the manager that he will accept no more money after a specific dollar (or share of market) level. Although the manager may be far from that size at present, we should discuss it now, as we don't want to have to redeem our investments later for that reason alone.

g. How does the manager estimate and monitor his capacity? Is it based on trading limitations, market limitations, or marketing goals?

5. How does the manager construct his portfolio?

This information is important to our understanding of the manager's strategy and his investment edge.

a. What is the fund's current composition by geography, asset class, and asset size (market cap)? How has that changed over time?

b. How many positions does the portfolio normally include? How has this changed over time?

c. Has the number of positions increased with the amount of assets under management? If so, has the return expected from incremental positions decreased?

d. What are normal, minimum, and maximum position sizes in absolute terms, as a percentage of the relevant market, and as a percentage of the portfolio? How have these changed over time?

We must judge whether the number of positions is (and will be) determined more by the fund's asset size than by the quality of each opportunity.

e. Has the manager ever exceeded these limits? If so, what were the circumstances?

f. Are the manager's team and infrastructure adequate to support the number of positions?

g. What diversification requirements does the manager observe? Which portfolio limitations are officially spelled out in the offering memorandum, and which are unofficially set by the investment team?

h. What is the process for generating investment ideas or the selection and implementation of trades?

i. Mistakes in a portfolio, especially viewed from hindsight, are inevitable. How does the manager try to minimize the impact of mistakes?

j. Has the manager learned from mistakes, or does he treat them cavalierly?

k. To what extent are investment ideas generated internally, and to what extent externally?

l. For external ideas, what is the manager's network of idea sources?

m. How important is market timing to the manager's investment approach?

6. To what extent is the manager's attractive track record dependent on an unusual opportunity or market environment that is not likely to be repeated?

7. To what extent is the manager's attractive track record dependent on only a few key market-timing moves or opportunistic underlying themes?

Strong performance that is dependent on only a few key decisions would not seem to provide as much predictive value as a large number of less momentous but efficacious decisions.

8. How does the manager approach risk?

a. To what extent does the manager use leverage? How?

b. How does the manager calculate gross and net leverage?

The norm is:
Gross = (LMV+SMV)/NAV
Net = (LMV-SMV)/NAV

(LMV = market value of long positions
SMV = market value of short positions
NAV = net asset value)

Because of options and certain other kinds of derivatives, investors should be aware that there is no generally accepted definition of leverage for a portfolio. For example, managers employing various types of arbitrage strategies often seek to exploit differences in the values of similar securities trading in the cash and derivatives markets. In those cases we should understand leverage on both a market value and a notional value basis. Different hedge funds define leverage differently, act on changes in leverage differently, and consider the risks of leveraging differently.

c. What have been the manager's historical average, minimum, and maximum leverage levels? Have these changed over time?

d. What particular environments or circumstances would prompt a reduction or increase in the use of leverage?

e. Is the manager's leverage appropriate for the market?

f. Has the manager taken more or less risk over time? How is overall risk expressed and controlled?

g. What are the key risks the manager evaluates to avoid large losses?

h. How is the manager's investment approach designed to hedge against external shocks – including those that are political or legislative in origin?

"Different managers define leverage differently and consider the risks of leveraging differently."

“What conditions would create the perfect storm, where portfolio leverage would pose problems for the strategy or the portfolio manager?”

   i. How often, if ever, has the manager visited the countries where his portfolio is taking risks?

9. What are the strengths and weaknesses of the manager's strategy?

10. Has the manager ever altered his strategy, possibly outside the area of his demonstrated competence?
    a. What factors led him to do this?
    b. Has the manager made logical adjustments to profit from a changed environment in a way that is still basically consistent with his investment philosophy?

11. To get a better understanding of the manager's investment process, carefully review a number of examples of his current and historical investments, including relevant risk reports from the time. Quickly pass through the highly polished and carefully vetted examples in the marketing document. Preferably, select positions over time that had good or adverse outcomes and were meaningful in size, and then engage the manager in a dialogue about his rationale for both adding the position and sizing it. Managers may be sensitive about this request and refuse to provide the information. This should be a red flag, as we have a fiduciary obligation to fully understand what we are buying.

    Are the examples consistent with our understanding of the manager's philosophy and his perception of an investment edge?

12. How does the manager maintain the strategy when faced with changing market conditions?

13. What is the manager's vision for how the organization can continue to improve over time?

14. If the fund is a new launch, how similar is the current strategy to the manager's past investment experiences?
    a. Does the manager still have access to the same research, data and information, operational systems, and investor base that he had in the past?
    b. Are that information and infrastructure vital to the manager's success?

15. Whom does the manager consider among his foremost competitors? What does the manager consider to be their and his main relative advantages?

16. For taxable investors, how tax-efficient is the strategy?

17. Are the manager's sources of alpha additive or redundant to the sources of alpha of other managers in our portfolio?

The Sponsoring Organization and Its Team

The proven talent and experience of a firm's key personnel contain possibly the strongest clue about its prospects for sustainable success. A private investment is a bet on a few key individuals and their team. The success of the organization requires both investment and business management acumen, skills that rarely reside in equal proportions in any single investment professional.

To properly evaluate an organization, we must review its people in the context of the kinds of professional talent required to execute their investment strategy and make the organization succeed.

1. Who founded the firm, when and where? What is the level of their involvement in the firm today?
2. Has the firm reorganized itself out of a mutual fund structure? If so, why, and how is its investment strategy different?
3. Who are the owners of the firm today, and in what proportion?
   a. Who among the owners are active in the daily management of the firm?
   b. If there is a parent entity, who owns the parent?
   c. Does the management of the firm have the right to buy the parent's interest at some subsequent time?
   d. Are there any plans to float the firm publicly?

      The history of investment firms' results following public flotation or acquisition is both short and, to date, not promising.

4. Is the firm registered as an investment advisor with the SEC or regulated by the Financial Services Authority (FSA) in the UK or by other relevant authority?
   a. If so, we should review all filings with those agencies.
   b. Does the firm rely on any regulatory exemptions?
   c. What was the most recent date, if any, of a regulatory inspection?
5. Does another fund provide seed capital?

      Seed capital from a larger fund can mitigate start-up risk when it acts as a mentor to the new fund. This contrasts with broker-sponsored funds, whose mentoring ability is limited.

   a. If so, is the money from the seed manager's personal capital or is it provided by his investors?
   b. Did the seed investor receive any preferential fee, liquidity, or other terms that could be detrimental to the interests of other investors?
6. What are the company's total assets under management, broken down by different categories of clients, and what is the percentage of assets by client type expected for this fund?
   - Funds of funds and others who earn fees
   - ERISA and other pension funds
   - Endowments and foundations
   - Private banks and other institutions
   - Sovereign wealth funds
   - High-net-worth individuals and family offices
7. Do any of the larger clients receive preferential treatment?
8. Obtain an organization chart and a list of all the firm's professional staff.
   a. Obtain background on all portfolio managers and research analysts, including their current responsibility, whether they are a principal of the firm, the year they started as an investment professional, the nature of their experience, the year they joined the firm, and their education.
   b. If the firm manages more than one strategy, which of these people are directly involved in the particular strategy we are considering?

"Trust is a *sine qua non.*"

"Beware of managers that give investors liquidity terms that are not consistent with the liquidity of the portfolio's investments."

We should assess the staff's work experience. Is it appropriate? How recently has the team come together? Have they worked together before?

9. During the past five years, what changes have taken place in the key decision-making positions within the staff?

10. Who has been the person (or persons) most directly responsible for the fund's performance over the past 10 years (or since inception)?

11. If the key person, or persons, were to leave the firm, how capable is the firm of replacing him or them? Is there an obvious successor?

12. What professional experiences were instrumental for the manager in the development of his investment philosophy or approach? How has the current strategy evolved over time?

    Be careful about managers who recast or reinvent their skill sets based on market demand.

13. Are there gaps in the professional history of any key persons?

    Be wary of unexplained gaps, especially when failed predecessor funds are involved. Discover what happened, and understand what the manager may have learned from the experience. Although failure can be instructive, multiple failures or a string of brief professional stints can be a red flag.

14. Does one of the key principals have managerial, operational, and marketing experience?

    Does the staffing seem adequate for the strategy being pursued? Is the depth of the organization sufficient for the assets under management, the complexity of the assets, and any growth that may be contemplated?

15. Is the strategy consistent with the team's background, including that of those likely to succeed the current senior manager?

16. Obtain the names and positions of all people who have left the firm's research and portfolio management staff in the past three years. In each case, what was the person's responsibility and length of service with the firm? We should also ask the manager to comment, either in writing or verbally, on the circumstances of the person's departure.

    Beware of heavy turnover at either senior or junior levels. We should be concerned about managers who seem unable to maintain a stable organization.

17. When are the manager's key people likely to reduce their current level of activity or retire?

18. For new hires with material responsibility, what were the circumstances that caused them to leave their previous positions?

    a. Are there any non-compete or legal issues from previous positions?

    b. Is the previous employer a reference?

    c. If relevant, is their previous employer investing in the current fund?

19. Are there any branch offices? What activities are conducted there and by whom?

    While branch offices for a large research team may be beneficial, long-distance portfolio management has generally shown a less compelling track record of success. Portfolio management by principals in disparate branch offices often suffers from less effective communication and isolated decision making. It can even create conditions for rogue trading.

20. How much money have the principals and staff invested in the fund?
    a. Roughly what percentage of their net worth is that?
    b. Which of the staff members are investors?
    c. On what terms are the principals and staff invested in the fund?
    d. Have any key people reduced their personal investment in the fund in recent years?
21. Is the ownership of the firm being transferred from senior partners to their successors on a fair and equitable basis?
22. Has a clear succession plan been articulated?
23. Does the team create its own financial models?
    a. If not, who are the providers? Are they reputable firms with long histories?
    b. How accessible are external providers to competing managers?
24. Does the manager use any third-party sub-advisors to manage part of the fund? If so, who are the sub-advisors, what is their role, and how are they managed? How were they selected?
25. Does the manager have an affiliated broker/dealer? If so, what conflicts of interest are involved?

    A review of the FINRA report (available on the FINRA web site) will note any disciplinary actions relative to the broker/dealer's execution practices.

26. Does the firm share office space with another investment manager? If so, what conflicts of interest, if any, might arise?
27. In 2008 and 2009 many hedge funds and illiquid private funds lost substantial assets. In whatever funds the firm has managed, how did it respond to such losses?

    We should judge whether the manager treated investors fairly, or whether he revised the fund's structure or investment strategy in ways that might be detrimental to investors.

28. Are there any other conflicts of interest – actual or potential – that could conceivably affect investment results?
29. Describe any past, threatened, or pending complaints from investors or other sources.
30. Have there ever been any litigation, enforcement, criminal, or civil actions (including actions initiated by the SEC or the Department of Labor) taken against the firm, any of its affiliates, or any of its investment professionals? If so, we should ask the firm to comment on those actions.

    It is important to examine thoroughly a key person's background regarding civil courts, tax liens, bankruptcies, and such. If we don't hire an outside firm to perform background checks, a simple search of the internet using the principals' names sometimes yields surprising results. If the search reveals negative information, we should seek corroborating information. It is helpful to check references, names on a person's resume, and other clients.

31. Have we asked the manager to provide at least two references for the company and for each of the principals – with the name of each reference, profession, company and

"Investing primarily on the basis of a fund's track record is inadequate and dangerous."

title, phone number and email address, and the current and past relationship of the reference with the manager or principal?

32. Have we called the references provided by the manager and discussed with them the manager's strengths and weaknesses?
    a. Have we had similar conversations with other valued contacts who may know the manager?
    b. Have we confirmed prior education and employment?

The Track Record

All too often, an investor invests in a private investment fund primarily on the basis of the track record of the fund or the manager. That by itself is an inadequate and dangerous basis for investment.

Certainly we should analyze the firm's historical performance – the monthly performance since inception for hedge funds and other liquid investments, and the historical performance of all previous funds for illiquid private funds. Performance of these two kinds of funds should be approached differently, so we will review them separately in subsequent chapters.

As investors, our job is to make a judgment on how much predictive value, if any, is reflected in prior performance. If the fund is now managed by a new team, there may be virtually no predictive value. If the fund is only a couple of years old, there is probably very little predictive value in prior performance. If the same team has managed the fund for a decade and its strategy hasn't changed, its prior performance may have a good deal of predictive value, provided the size of assets managed in its earlier years was large enough to be representative of its current investment process.

For most managers, our judgment of the predictive value of their prior performance falls somewhere in between. The greatest benefit to us of studying prior performance is our ability to develop questions about performance under different market conditions and thereby gain a greater understanding of the advantages and risks of the manager's investment approach. Volatility characteristics, either in absolute or relative terms, are often more revealing and persistent than the level of return.

Historical performance is only one of many factors in the evaluation of a manager. A record of strong returns can dull one's senses for making the judgments required in considering what, if any, predictive value can be gleaned from that track record.

Preliminary question: Has the manager's track record been audited?

PART B.
WHY WE MIGHT CHOOSE NOT TO PURSUE THIS OPPORTUNITY

In light of the events since 2008, including the fall of Lehman Brothers and the vast Madoff fraud, operational due diligence has become a central concern for institutional investors. Lehman Brothers' collapse affected virtually all Wall Street, and effective counterparty risk management was needed to mitigate the damage. The Madoff fraud highlighted the necessity to understand related party relationships, custody of assets, and the importance of independent service providers. Effective due diligence on a manager's operations can identify material risks for which investors are not compensated.

A full review of all documents associated with an alternative investment is a necessary step in the due diligence process. An appendix at the end of this white paper provides an extensive document review list. We should assure the consistency, completeness, and accuracy of these documents before investing. There may be inconsistencies in these documents, and while the investment manager may quickly fix these, the issue may provide insight into the overall quality of the fund's management.

We believe the following questions can help provide a thorough assessment of operational risks in any alternative investment. A serious flaw in any of these operations could well rise to a level of causing us to lose interest in the opportunity. On the other hand, superlative responses to every one of these concerns would not make an opportunity attractive unless both (a) the investment program itself is highly attractive, and (b) the manager's strategy and risks complement our portfolio's existing investments.

More about the Team

1. How well financed is the investment management firm?
   a. Is it financially capable of maintaining its key staff even during hard times for the firm?
   b. What is its net worth?
2. Who is responsible for the following functions?
   - Chief investment officer (CIO)
   - Chief operating officer (COO)
   - Chief financial officer (CFO)
   - Head of research
   - Legal (general counsel)
   - Chief compliance officer
   - Head of marketing/investor relations
   - Head of human resources
   - Head of risk management
   - Head of trading
   - Chief technology officer
3. Are the functions separated among different individuals?

   To the degree possible, separation among key professional functions (i.e., COO, CIO, CFO, marketing, and compliance) is better. Greater separation of duties can enhance the long-term vitality of a fund. It can also help reassure investors that multiple sets of unrelated eyes are watching over the business and the portfolio.
4. Are any principals involved in other funds or businesses?
   a. If so, how much time do they devote to them, and what is the nature of their involvement?
   b. Are any of these companies included in the fund's portfolio?
5. Are persons related to the CEO serving in key positions, such as those authorized to sign checks, or serving as a key service provider, such as custodian, administrator, or auditor?

   If so, we must understand why and gain assurance that solid controls are in the hands of unrelated persons.
6. Who can manage the fund in the absence of the main principal, either temporarily or permanently?

> "Investors should view a manager's returns in the context of the times and should not be fooled by low volatility in placid markets."

7. How are investment professionals compensated? How does their compensation relate to the success of the manager's investments?
8. What kind of input do senior back-office professionals have in their respective areas of responsibility?
9. What risk technology does the manager use?
10. Who is authorized to move funds internally?
11. What is the ratio of back-office to investment professionals?
12. Where is the cash in the portfolio held?
13. What is the ratio of marketing staff to investment professionals?

    Is the firm more interested in earning strong returns for investors or in raising assets?

14. Was the manager sponsored by another firm? If so:
    a. Does the sponsor share its infrastructure with the fund? If so, can the sponsor see the trades? Do the fund's systems run on different servers than the sponsor's?
    b. Can the sponsor "piggyback" on these trades? Do they share ideas that can negatively impact capacity or trading nimbleness?
15. Is the manager bonded? Aside from bonding, does the firm carry fiduciary liability insurance?
16. Is the firm in compliance with the Patriot Act?

The Fund Structure

1. What is the legal name of the fund's investment manager? If it's not the same as the principal management organization, how is it affiliated, and what difference is there in the ownership?
2. What is the role of the fund's board of directors, if applicable?
    a. Who is on the board of directors?
    b. What authority does the board have? Are the directors independent from management?

    Do not overestimate the influence of a board of directors or an advisory board—they are nominated by the manager and have little independence. Many boards are established for marketing and public relations purposes during an initial capital-raising phase. However, some do have influence in areas such as valuation and conflicts of interest.

3. Does the fund's board include any independent directors?
    a. If so, who are they?
    b. What has been their relationship with the manager and any of the fund's service providers?
    c. How long has each been a director?
    d. What are the directors' fees?
    e. Are the directors invested in the fund?
4. Does the fund have an advisory board? If so, what specifically has been the value added, and how is it expected to add value in the future?
5. What are the fund's management and incentive fees, and how do they compare

with fees of comparable funds?

a. Does the balance between management fees (which can be viewed as something akin to an annuity) and incentive fees tend to motivate the manager more to increase its assets under management than to generate high performance?

   In theory, management fees should enable the manager to maintain a strong organization, but all profits should come from incentive fees.

b. Is the incentive fee based on the fund's cash flow (internal) rate of return to investors, net of all costs and fees (including unrelated business income tax, if any)?

6. Does the incentive fee have a hurdle?

   If so, the general partner should normally receive no incentive fee until the fund IRR has reached the hurdle rate.

7. Does a review of the fund's annual audits show that expenses seem reasonable? In percentage terms, have the expenses changed materially from year to year?

   Hidden expenses are often disclosed in the footnotes. Footnotes also disclose subscriptions and redemptions received.

8. Are there any contingent liabilities?

   Review related parties that are disclosed in the footnotes. Is this consistent with our understanding of the fund?

9. Does the partnership include a keyman clause?

   There should be an automatic termination and orderly liquidation of the fund (unless investors vote otherwise) in the event that a key person or persons leave the management firm.

10. What costs if any, are charged back to the fund? Other than management and incentive fees, what is the ratio of fund expenses to NAV?

11. Have any investors been granted rebates?

12. The subjects of redemptions and termination are very important and will be dealt with in Chapter 2 on hedge funds.

13. If there are multiple share classes, what are they, and what are their denominations?

14. Who are the largest investors in the fund?

    The inclusion of well-known, well-managed investors may give us confidence in the manager and the fund. However, we should rely on our own analysis of the manager and on the fund's appropriateness for us.

    Is there a small group of investors that holds over 50% of the limited partnership interests? If so, they can become 800-pound gorillas any time a partnership vote is called for.

15. Where is the fund domiciled?

    We should be confident that the fund is domiciled in a well-respected jurisdiction. Reputable non-U.S. jurisdictions include Dublin, Bermuda, Luxembourg, British Virgin Islands, and Cayman Islands. For U.S. entities, Delaware is the usual domicile.

16. If the manager or its affiliates participate as a limited partner, or if they subsequently purchase limited partner interests, do they get to vote on any limited partnership issues?

> "Judge whether the incentive structure for principals and employees meshes with the investors' investment objectives."

"Managers often refer to their investors as their 'partners.' Are we really prepared to be this person's partner?"

Consistent with the obligation of the general partner to operate in the interest of the investors, the general partner should not be able to vote on limited partner issues.

17. Are there side letters with any investors?

    a. If so, do any side letters provide terms – such as more favorable liquidity – that may be harmful to other investors?

    b. Is there a "most favored nation" clause? Is the manager required to share all current and any future side letters with all investors so that all investors may avail themselves of similar side letters?

18. Are investors informed in a timely manner when changes are made in staffing, trading, money management, or risk control?

19. What is the firm's method of accounting – U.S. GAAP, IFRS, or other? Do reports include tax-basis reports?

    GAAP-compliant reports are clearly preferable.

20. Is the manager FAS 157 compliant?

    Effective November 2008, FAS 157 changed accounting practice by:

    - Defining fair value: "Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."
    - Requiring fair value to be measured on a market basis, not an entity-specific basis, using assumptions that market participants would make in pricing the asset or liability.
    - Requiring managers, in the fund valuations, to use the highest possible among Levels I, II and III.[1]

21. Typically in what month are the fund's K-1s and annual audits sent to investors?

22. Does the partnership indemnify the manager against all claims unless such claims are due to the manager's gross negligence?

    Virtually all alternative investment funds contain such an indemnification. Investors, however, should seek indemnification that covers all actions except those involving "negligence" – not "gross negligence."

    This and other reasons, such as the possibility of parties-in-interest transactions, prevent most alternative investment funds from being considered "plan assets" for those investors governed by ERISA, the U.S. pension law. Consequently, alternative investment funds limit U.S. benefit plan investors to less than 25% of the value of investors' equity interests, as a larger percentage would require the fund to comply with ERISA.

23. Would the manager be willing to manage a separate account for the investor?

    Some managers will consider managing a separate account for an investor if the account is large enough. Advantages to the investor could be special guidelines – either more or less flexible than the flagship fund – as well as the possibility of lower fees and greater security, if the manager does all transactions in the name of the investor and for the investor's custodian. A downside is that in the unlikely event that losses should exceed the value of the account (due, for example, to the use of leverage),

[1] Level I instruments are those for which quoted prices in active markets for identical assets or liabilities are available at the measurement date. Level II instruments are those for which quoted prices may be available, but the instrument is less actively traded or has restrictions on disposition. Level III instruments are those for which valuations are unobservable, and include privately negotiated transactions.

the investor's deep pockets would be liable for all excess losses.

Operations

1. Who is authorized to place trade orders on behalf of the fund?
2. Is there clear separation of functions between front and back offices?
3. How are executed trades allocated to accounts? How are split fills[2] handled?
4. Are any positions allocated as of the end of the trading day or immediately after execution, rather than prior to or at the time of order entry?
5. Does the manager do any cross trades or netting? If so, what are its procedures?
6. How are system errors handled?
7. Have there been any major trade breaks? If so, what were the circumstances, and who was financially responsible for costs associated with such trade breaks?
8. How often are trades reconciled to broker confirmations?
9. How often are cash positions reconciled?
10. Does the manager make use of soft dollars? If so, to what extent and for what purposes?
11. Is the fund's reporting AIMR/GIPS compliant?
12. How does the manager identify, assess, monitor, and control operational risks?
13. Does the manager have a risk or internal audit function? If so, how does it operate?
14. What ongoing assurance does the manager give clients about its effective control of operational risk?
15. Has the company ever undertaken an audit review, such as SAS70, FRAG 21, or AAF? If so, what were the key weaknesses identified?
16. Has the administrator, prime broker, custodian, lawyer, or auditor been changed in the last three years? If so, why, and who was the previous provider?

Business Continuity Plans

Business continuity and disaster recovery planning are basic requirements for any organization. A business continuity plan is designed to help the business run with minimal interruption in the event of a disaster, such as a fire, weather-related catastrophe, act of terrorism, power outage, or computer crash. A detailed plan should be in place and tested annually.

1. Who is responsible for business continuity at the firm?
2. Request a copy of the business continuity plan.
3. How frequently is the disaster recovery plan tested? When was the plan last tested, and what were the results?
4. Are key applications and data mirrored to remote servers located at the recovery site?
5. In the event of a power outage at the main office or recovery site, how are servers, phone, and Internet connectivity protected?
6. How many employees can work at the recovery site and for how long?
7. What is the ability to trade outside the office? How many employees could do this?
8. Does the firm maintain business interruption insurance coverage?

> "Are key applications and data mirrored to remote servers located at a safe recovery site?"

[2] A split fill occurs when a single buy or sell order is filled in more than one trade at different prices.

"It is essential that an investor read through the audited financial statements as far back as they are available."

9. What are the primary systems used for operations (models, portfolio tracking, back office, and risk management)? Are these third-party or internal systems?
10. See a demonstration of "mission-critical" systems (trading, portfolio reconciliation, risk, portfolio management, and client database).

Service Providers

While there are multiple ways to approach the many functions a private investment firm needs to have carried out, the choices that managers make as to who performs them may be a window into how the firm values each important service. The use of third parties has grown significantly in the past several years, and so has the need for investors' due diligence on the service providers themselves.

Ask the manager about the specifics of its vendor-selection process. Where a service provider is relatively unknown, new to the industry, or a startup, consider reviewing marketing materials, web sites, and the backgrounds of the principals.

Auditor

1. Who is the auditor?

   Consider the reputation of the auditor, size of firm, location, number of years in business, and types of clients it services.

2. Is there also an outside accountant? If so, who, and what are its responsibilities?
3. When was the auditor first appointed?
4. Has the auditor ever been changed? When and why?
5. Will the auditor provide a letter of engagement to confirm that it is responsible for the audit of the management company and the fund?
6. What is the fund's year-end?
7. Is an annual audit of the fund sent to all investors each year? By what date? Is it also filed with an independent exchange?
8. Review a copy of the last audit.
   a. Was the audit opinion clean, or was there a qualification?
   b. If there was a qualification, what was the reason?
   c. Review the notes to the financial statement. We might raise questions with the auditor directly, although auditors often won't discuss audits with individual investors.
9. Has the auditor (or any previous auditor) ever issued a qualified opinion in its audit of the fund?
10. Does the auditor provide any other services, such as tax or consulting services, to the fund or the management company?

    The margins on auditing business are much lower than on other services. Most large accounting firms have recently moved to sever their links with their consulting brethren and returned to their roots as unbiased auditors.

11. Have valuation issues ever arisen during an audit? Have there been other issues?
12. Compare year-end assets, subscriptions, redemptions (cash flows), and net asset

value with prior information provided by the fund.

13. Do footnotes to the annual audits reveal that there have been any major changes to the management company or fund, including changes to the administrator, prime broker, directors, and ownership?
14. Does the auditor do audits quarterly?
15. Is there any litigation noted? Are there provisions for possible liability?
16. Will the manager let us see the auditor's annual letter to management on improvement opportunities?
17. Does the auditor perform agreed-upon procedures (AUP)?

    AUP is a list of procedures that are agreed upon with the requesting party (either the manager or an investor) that the audit firm or a similarly qualified party is responsible for conducting and testing. The procedures performed are limited in scope to the exact directive of the engagement letter. Typically, AUPs have been performed relative to a fund's existence and price verification of securities. Note that the auditor does not express an opinion, only findings. The investor has to contact the audit firm directly to request an AUP.

Marketing Relationships

1. Does the manager use external parties, such as independent placement agents, to raise assets? If so:
    a. How are they compensated?
    b. What is their reputation?
    c. Do investors directly or indirectly participate in their compensation?

        Investors who enter the fund through a marketer or placement agent should not have to pay higher fees or expenses.

2. Is the agent registered with the Financial Industry Regulatory Authority (FINRA) in the U.S., the Financial Services Authority (FSA) in the UK, or any of the relevant authorities in other jurisdictions?
3. What kind of agreement exists between the fund and the marketing agent? Is it an exclusive agreement, or are there multiple marketing agents?
4. Have any marketing agents been replaced or resigned? If so, why?
5. Has the agent added value, such as by conducting thorough due diligence, determining investor suitability, or helping the manager develop appropriate expectations?
6. Does the agent add value or communicate with the investor after the initial introduction? Is there a sunset provision for the agent's involvement?
7. Has the marketing agent been involved in any regulatory or legal issues?
8. Does the agent clear trades for the fund? This may create a conflict of interest.

    Remember that an introduction by reputable brokers does not constitute an endorsement.

"Does the manager have a written code of ethics, a compliance manual, and a dedicated compliance team?"

Legal and Compliance

1. Is there a chief compliance officer (CCO)? To whom does he report?
2. Does the manager have a written code of ethics and a compliance manual?
   a. Who drafted these documents?
   b. How frequently are they updated?
3. Does the manager have a dedicated compliance team?
4. What is the firm's personal trading policy, and how is it enforced?
5. Is the CCO involved in both pre- and post-trade compliance?
6. Does the firm have any oversight committees for risk, valuation, compliance, etc.?
7. Is there a separate compliance officer for international offices, and is this person familiar with local regulations?
8. Who are the outside attorneys or outsourced compliance providers?
9. What is the background of the principals and individuals servicing the account?

   If the firms are new or unknown, we should ascertain from the fund the reasons for the selection.

10. Who at the fund is responsible for overseeing the relationships?
11. Has any of the providers been changed? Why?

    A change or an increase in the members of outside legal providers may indicate an issue that we should be aware of.

12. If the fund uses an outsourced compliance firm, are any matters outstanding or under review? If so, can we discuss the matters with the principals?

Other Providers

Other third-party services that may also be relevant to evaluating a manager's operation are:

- Trading
- Front/back office
- Accounting
- Research consultants
- Operational consultants
- Political consultants
- Technology consultants

Consider each as it relates to the significance of the manager's operations. What is the marginal benefit of additional third-party providers versus the added complication of additional vendor relationships?

Declining an Opportunity

After we have seriously considered an investment opportunity, especially after doing extensive due diligence, *how* we tell the manager of our decision not to commit is more important than the message. Why? Because we are in a long-term game. We may be interested in future opportunities with the manager, and – more broadly – our reputation on the Street can impact the kinds and priority of opportunities that other managers may offer us.

Hence, we should initiate turndown calls on a timely basis. They are not fun, but managers would rather hear quickly where they stand. Managers will appreciate our proactive approach, which demonstrates our professionalism and seriousness.

We should call at a time when we can unhurriedly discuss our decision and try to make the manager (or our primary contact there) understand that we and our team have thoroughly reviewed their materials and have given their proposal serious and fair consideration. It may even take two calls, if the CEO himself wants to talk with us afterward. We should emphasize the manager's strengths before reviewing our concerns. We need to give the manager whatever time he desires to discuss our points. While it does not make sense to make negative comments about specific individuals, we should be honest about our concerns. Let him debate us. This takes patience, as we aren't going to change our mind except in the highly unlikely event that he comes up with a major positive consideration that we somehow overlooked.

Avoid generic reasons for a turndown, such as "We're out of money," "We don't invest in first-time funds," or "We back only people we have backed before" – an irrefutable reason that was well understood from the beginning. Such turndowns make people feel they have wasted their time responding to our questions and that there is no point in maintaining an ongoing dialogue with our firm. Such rejections can make our call easier to deliver, but they have serious long-term repercussions that can be damaging to our firm's reputation.

> "*How* we tell a manager of our decision not to invest is more important than the message."

Chapter 2 — Due Diligence on Hedge Funds

"Hedge funds within the same strategy category can be very different from one another."

For the purpose of this chapter, we shall define "hedge funds" as all liquid alternative investments – continuing funds from which investors can redeem within one or a couple of years. This definition covers a vast range of investment programs. The questions in this chapter will concern all hedge funds. In addition, there are questions applicable to specific types of hedge fund strategies, and these will be covered in Chapter 3.

Hence, for due diligence on any hedge fund, we will need to review the questions in Chapter 1 (applicable to all private investments), plus those in Chapter 2 (applicable to all hedge funds), plus those in Chapter 3 (applicable to the specific hedge fund strategy that we are considering).

PART A.
WHY WE MIGHT WANT TO CONSIDER THIS OPPORTUNITY

The Strategy

In addition to the questions about strategy in Chapter 1, consider these that apply specifically to hedge funds:

1. Does the manager categorize the fund as either directional or market-neutral?

   View a market-neutral designation with some skepticism, as a truly market-neutral fund should have a zero correlation with the public stock market and with changes in interest rates. Many so-called market-neutral funds have correlations that are much higher.

2. How does the manager categorize the style of his fund? For example:

   - Convertible arbitrage
   - Dedicated short bias
   - Distressed
   - Emerging markets
   - Fixed-income arbitrage
   - Global macro
   - Long/short equity directional
   - Long/short equity market neutral
   - Managed futures
   - Merger & acquisition arbitrage
   - Risk arbitrage
   - Multi-strategy

   Some hedge funds don't fit neatly into any of the above categories. And many of those within the same category can be very different from one another.

3. Is the manager's style more top-down or bottom-up?

4. Has the manager pursued identifiable investment themes? If so, how have they changed over time?

5. What range of securities is typically included in the portfolio?

6. What was the fund's composition as of the end of every quarter (or every year-end) since inception? How much position-level transparency is provided?

   Review this in the context of how the firm's total assets in this strategy have grown. Is this consistent with how the manager says his strategy has evolved over time?

7. What has been the fund's gross and net exposure at the end of each quarter (year) since inception (or the past eight years)?

How does the manager treat derivatives in calculating gross and net exposure?

8. What is the manager's process for sizing positions?

9. How large does the manager let a position grow before trimming? Under what circumstances might he not cut back at that point?

10. What is the percentage allocation to each of the top 10 positions, both currently and historically? What were these 10 positions as of, for example, the past three year-ends?

    A manager may appear to have a diversified portfolio, but the book may be full of correlated trades. Does the portfolio express a true collection of uncorrelated, idiosyncratic ideas?

11. What has been average annual portfolio turnover, and how has that changed each year?

    High-frequency trading strategies have been under increased scrutiny in recent years following several well-publicized hedge fund investigations. Many notable managers, however, have profited from active trading on news and securities price moves. Short-term strategies that emphasize trading skill include fixed-income arbitrage, convertible arbitrage, risk arbitrage, managed futures, and commodities trading. It is possible that future regulation may seek to limit the potential from high-velocity trading.

12. Does the manager differentiate between core and trading positions?

    a. What portions of the portfolio are composed of core and of trading positions?

    b. What is the average holding period for core positions and for trading positions?

13. What triggers the manager's sell decision?

14. As a percentage of NAV, how much is the manager willing to lose before he cuts back or eliminates a position or a theme?

15. When net asset values decline, are position sizes reduced to reflect the lower assets under management, or are positions constant?

    If positions are not reduced after losses, then the size of positions actually increases relative to the decreased asset base.

16. Are stops used at the individual position level, the portfolio level, or both?

    a. Is the stop loss considered hard or soft?

    b. After a stop loss has been activated, how and when does the manager decide to reengage the position?

17. If a manager uses a quantitative approach, how often does the manager change the model? Is it continual? Are changes made when losses occur?

18. How often does the manager deviate from the model? Under what circumstances?

19. Determine whether the manager uses a system such as:

    - Statistical probabilities
    - Moving averages
    - Breakout systems
    - Pattern recognition
    - Neural networks or artificial intelligence
    - Oscillators
    - Cyclical analysis
    - Multifactor analysis
    - Countertrend systems
    - Fundamental/economic analysis

“A manager may appear to have a diversified portfolio, but it may be full of correlated trades.”

"There is no question that many managers are focused on privacy. Some of this may be a desire to protect proprietary trading. Some probably reflects the idiosyncratic personality of the hedge fund manager."

20. Are trades directly based on quantitative output, or is each computer-indicated trade up to the portfolio manager's discretion? Does this apply to buys as well as to sells?
21. To what extent has the manager stopped using a system in the past?
    a. On what basis was this decision made?
    b. On a prospective basis, how does the manager plan to introduce new systems to the portfolio?
    c. What is the process for allocating capital to new systems?
22. Does the hedge fund take any short positions? If so:
    a. If shorting is meant to generate alpha, has shorting actually done so in practice? Ask for long and short attribution records.
    b. Will the manager employ any other shorting/hedging strategies?
    c. What range of instruments will be used to short or hedge?
    d. To what extent does the manager use index shorts? Why?
    e. What specific shorting experience do the manager and trader have?
    f. Are there differences in holding periods between longs and shorts?
    g. How easy is it for the manager to short all the securities he would like to?
23. To what extent does the manager trade derivatives?
    a. What instruments are used?
    b. How are these instruments modeled and valued?
    c. If options are used, does the manager have a bias to buy or to sell them?
    d. If options are used, explain how they are used (covered only, naked, as part of the hedge strategy, etc.).
24. Who at the fund makes trading/execution decisions?
25. Are there other firms that share ideas with the manager?

    Networks are important sources for ideas, but crowded trades can be costly.

26. Does the manager intend to hold any private investments?

    An increasing number of hedge funds have side pockets of private investments—a blending of the hedge fund model and the private equity model. Venture capital and buyout firms are also adding public investments, particularly in emerging markets. Mixtures of hedge funds and private equity may produce larger exposure to illiquid assets than otherwise expected.

    a. Will private issues be side-pocketed?
    b. How are they marked, and what is the procedure for marking them?
    c. Is there a maximum percentage limit allowed for side pockets in the portfolio?
    d. Can investors opt out of side-pocket investments?
    e. Can positions be moved out of the side pocket, and does the manager have a formal side-pocket policy?
27. As investors, how would we identify style drift in this fund?

28. What was the amount of assets in the fund as of the end of each year since inception?
29. Does the manager give any consideration to tax efficiency?

    With more trading-intensive strategies, this is particularly important to taxable investors.

Track Record

There is no point in spending a great deal of time studying a fund unless we can rationally expect from it outstanding future performance – a combination of returns, volatility, and correlations that will strengthen our overall portfolio. Many investors lean on the manager's track record to develop their expectations and all too often are deeply misled. A track record is no more useful than its predictive value, and that is a matter of judgment that astute investors can often disagree about, even after sophisticated analysis of the track record.

The manager will provide the fund's returns since inception, along with its volatility and correlation with the stock market. But as accurate as those figures may be, we should not rely on them. We should obtain the fund's net returns for each month since inception and calculate those figures for ourselves. Calculating return is straightforward, but we can and should calculate volatility and correlations in two complementary ways.

The most common way is to calculate the annualized standard deviation of monthly returns – the monthly standard deviation times $12^{(1/2)}$, or 3.464. As investors, however, our interest is in the fund's volatility of annual returns, not the volatility of monthly returns. If monthly returns are serial and compounding, the monthly volatility will understate annual volatility. Conversely, if monthly returns tend to be mean-reverting, monthly volatility will overstate annual volatility. Therefore the standard deviation of rolling 12-month returns would seem more helpful. Its drawback, however, is that for any interval of years, it underweights performance in the first and last 11 months, as each month is included in fewer 12-month intervals. Hence, we should look at the volatility of both monthly returns and rolling 12-month returns.

One of the greatest advantages of a hedge fund can be a low correlation with the stock market, which is the largest source of systematic risk in most investors' portfolios. If the equities in our overall portfolio are globally oriented, the MSCI All Country World total return index, for example, may be a good benchmark against which to calculate correlations. For the same reason as before, we should calculate correlations on the basis of both monthly and rolling 12-month returns.

We should also run correlations with other large systematic risks we may have in our portfolio, as well as with each of the other hedge funds in our portfolio. Ideally, we would like a portfolio of hedge funds that have low correlations with one another.

Another approach to understanding correlations with the stock market is to list the manager's net return in every month when the stock market had a negative return. In what percentage of those months did the manager have a positive return? For those months in aggregate, what was the manager's annualized return relative to that of the stock market?

At this point, all we have are statistics. They are useless unless we believe they have some predictive value. Here are some questions we should ask:

> "A track record is no more useful than its predictive value, and that is a matter of judgment."

1. How does the fund's track record compare with that of other hedge funds that are reputed to have the same investment style?

   This can be tricky, because many hedge funds reputed to have similar investment styles can be quite different from one another. For example, their returns may have different volatility levels and quite different correlations with the stock market.

   Also, indexes of each style of fund as reported by various indexers involve more problems than traditional security indexes. Besides uniformity of funds within a style, indexes are limited to those funds that report performance to the indexers. Some of the best funds may choose not to report, newer ones may be slow in reporting, and ones in trouble may stop reporting. A number of studies have concluded that such indexes may be biased upwards by several percentage points per year. The greatest index distortions tend to occur during severely negative years, such as 2008.

2. Have the fund's returns been audited?

   Why spend time analyzing a track record if we cannot have full confidence in its credibility?

3. What were the fund's largest drawdowns as a percentage of NAV?

   a. In each case, how long did it take the fund to recover those losses?

   b. What were the reasons for those losses?

   c. Did the manager make any changes in his investment approach or risk management policies in response to those losses?

   From the fund's monthly return data, we can see drawdowns that occurred, but we should also ask the manager, because he can provide more accurate information – drawdowns that began and ended on particular days. This is another way to get a feel for the fund's volatility and the manager's reaction to it.

4. Is the track record long enough to have any predictive value?

   How can we distinguish skill from luck? The shorter a track record, the more likely that good results were based more on luck than on skill. We can only guess how the manager will behave in other kinds of markets.

5. Was the size of assets in the fund's earlier years large enough to have any predictive value for the years ahead?

   Should we attribute much predictive value to intervals when the manager had AUM of only $10 million when he is now managing $1 billion? The manager might then have been able to invest in smaller-cap situations and transact in and out of less liquid positions more easily than he will be able to in the years ahead.

6. Is the team that was responsible for this track record still the one dedicated to the fund going forward?

   Investing in a fund is actually investing in specific persons. If the persons making the decisions have changed, why should we expect the track record to have any predictive value? If the manager has not been able to retain the best people, what might that imply about predictive value?

7. Has the investment strategy changed over the years?

   This is one of the reasons we need to spend so much time studying the manager's investment strategy, as discussed in Chapter 1 and earlier in this chapter.

   If the strategy has changed, why should we expect returns in earlier years to have predictive value? Changes can include:

   » The number of positions in a portfolio

   » Turnover

   » The liquidity of the portfolio, including the size of positions relative to the market caps of such positions

   » Geography of holdings

   » Additional asset classes

   » Modified decision rules

   Understanding such changes can come only from a thorough understanding of the manager's investment strategy, plus probing to discern how this strategy has evolved over the years.

8. Is a good record the result mainly of one or two overarching thematic or market-timing decisions?

   If so, the manager's past performance may not have as much predictive value as would many smaller decisions that resulted in the same record.

9. How did the manager perform in different kinds of markets? What were his returns, volatilities, and correlations over rising and declining phases of market cycles during the past decade?

   Understanding how the manager has performed in different markets can provide clues as to how he might be likely to perform in the future.

10. Were there times when the manager had particularly strong or weak relative returns? Why?

    Detailed data gives us the opportunity to ask probing questions to gain a better understanding of the manager's strategy.

11. If the management approach is quantitative, does any of the track record reflect pro forma backtests?

    Be skeptical. Have the same algorithms and decision rules been used for the backtest as will be used in the future? How much of this approach is the result of data mining – discerning what worked in the past and assuming it will work in the future? That can be a dangerous assumption.

12. Does some of the track record reflect the manager's results at a prior firm?

    Sometimes a strong manager at a prior firm will start up his own fund. It could be a good opportunity for us to get in on the ground floor of a great fund before it fills up and closes to new investors. But be skeptical. How can we be sure that the prior fund's track record was the work of the founder of the new fund? And if so, why should we believe that he will be as competent at handling all the complexities of running his own firm as he was at investing at his prior firm?

13. Has a fund with a strong long-term track record come off a year or two of poor performance?

> "Quantitative analysis can help shed new light on the character of a strategy, but should be evaluated in the context of all other research, including qualitative judgments."

"A serious flaw in an important operational function might well be a show stopper."

If nothing has changed in the manager's strategy, we might explore whether the manager might predictably have done less well in the particular market we have just been through. If so, now might be a timely opportunity to invest in his fund.

PART B.
WHY WE MIGHT CHOOSE NOT TO PURSUE THIS OPPORTUNITY

A recent study of over 300 hedge fund failures showed that the leading causes of operational failure were theft and misappropriation, followed by misleading existence of assets, legal and regulatory violations, concealment of trading losses, and marketing misrepresentation. As a result, this has painfully reminded institutional investors (and regulators) of the critical need to properly evaluate a fund's legal and operational infrastructure prior to investing, and then on an ongoing basis.

In addition to the operational concerns listed in Chapter 1, the following additional concerns should be explored in depth. As mentioned earlier, a serious flaw in any of them might well be a show stopper. On the other hand, superlative responses to every one of these concerns would not make an opportunity attractive unless both (a) the investment program itself is highly attractive, and (b) the manager's strategy and risks complement our portfolio's existing investments.

Terms of the Fund

1. What is the fee structure? How does it compare with similar kinds of hedge funds?

   Because the hedge fund fee structure is so much higher than for a long-only manager, we should be extra confident in the manager and what his fund can achieve for us before we add the fund to our portfolio.

2. Does the incentive fee have:

   a. A hurdle?

   b. A high-water mark? If it has a high-water mark, is it perpetual, or does it reset?

   c. Is there a provision for a clawback?

      A clawback is the return of incentive fees previously paid by remaining investors in case the fund should either (a) fail to return to its high-water mark within an agreed period, or (b) terminate without having returned to its high-water mark.

      After the disastrous markets of 2008 numerous hedge fund managers found that their fund had lost so much money that they terminated their fund and distributed cash to investors by selling assets over the ensuing year or several years. Few hedge funds had terms that provided for clawbacks. As a result, investors paid large incentive fees based on strong results in 2006 and 2007 and did not receive them back during the fund's liquidation. In effect, then, total fees paid by investors proved to be far higher than the rates shown in the offering memorandum.

3. Are there any other share classes with better terms?

4. In the case of a multi-class fund, is there cross collateralization?

If so, to what extent might our class become liable for a problem that could occur in another class?

5. Is there a lockup period before redemptions are permitted?
6. How frequently are redemptions permitted?
    a. How much notice is required for a redemption?
    b. Are there any redemption charges?
    c. How long must an investor wait until he receives his initial and any subsequent final installment of his funds after having sent in his request for a redemption?
7. What, if any, are the gate provisions (the limit on what percentage of the fund can be redeemed at one time), and how do they work?
    a. Is the gate at the fund level or the investor level?

    Redemption provisions that are too liberal can, in a bear market, promise investors more liquidity than the fund's investments allow, and the gate can postpone the investors' expected redemptions – perhaps for a year or more. And if gate provisions are too liberal, the fund can suffer a devastating run on the fund.
8. If the fund is closed to new investors, could it accept additional capital at a later time? Does it ever accept conditional commitments, to be drawn at the manager's discretion if and when he sees exceptionally good opportunities for his strategy in the market?
9. How willing is the manager to return capital to investors when he sees less-attractive opportunities for his strategy in the market?

Risks To Consider

We should be aware of the following (in no particular order):

- Leverage
- Interest rate risk
- Foreign exchange risk
- Credit risk
- Equity market risk
- Basis risk
- Liquidity risk
- Position concentration risk
- Correlation risk
- Volatility risk
- Counterparty risk
- Political risk
- Geographic risk
- Tail risk
- Measurement risk
- Pricing

Management of Risk

1. Does the manager have written policies and procedures that communicate an approach to risk management?

    Obtain a copy of any relevant documentation or procedures.
2. Is there an independent risk committee responsible for monitoring risk and altering risk limits?
    a. If so, how often does it meet?
    b. Who is on the committee?

"While it is not necessary to have written rules, it is important that the manager have a disciplined approach to risk management."

c. What level of authority does the committee have?

Be careful of risk committees that have significant representation from traders rather than from risk professionals.

3. Is there a risk manager?

a. If so, is he responsible for anything other than risk management?

b. Has the risk manager, in this capacity, been through a number of different market gyrations/events?

c. What is the risk manager's authority?

d. To whom does the risk manager report, and how is he compensated?

e. Does the risk manager have the authority to override the discretionary trader?

f. Can the risk manager override the founder? If so, has that ever happened?

g. Is the risk manager authorized to exit trades, or does he have unilateral authority to reduce risk if predefined guidelines are violated? If so, has this ever happened?

Of all these items, the combination of authority, reporting lines, and compensation incentives for the risk manager bear the closest scrutiny. Having a risk manager who cannot effectively police risk limits is often worse than having none at all because of the false sense of security.

4. Are the benefits and the limits of the risk system understood within the firm?

5. Has any of the investment restrictions (such as an increase in position limits) changed in the past 12 months?

6. Does the manager use a third-party risk system for its internal risk measurement? If so, how much control does the manager have over the methodologies and how the risks are reported?

Care should be taken in interpreting the answer to this question. A system that lets the fund "dial up" or "dial down" the risk results too liberally is likely not as independent as one that controls the use of models and results. While it is important to match the models to the securities, it's also important to have an independent assessment of the risk of the portfolio. The analogue is an administrator who allows the fund to dictate how to calculate NAV, possibly in a way that is inconsistent with industry practices.

7. Are the risk systems independent of the trading systems?

The risk systems should be completely independent of any trading algorithm.

8. Are the risk-monitoring systems run in real time, or are they run at the close of business?

9. When are unreconciled trades recognized and dealt with? Unreconciled end-of-day positions? Reconciled end-of-day positions?

While real-time risk analysis may sound like a very good idea, it is not often found in practice. Risk measurement can be successfully done on a daily basis, but generally should not be less frequent. A hedge fund that performs only weekly or monthly risk analysis is not demonstrating best practices.

10. Are summary reports available from the risk system for traders to see?

a. How pervasive is knowledge of the risk system within the fund's staff?

b. Does each trader get a risk report on his own activities?

c. Are the risks taken by a trader considered as part of his evaluation?

11. Does the manager provide risk data to an independent risk management analyst?

12. Does the risk provider receive positional data directly from counterparties or from the manager? If the manager provides the data, are reconciliations performed to ensure that all positions are reported to the risk provider?

13. Does the firm's risk officer compare external risk reports to internal systems at the fund?

14. Are there differences in risk measurement by the manager and the vendor?

In general, a dialogue between the risk provider and those responsible for trading is a good indication that the provider reports reflect the risk profile as viewed by the fund managers.

15. What are some of the "soft" aspects of risk management?

Often, losses are felt more deeply than gains. A string of losses may produce tighter controls, while a series of gains can lead to increased laxity. What is the manager's balance between caution and abandon?

16. Can the seed investor or another entity piggyback on the manager's trades? Do they share ideas that can negatively impact capacity or trading nimbleness?

17. What are the manager's policies and procedures to mitigate the risk of unauthorized trading by members of his staff? How do its policies and procedures compare with those recommended by the "Group of Thirty" and AIMR standards?

Measuring Risk

1. What systems are used to measure risk?

   a. When were they implemented?

   b. Who within the hedge fund has intimate knowledge of how the risk systems work and how to interpret their results?

   c. Are the systems well documented?

   d. Does the firm have access to the systems' original developers (whether internal or external)?

   Just because the fund has acquired the talent to trade a security type or strategy does not necessarily mean it has the risk management expertise to manage the risks of that new security or strategy.

   Whether the systems were developed in-house or are provided by a third-party vendor, having access to experts about interpretation and documentation is important.

2. Does the risk manager monitor position, sector, credit rating, and geographic or thematic concentrations as well as correlations among trades and among the various parts of the portfolio?

3. Does the manager measure risk in terms of stress levels, volatility, and leverage, or in some other fashion?

4. Do the measures take into account both normal market conditions and tail events?

> "Do the risk measures take into account both normal market conditions and tail events?"

5. How do the risk measures deal with asymmetric risks, such as those in options or event arbitrage?

6. Who provides assumptions for the risk model – the fund manager or the risk manager?

7. Is the risk measurement system's output backtested on a regular basis? If so, ask for a copy of the test results. If not, inquire why not.

   Backtesting of risk data is really the only way to know if the numbers are meaningful. The concept is simple: Since a risk statistic predicts what the fund is likely to lose within a given confidence interval, it is important to see if the fund actually did lose that amount with the predicted frequency. A risk value that is a worst-case number that a fund never exceeds is not a valid or useful measure of risk. Any useful risk measure should be (and actually is) exceeded with a specified likelihood.

8. Are risk measures calculated internally or by an external vendor?

9. Are risk management models always independent of trading models?

10. If the manager trades options, what additional sensitivity measures are employed for risk management purposes?

    a. Does the manager track the delta, gamma, vega, and theta of positions?[3]

    b. Does the manager have a bias to buy or to sell options?

    Focus on understanding the tail risk that may be inherent in some of these strategies.

11. Is risk assessed both quantitatively and qualitatively? If so, how is it assessed qualitatively?

12. What is the risk of incurring unrelated business taxable income?

Stress Testing

1. Is the portfolio stress tested?

   Well-constructed stress tests can go a long way toward addressing short optionality and tail-event risk, and can reveal inappropriate correlation assumptions.

   a. What methodology and assumptions are used?

   b. How often are they performed?

   c. Who reviews the stress tests?

   d. Have they ever been acted upon?

   e. Are correlations stressed? Ask for examples.

   f. If VaR (value at risk) is used, what are the key assumptions in the model?

   It is important to remember that various risk measures, such as VaR, might understate risk during periods of low volatility if they rely on recent history and employ simplifying assumptions such as the normal distribution. Stress testing and scenario analysis help gauge portfolio risk during periods of high volatility and correlations. They provide a more accurate picture of potential losses in difficult environments. Instead of employing normal distributions, some VaR models use fat-tailed distributions that capture extreme losses rather well.

[3] Delta is the percentage change in the option premium for each dollar change in the underlying stock price. Gamma is the change in delta for each unit change in the underlying stock price, and it increases as the time value of the option decreases. Theta is the loss per day of the time value of the option. Vega measures the change in the option premium resulting from changes in the volatility of the underlying stock.

2. What types of stress tests are performed?
   a. How does the manager choose the type of stress test to perform?
   b. Does the manager perform stress tests that simulate "nightmare" events, regardless of historical precedent?
3. What methodologies are employed in the stress tests?
   a. Are volatilities stressed?
   b. Are there limitations on the range of volatilities allowed?
   c. Are correlations stressed (extreme values of all securities reaching correlations of 1 or 0)?

      Stressing of correlations is an important and integral part of modern stress tests. In long-only portfolios the risks increase if correlations go to one, but in a long/short portfolio the risk may actually decrease because of the hedges. On the other hand, some shorts may not be good hedges for the longs. Seeing how the portfolio's risk changes when correlations converge toward one is a revealing analysis that should be done regularly.
4. Are what-if situations stress tested? Can the manager change allocations to securities to see what would happen to the fund's risk levels prior to making a trade or a set of trades?

Trading

1. Does the manager have an affiliated broker/dealer? If so:
   a. Is the management company physically separate from the broker/dealer?
   b. What percentage of the fund's trades is done through the broker/dealer?
   c. Is the fund paying the same fees that it would pay to other broker/dealers? Is it subject to the same spreads?
   d. Why is it advantageous for the fund to trade through the affiliated broker/dealer?
   e. What conflicts of interest are involved?
2. Does the manager have any soft-dollar or other fee-sharing arrangements in place?
3. What is the average commission rate paid by the manager?
4. If the firm manages more than one fund and/or separate accounts, is there a written allocation policy that defines how all trades are divided up among the various funds and separate accounts?

Liquidity Risks

1. What is the manager's definition of liquidity? What level of liquidity would we receive in a credit crisis or other market crash?
   a. Determine what proportion of the average portfolio could be liquidated in, for example:

      1–2 days
      2–5 days
      5–10 days
      10–20 days
      20+ days
   b. On what assumptions are these estimates based?

"The liquidity on the way out is not the liquidity on the way in."

"During the recent credit crisis, did the manager behave in the best interests of the long-term investors?"

c. What is the manager's definition of an orderly liquidation?

d. What is the typical bid-asked spread on the securities in the portfolio?

e. What investments comprise the least liquid 25% of the portfolio?

2. What is the impact on liquidity of position concentration, asset growth, investor concentration, and redemption terms?

   A sudden, large redemption may push a manager to fund the redemption with the most liquid assets in the portfolio, leaving a substantially less liquid or lower-quality portfolio for the remaining investors.

3. Is the manager nimble enough to handle varying liquidity environments?

4. Is there an active effort made to avoid crowded trades? How?

5. Who is on the other side of the trades that the strategy typically executes?

   a. Is there a dominant dealer who is monopolizing the liquidity in that instrument?

   b. If so, how financially stable is the dealer?

6. What is the maximum long and short position size as a percentage of average daily trading volume or issue size?

   a. Has the manager ever exceeded this parameter?

   b. Given the manager's assets under management, how do these maximums compare to the outstanding issue and market float?

7. Some markets cannot handle short sales fluidly (such as stock exchanges in emerging markets). How difficult is it to short in the manager's markets?

8. How has the fund's liquidity shifted over time as assets have grown?

9. Do investor redemption terms makes sense? Do they match the liquidity of the fund's instruments or marketplace?

   Be wary of funds that provide generous liquidity terms relative to the liquidity of the instruments and securities the manager invests in.

10. Will a significant redemption alter the portfolio by leaving the most illiquid instruments with remaining investors?

   Be wary also of this possibility, particularly if there are side letters and preferred redemption terms for some investors. A liberal redemption provision may not be favorable for long-term investors.

11. Has the manager installed gate provisions to prevent a run on the fund?

   a. Do any investors have preferential liquidity terms?

   b. How would any gate provisions impact our specific interests as an investor?

   c. Are the gates reasonable in light of the instruments in the portfolio?

   d. Have the gates ever been invoked, or has the manager ever taken steps to impair investor liquidity (a liquidating trust, etc.)?

   The liquidity offered by funds to their clients, like that of banks, generally exceeds their ability to deliver on it should a substantial portion of investors demand it at the same time. Most offering memorandums contain language allowing a manager to suspend redemptions to protect the remaining investors in a fund. Be aware that these provisions trump all other liquidity terms if they are triggered.

12. What was the manager's behavior in terms of the liquidity the fund offered to investors during the credit crisis of 2008–09?
    a. Did the manager behave in a way that was consistent with the fund's offering documents?
    b. Did the manager communicate with investors during that time to their satisfaction?
    c. Did investors feel that the manager behaved fairly during the credit crisis – in the best interests of the long-term investors?
13. Do unrealized or realized gains or losses on side pockets net with gains or losses in the liquid class for the purpose of calculating the incentive fee?
14. Is there a service provider to independently value the illiquid or side-pocketed investments? If so, how often is the valuation conducted?
15. Do side pockets have a clawback provision?
16. Do portfolio investments match the liquidity given to investors in the fund? Under what conditions would a mismatch occur?

Leverage

1. How many brokers or banks extend leverage to the fund?
2. What are the manager's borrowing terms?
    a. Are the liability resets synchronized with the asset resets, or is there a mismatch embedded in the financing structure?
    b. How much debt matures in less than 90 days? How much matures in more than 90 days? How has that changed over the past 12 months?
    c. Are the terms of the fund's assets consistent with its liabilities?
    d. What notice period is required by counterparties to change the terms?
    e. Have any terms changed in the past 12 months?
    f. Are assets protected and segregated? Is there excess cash or other unprotected exposures to the counterparties?
3. How are liabilities dealt with operationally?
    a. How does this affect the liquidity of the leverage?
    b. Might the manager's credit facility potentially be called at the wrong time?
4. What particular environments or circumstances would prompt a reduction or increase in the use of leverage?

To answer these questions, we need to know how the manager defines leverage. For example, a long/short manager reports both gross and net leverage. To what extent do the shorts truly hedge long positions, or add to the aggregate risk? And how does the manager report derivative securities, including options – for example, on a market value or on a notional value basis?

"Understand the effect of leverage on a manager's ability to hold onto a good position that may have a temporary mark-to-market loss."

“Investors need to determine their own comfort levels with a fund's transparency before making an investment.”

We must judge whether the leverage is appropriate for the liquidity and volatility of the market being traded. This presupposes that we can visualize the size and liquidity of the market.

We must understand the manager's ability to hold a good position that may sustain a temporary mark-to-market loss.

5. What conditions would create the perfect storm where portfolio leverage would pose problems for the strategy or the portfolio manager?

Transparency

Transparency comes in many varieties, but it should be of great importance to all investors.

Alternative managers are often referred to as "secretive." There is no question that a number of hedge funds focus on privacy. This may arise from a desire to protect a proprietary trading strategy or material non-public information. It may also be a desire to allow the fund manager to focus on investing. Some hesitations probably reflect the idiosyncratic personality of certain fund managers or the desire to keep the nature of a market anomaly quiet. But it is important for each investor to develop an individual standard for accessibility and transparency for his own investments.

Some degree of operational transparency is critical for most investors to feel assured about the integrity of their assets. Performance reporting is required of all hedge funds. Other standards are less uniform.

Some hedge fund managers provide considerable transparency of current portfolio composition, and some report actual positions and risk. Others provide only summary measures. Some provide extensive analysis of recent performance (e.g., quarterly reviews), while others offer little more than periodic investment performance. There is no single standard.

Investors need to determine their own comfort levels before making an investment.

1. What information is available to investors on a monthly, quarterly, and annual basis?

The following list represents ongoing information that is valuable for sophisticated investors:

- Size of fund and growth of assets under management
- Net and gross performance by share class compared with benchmark
- Top 10 holdings and position weightings; many funds will not reveal current short positions but should agree to characterize positions
- Participation by sector, market cap, geographic region, and asset class
- Net and gross exposures
- Factor and risk exposures
- Description of the primary risks being taken
- Portfolio themes and market outlook
- Reports based on FAS 157 (Levels I, II, and III)[4] and side-pocket levels
- Changes in the firm, fund strategy, personnel, fund terms, and service providers; it's important

[4] See footnote about Levels I, II, and II on page 22.

to monitor these more static fund details in case of sudden changes

2. We should review examples of all reports and correspondence usually sent to investors.

3. How frequently are they provided?

4. Are those responsible for client service experienced and informed enough to provide a useful in-depth dialogue?

5. Does the manager's letter to investors reveal what is really going on in the portfolio? Is there a commitment to maintaining a dialogue of substance and quality?

6. Is the notional value of derivatives disclosed?

7. Are manager meetings with investors discouraged? If so, why?

8. How well does the fund communicate its risks?

9. What risk reports does the fund provide to investors? Does it provide them in both an easy-to-read format (such as PDF) and machine-readable formats (such as XML, .xls, or .txt)?

While many funds do not provide position-level data, the trend is for increased risk transparency based on the use of third-party risk aggregators. This procedure can significantly reduce the potential for manager fraud, as well as provide insight regarding how the manager invests and adheres to his disciplines. However, this information can be less relevant for a high-frequency trader because positions will vary significantly during the period.

10. When periodic risk transparency reports are made available to investors, are they independently available from the risk provider?

Compare periodic risk reports to actual performance to determine if one is reflective of the other. If there are large or persistent variances, determine the source by reviewing with the manager.

11. Are there differences in risk measurement by the manager and the vendor?

In general, a dialogue between the risk provider and those responsible for trading is a good indication that the provider reports reflect the risk profile as viewed by the fund managers.

12. Has the manager ever delayed estimates of the fund's net asset value? Why? Was the delay out of the manager's control?

13. Will the manager authorize the prime broker to provide a monthly or quarterly portfolio for the investor's review?

14. How frequently are performance estimates available to investors? Are midmonthly or weekly estimates available?

15. Does any investor have special transparency agreements or side letters?

Counterparty Risk

Counterparty risk can be a major risk.

1. Who are the manager's counterparties, and what are their credit ratings?

For many strategies, it is very important that there be a prudently diversified group of counterparties to the fund. This helps to insulate the fund's operations from market dislocations that could affect a counterparty's ability to meet its contractual responsibilities.

"In the end, the funding counterparty says, 'I'm the house. I make the rules. The game is over when I say it is.'"

2. Review any arrangements the manager maintains with counterparties. What are the key terms of the manager's ISDA (International Swaps and Derivatives Association) agreements? What are the trigger and termination terms within the agreement?
3. Does the manager remove all cash from counterparties and invest it in T-bills, despite slightly lower returns on the cash?
4. Does the manager annually review its counterparties and service providers?
5. Has any of the fund's counterparties ever materially reduced the availability of leverage?

Prime Broker/Futures Clearing Merchant (FCM)/ Custodian

1. Does the fund use multiple prime brokers/ FCMs?
    a. Who are they, and when were they first appointed?
    b. What is the exposure by the prime broker?
    c. Was it a U.S. or non-U.S. entity with which each agreement was signed?
2. Has the fund manager ever changed a prime broker/FCM? Why?
3. Who is the custodian, and when was it first appointed?

    Understand that the prime broker, as a lender, stands ahead of the investor in the fund's capital structure in the event of liquidation. Understand that the prime broker can and will liquidate the fund to take its capital first, leaving what is left for the investor. The prime broker, however, also has an incentive to shun relationships that might create liability, and many firms have demonstrated a record of doing so.
4. Are all assets held in the name of the fund? If not, why not?
5. Are the fund's assets all segregated from the prime broker's assets?
6. How is cash held at the prime broker? Is cash held outside the prime broker?
7. Is the cash invested in high-grade, low-risk, AAA-type securities?
8. Are long and short accounts that are held with the prime broker netted against each other?
9. What insurance does the prime broker carry?
10. How often does the manager perform ongoing diligence on his prime broker and custodian?
11. Do the prime brokers and custodians communicate directly or share data only through the fund?

    The flow of cash, collateral, and positional data between these parties is an indicator of independence in the process.
12. Has the fund been assessed fees by its prime brokers for operational errors?

    Operational errors in fixed income and credit are particularly expensive because of accrued income and financing penalties. This can be a good check on the soundness of the back office.

Any discrepancies should be reconciled, as this is one of the crucial checks to make. There may be good reasons for the differences: multiple prime brokers, separate accounts, and capital market-based financing. The manager, however, should be able to explain any discrepancies.

13. Contact the prime broker and/or FCM to confirm how much the fund has in assets in its account.
14. Are any positions rehypothecated – that is, has the brokerage firm lent out any of the client's securities without the client's expressed permission?

    The risk to the fund is that, in the event the broker should enter bankruptcy, the fund would become a general creditor of the broker to the extent that its assets have been rehypothecated.
15. If there is a UK account, has the fund opted in or out of client money protection?

ADMINISTRATOR

1. Is the fund self administered, and if so, why? What checks and balances are in place?

    While it was once accepted practice that some of the oldest and largest hedge funds were administered internally, hedge fund investors are increasingly requiring third-party administration to safeguard against inappropriate behavior, including but not limited to fraud. This is no guarantee, however, as many of the Madoff feeder funds employed independent administrators.
2. When was the administrator first appointed?
3. What process did the manager undertake when selecting the administrator?
4. Is it a respected, well-known administrator?

    In cases of investment fraud, a little-known or fabricated administrator is sometimes used. We should question why an unknown or new name is being used. Review its hedge fund expertise. If the administrator is little known, ask for references from clients who may employ similar strategies.
5. Does the administrator have a full-service agreement or just a recordkeeping agreement? If full service, what does that include?
6. Who is the administrator's main contact at the fund?
7. Does the administrator send the NAVs directly to investors?
8. Is there a senior financial individual at the fund responsible for reviewing the work of the administrator? How often?

    Compare the administrator's NAVs since inception with the performance numbers given by the manager.
9. Has the fund ever changed administrators? If so, why?
10. How often does the manager perform ongoing diligence on the administrator?
11. By what means and how often does the administrator receive the trades? Does it get trades from the manager or from a direct feed provided by the prime broker?

    Position, cash, collateral, and trading information must come from an independent source—not the manager.

"The conservative pricing approach is to value long positions at the bid price and short positions at the asked price."

"Separation of duties can help reassure investors that multiple sets of unrelated eyes are watching over the business and the portfolio."

12. Many funds maintain shadow books to parallel the administrator. How often are these reconciled, and what are the sizes and sources of the differences?
13. How often is net asset value calculated?
    a. Are all positions verified independently?
    b. When can investors expect to receive estimates and final NAVs?
    c. In general, what are the differences encountered between preliminary and final NAVs?
    d. Has the manager ever restated the fund's NAV?
14. Does the administrator perform ERISA calculations for the manager?

Pricing

1. How much of the portfolio is considered Level II and III according to FAS 157? What types of its investments are in Levels II and III?
2. What percentage of the portfolio is marked to dealer prices?
3. Is there a valuation or pricing committee? Who is on the committee, and how often does it meet?
4. What is the fund's portfolio pricing policy?
    a. How are long and short positions priced?

       The conservative way is to price long positions at the bid price and short positions at the asked price.

    b. Have there been any changes to the pricing policy?
    c. Who prices the portfolio?
    d. How often is the portfolio priced?
    e. What data sources are used for pricing purposes?
5. Does the administrator receive pricing directly from a market data vendor, from the prime broker(s), from a third-party pricing agency, or from the manager? How are differences addressed?

   The administrator should price the portfolio independently from the manager.

6. How does the manager obtain valuations for swaps, over-the-counter derivatives, private placements, and illiquid and other securities for which prices are not publicly available?
7. What percentage of positions are difficult to price?
    a. What are they, and what is their percentage of the fund's net assets?
    b. Why are they difficult to price?
    c. Who prices them?
    d. Are there at least three independent sources for each non-exchange-traded investment?
    e. What are the sources used to price these positions?
8. If the manager prices some of the portfolio, what percentage of the portfolio does he price?

   Independent pricing services are now available for even the most esoteric securities. For private securities and control positions, this is a particular issue.

   Even if a hedge fund has a third-party administrator, that fact alone does not ensure that the portfolio is externally priced. It is not uncommon for an administrator to rely on the hedge fund itself to price some of the less liquid and hard-to-price securities in the fund.

9. What are the security or market valuation methodologies that are important to the manager?

10. How are pricing disagreements with the prime broker and administrator resolved?

    a. What is the frequency of disagreement?

    b. What was the most recent disagreement?

    c. What was the largest/most significant disagreement historically?

11. How often is the NAV prepared and reconciled?

12. Does the manager ever adjust the NAV valuation received from his sources? If so, under what circumstances?

13. When are performance numbers reported?

14. Are interim valuations by the administrators consistent with the procedures used by the auditors at year-end?

    Some illiquid or privately traded securities may be difficult to price. In those situations, the administrator should have written valuation policies that are consistent with the offering memorandum.

15. Are there differences in the way daily or weekly estimates are calculated versus the official monthly NAV? Has the manager ever restated a NAV? If so, ask the manager to explain.

"The administrator should have written valuation policies that are consistent with the fund's offering memorandum."

Chapter 3 — Due Diligence on Specific Hedge Fund Strategies

In addition to the concerns discussed in Chapters 1 and 2, this chapter deals with issues that are specific to hedge funds that pursue particular kinds of disciplines. If we are considering a particular kind of hedge fund, we will want to combine the questions from all three chapters.

Equity Long/Short Funds

1. How does the manager determine the fund's gross and net exposure at any one time?
2. Is performance impacted more by gross and net exposure, or by security selection?
3. To what extent does the manager rely on fundamental analysis? On non-fundamental (technical) analysis?
4. To the extent that the manager uses statistical arbitrage;
   a. What kinds of spreads are being arbitraged?
   b. Is there an underlying assumption that prices tend to revert to historic relationships?
   c. What percentage of the portfolio tends to rely on short-term trades?
5. What is the maximum percentage of a company's shares (or float) that the manager will hold in the fund? In all the manager's funds combined?
6. What is the role of core long holdings?
7. How much alpha has been added by longs, and how much by shorts?
8. To what extent does the fund invest in specific stocks as opposed to blocks of stocks through derivatives or exchange-traded funds?
9. Determine how well hedged the fund's long/short portfolio typically is in terms of:
   a. Sector and industry
   b. Market cap; how does the manager define small and microcap?
   c. Geography
   d. Style and beta
   e. Liquidity
   f. Net long or short
10. How well hedged on these dimensions has the fund's portfolio been as of the end of each quarter (or year)?
11. What is the liquidity of any positions the manager tends to hold in emerging markets?
12. Does the manager report regularly on how well hedged the portfolio is on these dimensions?

Event-Driven Strategies, including Special Situations and Merger Arbitrage

1. Does the manager invest in events (such as a merger, acquisition, spin-off, divestiture, or asset sale) after they've been announced? Or does he invest in advance of expected catalysts, such as an earnings announcement or share listing? Or does he invest in both?
2. Once the manager makes an investment, how long does he expect it will take for the event to be consummated so he can realize his gain?

3. What are the team's skills that give it an advantage over other event-driven managers?
    a. How does it gain legal and regulatory insights?
    b. What experience does it have in various geographic markets?
    c. How have the team's skill and experience contributed to performance?
4. Is the portfolio typically concentrated in those transactions where the team's analytical skill and experience provide an advantage, or is the portfolio diversified as a means to participate broadly in a wide range of transactions?
5. Does the manager specialize in one class of securities, or will he invest across the capital structure? If he invests across the capital structure, has he been profitable across different asset classes?
6. How does the manager hedge risk – at the position and/or at the portfolio level?
    a. How does the manager set hedge ratios?
    b. How have hedge ratios varied over time?
7. How important is the credit cycle or activity in the new-issue market to the manager's event-driven strategy?
8. How has the business environment impacted the performance of the strategy over time, and what does the manager expect for the future?
9. How important is leverage to the strategy, and to the manager's returns historically?
10. What is the current environment regarding credit spreads, transaction spreads (in the case of merger arbitrage), and portfolio leverage levels?

Interest Rate and Credit Arbitrage

1. How well do the portfolio's shorts hedge its long positions?
2. Determine the fund's current asset allocation, and its allocation at the end of each quarter (or year) since inception (or the last eight years) among:
    - Investment-grade bonds
    - Investment-grade bank debt
    - High-yield credit
    - Emerging markets sovereign credit
    - Emerging markets corporate credit
    - Distressed credit
    - Municipal bonds
    - Mortgages
    - Other asset-based lending
    - Structured debt
    - Capital structure arbitrage
    - Event-driven arbitrage
    - Convertibles
3. In each of these classes:
    a. Does the fund invest domestically or globally? Does it emphasize any particular region(s)?
    b. Does the fund rely mainly on the cash market or on derivatives? If derivatives are used, which kinds of derivative instruments?
    c. Does the manager arbitrage securities within the same asset class, against LIBOR or U.S. Treasuries, or against other classes?

"How does the manager hedge risk – at the position and/or at the portfolio level?"

d. Which kinds of the fund's arbitrages have a low correlation with each other?

e. How much does the fund rely on:

- Yield-curve arbitrage?
- Basis trading?
- Macro trading?

4. What has given the manager the experience and expertise to research and invest in each of these classes? Is the manager's experience mainly in trading specific credit instruments?

5. How does the manager allocate capital to individual trades and strategies?

   a. What rules govern position sizing and exposure range?

   b. How flexible are these rules?

6. How sensitive is the fund typically to the direction and magnitude of interest rates?

7. How often does the fund make duration bets? What are examples?

8. To what extent does the manager use directional trading arising from economic imbalances within or across countries?

9. To what extent does the fund invest in carry arbitrage[5]?

10. Does the fund invest at times in "short volatility"? If so, how?

11. What percentage of the fund's gross exposure is in non-standard trades?

12. Is the fund reliant on high volatility in the credit markets for strong returns?

13. How does the degree of leverage vary by trading strategy?

    a. In each case, how does the manager finance the leverage?

    b. What are the terms?

    c. What is the risk that credit facilities could be called at the wrong time?

14. What are the best and worst environments for this fund?

15. To the extent that the fund invests in distressed securities, how much does it strive for control positions?

16. If the fund invests in distressed credits, how willing is the manager to participate or even lead a creditor committee?

17. How skilled is the manager in deal structuring?

18. How experienced is the manager in valuing collateral and, if need be, collecting it and converting it to cash?

DISTRESSED FUNDS

(IN ADDITION TO QUESTIONS 15–18 ABOVE)

1. Are control positions in the senior-most or the pivotal securities an important ingredient in the manager's strategy?

2. What portion of portfolio investments does the manager expect to enter Chapter 11?

3. During Chapter 11, does the manager prefer to be on the creditor committees in order to influence the outcome, or to avoid being on the creditor committees in order to avoid the heavy demand on time and to avoid having to lock up his holding for the duration of the proceedings?

4. Does the manager have special skills, including legal and negotiating expertise, to assist a company through the bankruptcy process?

[5] Long a security with a higher interest rate and short one with a lower rate.

5. Does the manager buy equity, bonds, or both in distressed companies? When, and why?

6. Does the manager buy only when a company's net asset value of cash and salable assets is greater than the purchase price, or will the manager bank on a company surviving in some form as a going concern?

Convertible Arbitrage

1. What is the manager's approach to analyzing credit, equity, and volatility?

   A comprehensive credit/equity analysis should focus heavily on the capital structure of a company and its ability to generate cash flow. This analysis should be coupled with a quantitative and fundamental modeling of volatility.

2. What are the drivers of convertible valuations?

3. Does the manager have proprietary valuation tools for modeling convertible valuations, or does he use off-the-shelf vendor models?

4. Does the strategy emphasize investment-grade or below-investment-grade convertibles?

5. How does the manager analyze companies with negative cash flow?

6. How does the manager model takeover risk?

   Understanding takeover risk and its potential impact on convertible bonds is crucial and requires a thorough analysis of the bond indenture.

7. How does the manager ensure best execution when trading convertibles?

   The trader should have a thorough knowledge of the active market makers in each security in order to ensure best execution.

8. What is the manager's process for trading new issues?

   The manager's new-issue process should encompass fundamentals plus the technicals of the short-term trading of the underlying stock both before and after the pricing of the new issue.

9. What is the manager's process for securing borrowed stock?

   The borrowing of stock should be managed on a daily basis with multiple stock lending desks to obtain the best rates.

10. How does the manager measure liquidity?

    This involves both security selection and position size limits.

11. How does the manager measure risk at the position and the portfolio levels?

    It is imperative to measure risk at both the individual position level and the portfolio level to ensure that correlation and covariance of individual risks don't increase the risk of the overall portfolio.

    a. Are risks measured on a daily real-time basis outside the investment process?

    b. What risks does the manager hedge – for example, interest rate, credit, volatility, equity?

    c. How has the hedging strategy varied through time and across different market environments?

    d. Does the manager short convertibles?

       Convertible shorts can serve as a natural credit hedge.

"Understanding takeover risk and its potential impact on convertible bonds is crucial."

e. How does the manager decide on the amount of leverage to use at any given time?

f. How often does the manager adjust hedges?

Position hedges may be adjusted on a daily basis in conjunction with market moves, while portfolio hedges are typically adjusted on an as-needed basis.

Macro Funds

1. Typically, how dependent is the portfolio on the manager's broad macroeconomic outlook?
2. What portion of the portfolio is based on themes?
   a. Which themes?
   b. How have these themes changed over the years?
   c. What has been the manager's hit rate in identifying and profiting from such themes?
3. What types of strategies drive the manager's positions?
4. How many unrelated strategies does the manager invest in at the same time?
5. What have been the correlations among unrelated strategies?
6. What is the composition of strategies that the fund is currently invested in? What was this composition as of the end of each of the past five years?
7. Does the fund report profit and loss on each particular strategy?
8. How does the manager decide on the percentage of the portfolio to allocate to a specific strategy?
9. Does the fund report to investors when it has added a new strategy, modified an existing strategy, or closed one?
10. What is the largest percentage of the fund invested in a single strategy?
11. What have been the manager's most successful strategies over the past five years? For what portion of the fund's returns has each been responsible?
12. Does the fund invest mainly in certain geographic regions? Are there certain geographic regions it tends to avoid?
13. Does the portfolio invest mainly in certain asset classes? Are there certain asset classes the manager tends to avoid?
14. Does the manager tend to exploit longer-term trends or emphasize shorter-term relative inefficiencies?
15. What percentage of strategies is typically based on fundamental analysis, on technical analysis, or both? When relying on both, which dominates?
16. What percentage of the portfolio's risk, if any, is invested in individual issues as opposed to some form of derivative? What has been normal?
17. To what extent does the manager invest in futures as a CTA does?
18. How does the manager determine the fund's gross and net leverage with futures and forwards, and with options and other derivatives?
19. Does the manager do better in flat, rising, or falling markets?

20. What are the best and most challenging environments for this fund?
21. What consultants and other experts does the manager use as resources?
22. How proprietary are these consultants or other sources of information?
23. What percentage of the portfolio is driven by quantitative models? Do those models lead directly to a trade, or is that a manual decision?
24. If the manager employs systematic models, does he use simulations and backtests?
    a. Does the manager have models for specific asset classes? Or models across asset classes?
    b. How often does the manager use new models?
    c. Do the models employ volatility filters?
25. Where is the cash held when investing in futures contracts?
26. What kind of cash management procedure does the manager employ?

    Global macro managers and CTAs can both allocate significant amounts of capital to futures and forwards, which by their nature require collateral (margin) and therefore imply leverage. A CTA might require only between 10% and 20% margin to equity.

    Typically cash management may be outsourced to an agent who will invest the cash in high-grade, low-risk, AAA-rated securities – interest from which is included in the fund's performance. It is important to understand this process.

27. Does the macro manager have experience in new instruments or markets?

Managed Futures

Managed futures are the work of commodity trading advisers (CTAs), most of whom trade futures for many physical and financial securities based on highly systematic quantitative approaches. Individual futures are often highly volatile but may have low correlations with many other futures, so a portfolio of futures may have an attractive risk-adjusted return profile. Questions to ask include the following:

1. How many different trading strategies does the manager employ?
    a. What are these strategies?
    b. How does the manager determine the portfolio weight of each?
2. Is the portfolio driven by technical information (price movement) or fundamental information (research on supply and demand of the underlying commodity)? If the portfolio includes strategies for both, what is the balance between technical and fundamental information?
3. What portion of the portfolio is driven by quantitative strategies?
4. For each technically driven strategy:
    a. Are trades driven by computer output, or can the manager override computer-generated trades? If so, how often does this happen? What are examples?

"In managed futures, how are various risk management tools and measures integrated into the strategy?"

b. Determine which of the following approaches the strategy uses:

   Trend following
   - Momentum
   - Breakout

   Non-trend following
   - Countertrend
   - Relative value

   Volatility arbitrage

   Pattern recognition

   Other (describe)

c. Is the strategy long term or short term? What is the composition of the portfolio by length of a trade?

   - 1–3 days
   - 4–30 days
   - over 30 days

d. Which particular futures does the strategy trade? What is the typical percentage of the portfolio's risk for each future?

e. What market behavior or inefficiency is the model attempting to exploit?

f. Is the strategy intended primarily to maximize profits, maximize risk-adjusted return, or minimize drawdowns?

g. Does the strategy include a volatility filter? If so, how does it work?

h. If the manager uses stop losses, when and how does he decide to reengage the positions?

i. How are various risk management tools and measures integrated into the strategy?

j. Was the system built internally or externally? Does the manager own the system?

k. How unique is the strategy relative to those of other CTAs?

l. How often has the manager found ways to improve the strategy?

5. Does the strategy trade anything besides listed futures? If so, what securities does it trade, and what percentage of the portfolio's risk do they account for?

6. What are the cross correlations among the manager's strategies?

7. How frequently does the manager introduce new models?

   a. Are these additional or replacement models?

   b. How important is the development of new models?

8. How often does the manager discontinue use of a model?

   a. Why?

   b. What are examples?

9. How often does the manager override the model?

10. Will the manager ever take delivery of a physical commodity? If so, how does he handle this?

11. If a strategy is fundamentally based, what are the sources of differentiated information?

12. Does the manager perform better in flat, rising, or falling markets?

13. How important is volatility to the manager's success?

14. Does the manager define leverage as margin

to equity? If so, what is the manager's typical leverage?

a. Does leverage differ by strategy?

b. What were the manager's highest and lowest leverage levels?

c. How has leverage varied over time, and why?

15. Is the manager constrained, or likely to be constrained, by the limited percentage of a particular futures market that a single CTA is permitted to own?

16. What is the manager's view on how the organization will grow and improve over time?

17. Where is the cash held, and how is it invested?

18. Is custody held by an unaffiliated custodian?

Multi-Strategy Funds

Performing due diligence on multi-strategy funds is far more complex than conducting due diligence on single-strategy funds because we must determine:

a. the nature of the manager's investment approach and

b. the relative importance of specific underlying strategies to his overall performance.

It is more difficult to gain an understanding of the multi-strategy manager's financial leverage, his approach to measuring and managing risk, and the liquidity of his portfolio, particularly during periods of stress. Besides the due diligence steps for single-strategy funds, we must work to understand the following:

1. Does the portfolio invest mainly in certain asset classes? Are there certain asset classes the manager tends to avoid?

2. How many unrelated strategies does the manager invest in?

3. What have been the correlations among unrelated strategies?

4. How important has asset allocation among strategies been to performance?

a. What has been the fund's asset allocation at the end of each quarter since inception?

b. Is the manager's advantage based on his staff's investing skills in the various strategies, or is it driven more by top-down views and capital allocation?

4. Who makes asset allocation decisions?

a. How often is capital reallocated?

b. What is the process for such decisions?

5. Does the fund report profit and loss on each particular strategy?

6. Does the fund report to investors when it has added a new strategy, modified an existing strategy, or closed one?

7. What is the largest percentage of the fund invested in a single strategy?

8. What have been the manager's most successful strategies over the last five years? For what portion of the fund's returns has each been responsible?

a. Are there one or two portfolio managers who are particularly outstanding?

b. If so, what circumstances could lead to their exiting the firm, or having their

"Performing due diligence on multi-strategy funds is far more complex than on single-strategy funds."

risk capital reduced?

c. Are there factors, such as a favorable environment for their strategies, that have contributed to their results?

9. Is the fund's approach more directional, or does the manager seek to isolate idiosyncratic opportunities in a relative value approach?

10. Who is responsible for measuring and managing risk?

    a. What unilateral decision-making authority, if any, does the risk manager have to reduce risk at the strategy and portfolio levels?

    b. How often have these decisions occurred, and under what circumstances?

    c. What are the key risks facing the fund, and what factors does the risk manager evaluate?

    d. What are the important risk parameters – gross and net exposures, value at risk, sensitivity to interest rates, etc. – and how have they varied through time, including during periods of stress?

    e. What risks is the manager prepared to take, and which risks does he hedge?

11. Does the manager primarily employ a fundamental approach to investing, or a combination of fundamental and technical analysis?

12. How important is leverage to the strategy, and how is it measured?

    a. Is leverage more important to some strategies than others?

    b. Is leverage managed at the portfolio level or at the position and strategy levels?

13. Does the fund depend on investing in less liquid or illiquid securities?

14. Does the fund invest outside the United States? If so, where, and to what extent?

15. Where is the cash held when investing in derivatives instruments?

16. What kind of cash management procedure does the manager employ?

Chapter 4 — Due Diligence on Private Illiquid Investments

This chapter covers all alternative investments from which investments cannot be redeemed until the investments are sold and the fund is terminated. These include:

Private equity:	Venture capital Buyout firms Buy-in firms Mezzanine capital Distressed investors
Real estate	
Natural resources:	Private energy Mining Timber

Due diligence on these investments should include all the concerns listed in Chapter 1, plus additional concerns included here. All these due diligence issues are especially crucial in private illiquid investments because of the many years for which we are committing our money. Some kinds of investments, such as certain real estate and mezzanine funds, may mature in as little as five to seven years. Others, such as venture capital and timberland, are commitments that can last up to 15 years. Do we or our institution have the time horizon and patience to make a commitment for that long a time? Can we gain confidence that the manager will remain intact and strong over such an extended period?

Some of the best funds are difficult to get into because managers always give investors in their last fund priority in their newest fund. If we think a fund is highly attractive, but the most we can get is an allocation much smaller than our normal minimum investment, we still might want to make a small commitment. It can gain us membership in the "club" and probably give us an opportunity in the manager's next fund.

Strategy

1. What is the size of the fund being raised, especially compared with prior funds?
2. What is the source of the manager's deal flow?
   a. How unique is it?
   b. Is the fund likely to be involved in many positions shared by a number of other managers?
3. How much does the manager rely on non-public information in selecting companies or properties to invest in? Obtain examples.
4. What share of the companies or properties in the portfolio does the manager buy through auctions? Who and how many competitors does the manager typically bid against?
5. What leverage does the fund anticipate using at the company level and, if applicable, the portfolio level?
   a. Why?
   b. How will the fund finance the leverage?
6. Does the manager participate in joint ventures or intend to own entire companies or properties?
7. If the manager participates in the financing of a company, how often is the manager the lead in a round of financing, where he can be most influential in setting the terms?
8. What is the fund's investment period? Can it be lengthened by the manager or only by a vote of the limited partners?
9. How long does the manager think it is likely to take to complete the capital calls from the

"Due diligence is especially crucial in private illiquid investments because of the many years for which we are committing our money."

partners?

10. During the investment period, can the manager reapply any income or realized gains, or must these by paid directly to investors?

    If the investors can forego early cash distributions and allow the manager to reinvest income and realized gains, they will get a longer-duration investment and more payback on their due diligence and other up-front costs. Also, allowing the manager to reinvest may make the manager a little more willing to sell early for an opportunistic quick flip.

11. Will cash be called sooner than it is needed?

    Managers should retain little cash, and call cash only on an as-needed basis, because limited partners can use their cash more effectively than the manager can.

12. Will the fund have priority on every opportunity that would be appropriate to consider for the fund, ahead of any subsequent fund or separate account?

    Be sure that the fund comes first. No subsequent fund of a similar nature should be established until the fund is at least 75% committed to specific investments.

13. If the manager has two or more funds with different investment objectives, does the manager have clear written allocation policies that state how the manager will allocate opportunities between the funds?

    For example, if the manager has both an early-stage venture fund and a growth equity fund managed by substantially the same team, does he have a written policy as to which fund should get an opportunity that could fit either fund? Such a policy protects the interests of investors and prevents the manager from cherry-picking the best deals for either fund.

14. Are cross-fund transactions allowed? If so, how are transaction prices established?

15. When the manager buys a company or property, how long does he expect to hold it?

16. How does the manager expect to exit his investments?

17. How does the manager expect to add value to a portfolio company or property?

    a. Financial engineering?

    b. Investment banking, such as buying new divisions or subsidiaries?

    c. Forming organizations whose whole is more valuable than the sum of its parts?

    d. Breaking up organizations whose parts are more valuable than the whole organization?

    e. Advice, staffing, or other value added to operations of portfolio companies or properties?

    f. In each of the above cases, ask the manager to provide examples.

18. What portion of the manager's investments does he sell through IPOs, auctions, and acquisitions by buyers who see synergistic opportunities?

19. What proportion of a manager's added value is the result of:

    a. Selecting the right companies or properties to buy?

    b. Adding value to those companies or

properties while owning them?

c. Selecting the right time and manner to sell those companies or properties?

20. How much experience do team members have in private capital and operations?

21. How much experience does the manager have in selecting opportunistic companies or properties and adding value to them?

22. Does the manager have the resources to do this?

23. What is the role of an investor advisory committee (if there is one)?

a. Does the committee influence investment decisions?

Are we hiring our co-investors or the manager to run things? Who has the greater expertise?

b. What value does the investor committee add relative to conflicts of interest, valuations, and general oversight?

c. Is the expense for investor committee meetings warranted, or do the committees allow the manager to provide boondoggles for valued investors?

An investor doesn't need to be on an advisory committee to make his concerns heard by the manager.

24. How are cash balances invested, and who is authorized to approve transfers of funds between accounts?

25. Do any of the general partners have outside business or non-business interests that either detract from their commitment to investors or could be a potential conflict of interest?

Most of the general partners' business time commitment should be spent on the fund, and it is worthwhile to inquire about how they spend their time.

26. What is the risk of incurring unrelated business taxable income?

27. In any prior fund, did the manager ever have a clawback situation? If so, how did he handle the clawback?

28. In the final analysis, does this strategy make sense to us? Why should we expect this fund to give us a materially higher net rate of return than a more liquid investment program?

Venture Capital

1. How many portfolio companies does the fund expect to invest in?

2. What stage ventures does the fund expect to invest in?

   - Early stage
   - Late stage
   - Expansion capital

3. What kinds of companies does the manager expect mainly to invest in – high-tech or low tech?

4. Where does the manager expect portfolio companies to be located?

5. How strong is the fund's sourcing network?

6. What has been the manager's hit rate for successful investments?

7. What has been the manager's experience with underperformers and wipeout investments?

8. We should know a lot about each principal

"How does the manager expect to exit his investments?"

> "An honest, honorable, 'hungry,' harmonious, and hard-working team will tend to outperform one lacking any one of those traits."

of the manager – ventures for which that principal was mainly responsible, what his specific role was, and how the venture fared.

9. How equipped is the manager to take board seats and help a young venture by advising it on business strategy, staffing, and raising capital?

Buyout Firms

1. What is the role of leverage? How does the manager plan to finance the leverage, and what will be the terms?
2. What evidence supports the value of the manager's network with lending sources?
3. How often does the manager replace management when he buys out a company?
4. How equipped is the manager to do this? Does he possess a wide network from which to recruit able management teams?
5. What fees, if any, does the manager charge portfolio companies for his consulting/advisory services?
   a. How are these fees shared with fund investors?
   b. Historically, how important have these been in manager returns?

Buy-In Firms

1. What advantage does the manager seek by buying a large block privately rather than from the public market?
2. Does the manager expect to add value to the operations of a portfolio company? How?

Mezzanine Capital

1. How many layers of debt would typically be ahead of our debenture? What is the typical amount of senior debt? Could the senior debt tranches become larger in the time ahead?
2. How likely is it that both interest and principal will be paid on time?
3. What is the probability that we will actually receive shares of stock, marketable warrants, or other options (which are often attached to mezzanine capital)?
4. Is the mezzanine fund captive within a buyout firm? If so, will this bias the diversification or pricing policies of the mezzanine transactions?

Distressed Funds

A manager of distressed securities may establish either a hedge fund or a private illiquid fund. Private illiquid distressed funds may tend to invest in companies with longer-term workouts, where the manager becomes more directly involved in appointing management of the portfolio company. How experienced is the manager at doing this? Otherwise, the similarity to a hedge fund can be great, and the questions an investor should ask are basically the same. Rather than repeating them here, please see the questions under Distressed Funds on page 50.

Real Estate

1. Describe the diversification of the properties the manager targets for this fund:
   a. By geography (which part of the country, and which economic zones?)
   b. By dollar value of properties (such as less than $10 million, over $100 million)
   c. By number of properties
   d. By type of properties (downtown office, suburban office, retail malls, strip centers, warehouses, light industrial, apartments, single-family residential, hotels, raw land)
2. If the fund will invest internationally, what countries will the fund invest in, and what experience does the manager have investing in those countries?
   a. How does the manager gain local expertise in real estate values and the future desirability of specific locations?
   b. How does he handle local financing?
   c. What country diversification does the manager target?
3. How does this sector and geographic diversification differ from the manager's prior funds?
4. What portions of total return are likely to come from rents and from capital gains?
5. What part of the real estate cycle are we in now? How does the manager expect to take advantage of this?
6. In prior funds, how effective has the manager been in adapting as markets have changed?
7. With respect to prior funds, what insight has the manager demonstrated at the macro level?
8. What insight, creativity, and management expertise has he demonstrated at the micro level?
9. How effective has the manager been in both buying and selling properties opportunistically?
10. In prior funds, with respect to strategy, acquisitions, asset management, project management, and financing, which team members were most responsible, and do they remain fully dedicated to the fund?
11. Relative to existing properties and those anticipated for the fund:
    a. Is there any litigation outstanding or expected?
    b. Are there any rights or easements on land held by the fund, including water or mineral rights?
    c. Are there any restrictions or requirements relative to zoning?
    d. What environmental surveys are available, especially with respect to prior and subsequent use of the land?
12. Does the fund use local operating partners?
13. What use of leverage does the manager anticipate?
    a. Why?
    b. How will the fund finance the leverage?
    c. What is the risk that the fund might run out of cash at a time when property values fall and credit dries up, as it did in 2008?

"What part of the real estate cycle are we in now, and how does the manager expect to take advantage of this?"

14. What risks does the manager think are most important? How does he plan to protect against those risks?

Natural Resources

1. In what countries does the manager expect to be investing?
2. What experience does he have investing and working in those countries?
3. What competitive advantages does he have in target geographies?
4. What risks – legal, sovereign, political, currency, and corruption – is the manager willing to take in each geography?
5. Why does the manager's strategy make sense given the macroeconomic environment?
6. Does the manager have his own professionals in target geographies? If not, what is his network of skilled operators and third-party consultants?
7. If the manager uses contractors or partners in target geographies, what due diligence does he apply to their selection?
8. What is the manager's policy regarding bribes or other pay-to-play requirements that may be encountered in some geographies? How does the manager control or enforce this policy, including at investee operator companies?
9. Concerning existing properties and those anticipated for the fund:
    a. Is there fundamental title to the resource or any litigation outstanding or expected?
    b. Are there any restrictions or requirements relative to zoning?
    c. Are there any rights or easements on land held by the fund, including water rights?
    d. What environmental considerations are relevant, especially with respect to prior and subsequent use of the land?
10. How are appraisals of the fund's assets carried out, how often, and by whom?

Questions relating to particular natural resources follow.

Energy Funds

1. Determine what portion of the fund is expected to go into:
    a. Oil
    b. Gas (in what countries and markets)
    c. Coal (what types, and in what markets)
    d. Alternative sources of energy
2. Determine what portion of oil and gas investments is expected to go into the following sectors:
    - Producing wells
    - Proved reserves, not yet developed
    - Development drilling
    - Exploratory drilling
    - Service companies
    - Equipment manufacturing
    - Storage facilities
    - Processing, gathering, and pipelines
3. What sector and geographic diversification does the strategy call for?
4. How does this compare with the manager's prior funds?

5. What key relationships does the manager have in the targeted sectors?
6. Determine the manager's depth of decision-making experience in:
   a. Exploration
   b. Drilling
   c. Buying and selling mineral rights and energy firms
   d. Managing oil and gas funds
7. What is the manager's track record in each sector of natural resources?
   a. Which commodities?
   b. Over what period of time?
   c. Across how many investments?
   d. How many dollars were involved, in total and per investment?
   e. What was the variability of returns?
8. What is the manager's view of future oil, gas, and coal prices?
   a. Why?
   b. How dependent is success of the fund on the continuing rise of these prices?
9. How will the manager assess risks when evaluating opportunities, and through use of what resources, internal or external?
10. How will the manager manage risks in portfolio investments?
11. How does the manager plan to add value to the investments he makes?
12. How much will success depend, if at all, on the manager's transaction skills in buying assets or companies, combining them, and then selling them?
13. For each type and geographic sector, what are the manager's exit strategies? How has he extracted maximum value from assets in his prior funds?

Mining Funds

1. What minerals does the manager expect to invest in?
2. What diversification among minerals and geographic locations does the fund strategy call for?
3. Determine what stages of investment the fund will focus on:
   a. Exploration
   b. Development
   c. Construction
   d. Actual mining operations
4. Determine what portion of the fund will be in:
   a. Geologic potential opportunities
   b. Defined resources (according to the Canadian 43-101 or JORC standard)
   c. Reserves (the fraction of resources that studies show it is economically feasible to extract)
5. How robust does the manager require the reserve base to be? Will there be room to vary grades and extraction costs as a function of market price?
6. Will mining involve underground or open-pit operations?
7. Will additional operations such as processing and smelting be involved?

> "How does the manager plan to add value to the investments he makes?"

8. How does this compare with the manager's prior funds?
9. What are the perceived trends in minerals and geopolitical conditions?
10. What is the manager's depth of decision-making experience in:
    a. Geological exploration
    b. Actual operating company management
    c. Buying and selling mineral rights and mining firms
    d. Marketing and deal making, especially in difficult areas
    e. Extracting maximum value out of the eventual sale of assets
11. How dependent is the success of the fund on continuing growth of mineral prices?
12. How much will success depend on the accuracy of estimated reserves?

Timber Funds

1. What types of forests does the manager expect to invest in?
2. What diversification among types of forests and geographical locations does the fund strategy call for?
3. How does this compare with the manager's prior funds?
4. What is the manager's depth of decision-making experience in:
    a. Silviculture technology and its application
    b. Buying and selling timberland properties
    c. Actual management of timber operations
    d. Marketing forest products and understanding customer needs
    e. Land management and stewardship
5. For non-U.S. timberland, will the fund be able to obtain clear and legal title to the properties?
6. Who manages the forest properties?
    a. Does the investment manager also manage its timber properties?
    b. If so, what experience has the manager had, and does the overall management fee cover that function, or does the investment manager receive a separate fee for property management? What is the arrangement?
    c. The manager does not manage the properties, who does? What level of control does the investment manager exercise over timber property management, and what experience has he had in that capacity?
7. What auxiliary kinds of investments might the fund make, such as in sawmills? Why?
8. Who are the manager's customers for timber, and how are those relationships developed and managed?
9. What assumptions about future timber prices does the manager make in order to achieve his projected rate of return?
10. What assumptions does the manager make about future land values for purposes other than forestry?
11. Does the fund use leverage? Could the fund be forced to harvest trees in a low-price environment in order to service its debt?
12. How has the manager extracted maximum value out of the eventual sale of assets?

13. Does the manager expect to get his forests certified by a third party to any particular environmental standard; if so, why, and under what certification?

Track Record

Assessing the predictive value of the track record of a manager of a private illiquid fund can be a lot more challenging than with managers of marketable assets. That's because the manager has usually managed a relatively small number of funds, and many of the funds still hold assets that are difficult to value.

The managers provide us the net internal rate of return and net multiples of cost on each prior fund, but the only figures that are generally meaningful are for funds that have been completed or largely completed. What can we make of those figures?

For all private illiquid funds, a fund's success is greatly impacted by its vintage year – the year of its inception, when similar funds were facing the same cyclical opportunities or problems. One way to evaluate a manager's track record is to compare the IRR of each fund with the IRRs of similar funds of the same vintage year. There is often a lot of noise around vintage year rankings, but it's one of the better metrics available.

A second way is to calculate the IRR of the manager's combined funds, as if the returns from Fund 1 were reinvested in Fund 2, whose returns were then reinvested in Fund 3, etc. To do that, we first need to calculate the duration of each fund. This can be estimated if we know each fund's IRR and multiple. The duration would be the number of years it would take for a zero-coupon bond to reach multiple M if it compounded at rate R.

Here's a simple example: Assume the prospective manager has managed two funds, each with a multiple of 1.5, but one with an IRR of 22% (duration of two years) and the other with an IRR of 4% (duration of 10 years). If the fund returns were linked, the combined multiple would be 2.25 (1.5*1.5), but their combined duration would be 12 years (2+10). Their duration-weighted IRR would thus be 7% — the IRR of a 12-year, zero-coupon bond with a 2.25 multiple. A fund with a very high IRR but a short duration can be more than offset by a less successful fund with a long duration.

Further, it would be nice if we could duration-weight a fund's vintage year ranking, but that is probably best done intuitively. Finally, we must somehow evaluate the manager's current fund (or funds) that are presently too immature for us to estimate ultimate results.

Even so, what we have are just statistics. Our job is to figure out what we can learn from them – how much predictive value, if any, can we attribute to them? In the end, that will be a judgment, based on questions such as the following:

1. Have the IRRs and multiples been audited?
2. Is the track record long enough to have any predictive value?

    Are one or two successful funds enough to convince us that that the results reflect skill that can be replicated?

3. Were good results in prior funds dominated by one or two home runs? Can we realistically expect the manager to have similar home runs in the years ahead?
4. What percentage of the manager's funds have met or exceeded the manager's initially quoted return target? Why or why not?

> "For all private illiquid funds, a fund's success is greatly impacted by its vintage year."

5. Were achieved results competitive with other asset classes on a risk-adjusted basis?

6. Is the new fund larger than previous funds?

   Do prior funds that were much smaller have much predictive value for a fund the size of this one?

7. Are the number and size of investments contemplated by the new fund different from the number and size of investments in prior funds?

   Is the manager moving into a new strategy, for which results on prior funds may have less predictive value?

8. What changes have taken place in the decision makers and the strategy over the years?

   We must intuitively weight the results of each prior fund by the degree to which it was managed with the same strategy and by the same decision makers who will run the new fund.

9. How have conditions changed? Has the market changed sufficiently to impact the predictive value of what happened 10 years ago?

10. Has the manager added new talent and new resources that should give the manager additional advantages over his competitors?

11. Does the track record reflect the manager's results at a prior firm?

    Especially in real estate and private equity, it can be difficult to assess just how much of a prior firm's results reflect the leadership of one individual.

12. How have the manager's competitors evolved over time? Is this still the best manager we can find for the purpose?

13. Is now a propitious time to invest in this fund?

    That amounts to asking what kind of a vintage year this will be. We can make a judgment on that, but few of us are good enough as market timers to be even close to right. That is why most investors like to dollar-average into real estate and various forms of private equity, in the expectation that good and poor vintage years will even out. But there is a contrarian element here. Vintage years when large amounts of capital are being raised – when investing in that sector is the rage – tend to have lower returns than vintage years when little capital is being raised.

Terms

The investor's goal is to negotiate terms that align the financial motivations of the investment manager with those of the investors as closely as possible. That is not always possible, as sometimes terms are already cast in concrete, and we must either take them or leave them. If we are an early or large investor, sometimes we can effect meaningful changes in terms, and certainly we should try.[6]

When reviewing terms, here are some important things to look for:

1. Are the management fee and incentive fee properly balanced?

   In principle, the management fee should be enough to enable the manager to maintain a strong

[6] The Institutional Limited Partners Association (www.ilpa.org), an industry association with more than 200 members managing more than $1 trillion in assets, has developed a set of proposed guidelines for private capital terms and governance issues that may be helpful during the negotiation of terms.

organization, but all profit should come through the incentive fee.

2. Upon what are management fees based?

   During the fund's investment period, management fees are sometimes calculated as a percentage of the investor's commitment. If so, once the fund is fully invested or the investment period has expired, management fees should then be based on the investors' remaining invested capital and decline over time. Management fees should not be based on market value unless lower than cost.

3. Is the incentive fee based on the fund's cash flow (internal) rate of return to investors, net of all costs and fees (including unrelated business income tax, if any)?

   The cash flow rate of return should reflect the amount and date of every contribution from and distribution to the investors, and it should treat every distribution the same, whether it results from income, a gain, or a return of capital.

4. Is the incentive fee calculated on the whole fund, and not on an asset-by-asset basis?

   The investor is interested in the performance of the overall portfolio, and the manager should be as well. The manager should try to improve the returns of his losers as well as his winners, whereas an asset-by-asset performance fee focuses his attention only on his winners.

5. Does the incentive fee include a hurdle rate?

   If so, the investors should receive all distributions until they have received an internal rate of return equal to the hurdle rate. Thereafter the general partner should receive no more than 50% of the net profits during the catch-up until he has received his share of cumulative profits. There may be some trade-off between the catch-up rate and a higher hurdle rate.

6. Is the incentive fee a back-end fee, calculated on the fund's actual return, cash to cash?

   Payment of an incentive fee should begin only after the program has returned to the investors all of their contributions. The ultimate value added by the manager (and therefore the ultimate incentive fee) cannot be known until the last asset is converted to cash. If, instead, the manager receives performance fees as each property is sold, he is likely to receive more than he should – especially since the longest-held assets are often below-average performers.[7]

7. Is there a provision for a clawback?

   If a back-ended incentive fee cannot be negotiated, then investors should require a clawback provision that makes the management firm and its individual members responsible for repayment of excess incentive fees in the event that the manager has received an overpayment.

   - The clawback should be for 100% of the overpaid incentive fee, not net of any taxes or other expenses that the management firm or its individual members have incurred.
   - A provision in some agreements calls for the performance fee to be paid every three years, with 25% of each incentive fee payment held back and paid in subsequent years if still earned.

"Is the incentive fee calculated on the whole fund, and not on an asset-by-asset basis?"

[7] Many agreements provide that the partnership may make distributions to the general partner to enable it to pay taxes on income that it has not yet received. This is a reasonable provision. But such "tax distributions" should be deducted from subsequent distributions payable to the general partner and should be subject to any clawback provisions discussed in paragraph 7.

- An escrow account for accrued performance fees adds further security.
- Note that, unless otherwise provided, any clawback payment implicitly assumes a 0% discount rate on the overpaid fee.

8. How much money are the general partner and affiliates contributing to the partnership?

   In most cases the general partner is required to contribute at least 1% of the fund. The credibility of the general partner and affiliates can often be equated with the degree to which they commit a major portion of their own money to the program. For example, a minimum of 5% of total partnership commitments, or some multiple of the annual fixed fee such as three or four times is desirable, if financially feasible for the general partner. In no case should the partnership finance the general partner's minimum required commitment to the partnership, or else the general partner will have no skin in the game.

9. Can the general partner or affiliates co-invest in deals? If so, on what terms?

   Co-investment by the general partner or affiliates in any particular deal should be on the same terms as the partnership, and the general partner should co-invest the same percentage in every such deal or not at all. No cherry-picking.

10. Are limited partners eligible to co-invest in deals that are too large for the partnership? If so, on what terms?

    Such a provision can be attractive to some of the larger limited partners. But co-investment should be offered to limited partners only if and when the fund has fully subscribed to its desired allocation of an investment opportunity.

11. Does the partnership pay for organizational expenses? If so, is a reasonable cap set, and is it deducted from subsequent management fees?

12. Are management fees and incentive fees the only source of income for the general partner and affiliates?

    For full alignment of financial interests, the manager's sole source of income should be the investors' fees. If the manager should earn additional fee income – such as investment banking fees, breakup fees, property management fees, or fees for serving as director on the boards of investee companies – all these fees should redound to the benefit of the investors (the manager will earn his share of them through his performance fee).

    It may be unwise, however, to arrange for such fee income to be treated simply as additional fund income, because most of these fees might constitute unrelated business taxable income. Funds typically deal with this problem by providing that such fee income shall first offset fees – current, previous, and future fees – otherwise payable by the fund to the manager. If fee income should exceed fees payable, then the balance of fee income should go to the fund.

    This treatment of other fee income minimizes potential conflicts of interest. A manager, in negotiating a private investment, can structure the deal in multiple ways – such as higher fee income and a lower price. By treating all such fees as recommended above, the trade-off becomes irrelevant to the manager, and he focuses only on what represents the best overall deal.

In real estate funds, if fees are paid to the general partner or affiliates for additional services – such as property management, financing, construction development, and transaction or lease brokerage – such fees could potentially dwarf the importance of performance fees and water down their motivational value to the manager.

13. Will there be multiple closings for the fund?

Preferably, there should be no multiple closings, but multiple closings are often desirable from a practical standpoint. If so, a late investor should not only pay fees from the beginning of the fund but, in addition, should pay interest to the initial investors from the date of the first cash call to the date of its contribution, and at a rate of return closer to the fund's target rate of return, such as LIBOR plus 6% (although there are varied opinions among investors as to what the rate should be).

14. Is there a key-man clause?

There should be an automatic termination of the fund (unless investors vote otherwise) in the event that the key person or persons named in the offering memorandum leave the management firm or become incapacitated.

15. Is there a provision for a no-fault divorce?

The fund should provide for a no-fault divorce (termination of the manager or general partner) upon a two-thirds vote of investment interests who are unrelated to the general partner or fund manager. This provides for unexpected events. If the manager won't agree to such a provision, he lacks confidence in his ability to satisfy the investors. A no-fault divorce provision should allow the investors to vote for any of the following outcomes:

a. To end the commitment period but otherwise to allow the fund to carry on

b. To replace the general partner (or fund manager)

c. To dissolve the fund

4. Is the general partner authorized to make distributions in kind?

Many partnership agreements provide some possibility for making distributions in kind (distributing shares of stock, for example) in lieu of a cash distribution. In such cases, agreements should include the following provisions to protect investor interests:

a. Any in-kind distribution should be restricted to freely tradable securities.

b. Each investor should have the right to choose between receiving cash[8] or the freely tradable securities, except the general partner should receive his share of such distribution in kind.

c. For purposes of calculating performance fees, the per-share valuation of an in-kind distribution should be the alternative cash distribution or the immediately realizable value of the securities, net of any transaction and market impact costs.

"Look for general partners with strong infrastructure and operations. This is a business rather than a fund."

[8] In practice, an offer of cash is an offer by the general partner to sell the limited partner's shares and distribute the net proceeds.

Chapter 5 — Due Diligence on Funds of Funds

This chapter covers funds of all alternative investment funds.

Due diligence on these funds should include all the concerns listed in Chapter 1, plus general concerns listed here and others from prior chapters, as applicable, for funds of hedge funds and funds of private illiquid funds.

General Concerns

1. What is the investment process?
2. How many different sub-funds are included in the fund of funds?
3. What is the composition of this fund-of-funds by investment style, by size of sub-fund, and by geographic orientation?
4. How does the manager develop his top-down view that leads him to establish weights for the various sub-fund strategies?
5. Has the manager demonstrated sufficient added value in his selection of sub-managers to justify our investment?
6. How much transparency will the fund of funds manager provide into underlying sub-managers?
7. What are the minimum, average, and maximum allocations to any individual sub-fund?
8. What are the manager's criteria for sub-fund selection?
9. How long a track record must a sub-fund have in order for the manager to consider adding it to the portfolio?
10. Does the manager conduct as thorough a due diligence process on each sub-fund as is recommended in this white paper?
11. How are decisions made, both for new investments and for redeeming investments?
12. Is the manager properly staffed?
13. What proportion of the sub-funds would be closed to individual new investors?
14. How many sub-funds are structured under rules that make institutional investors with less than $25 million of invested assets ineligible to participate?[9]

Funds of Hedge Funds

1. What have been the historical return, volatility, and correlations of the fund of funds, calculated as suggested in Chapter 2 on page 31?
2. What have been the historical correlations of portfolio funds with one another?

   Obtain a correlation matrix covering the interval from the inception of the most recently established portfolio sub-funds, and separate matrices for several other intervals going back as far as 10 years, in each case including all sub-funds in the fund at that time. It can be instructive to see correlation matrices for different intervals.

3. What has been the turnover of sub-funds? For each sub-fund that was terminated, when did that happen, and why?
4. What are the redemption provisions of each of the portfolio sub-funds?
5. How likely is any sub-fund to have liquidity problems in a credit squeeze? How likely is it to invoke its gate?
6. What are the redemption provisions of the manager, and how compatible are they with those of each of the sub-funds?

[9] Most private funds tend to incorporate under Section 3(c)7 of the Investment Company Act of 1940, which can include only "Qualified Purchasers." In general, to be "qualified" an institution must own at least $25 million in discretionary investments, and an individual must own at least $5 million. Some funds incorporate under Section 3(c)1, which can include only "Accredited Investors." These funds are limited to a maximum of 100 investors. In general, to be "accredited," an institution must have total assets in excess of $5 million, and an individual must have a net worth in excess of $1 million.

7. How did the manager deal with redemptions during 2008–09? Did the manager restrict redemptions or change redemption terms?

Funds of Private Illiquid Funds

1. How long is the commitment period – the maximum length of time until the manager will have fully committed his fund?
2. Will our capital be drawn only on an as-needed basis?

    We are better off to retain cash as long as we can, despite the result being frequent demands from the fund of funds for cash.

    a. If so, how many times and how frequently should we expect to receive capital calls?

    b. How long is it likely to be until we receive our last capital call?

    Because we will receive capital calls until the last sub-fund makes its last capital call, it could be as long as six or more years until we receive our last capital call.

3. Can the firm gain access to quality managers?
4. How experienced is the manager in handling the end game – selling securities paid out in kind?

    The manager must decide whether it is more advantageous to sell a distributed security immediately, wait until later, or sell little by little. The end game may also be complicated if the manager receives a large block of a less liquid stock.

5. Does the firm have an adequately large investment team to manage its assets?
6. Does the firm's strategy and portfolio construction align with our outlook on investments?
7. Has the firm's strategy shifted over time?
8. Do the members of the general partner hold advisory board seats for many of their sub-funds?
9. Has the firm demonstrated strong performance in the areas in which we would like to invest?
10. Does the firm offer detailed reporting and a level of communications commensurate with our needs?

"Has the manager demonstrated sufficient added value in his selection of sub-managers to justify our investment?"

> "Part of due diligence is finding people who have relevant insights, getting them to speak candidly, and using the resulting information to draw useful conclusions."

Global economies are dynamic, individual markets that are constantly in flux, and alternative fund organizations are not static. Individuals change over time. They respond differently to evolving situations and incentives.

Every organization and strategy has its own series of investment and operational risks. No due diligence questionnaire can cover all such risks, much less produce a definitive yes-or-no answer to our investment opportunity. We can simply look at a potentially attractive investment opportunity from multiple insightful vantage points.

How do we balance facts with a gut feeling? How do we balance negative information with the desire to do a deal? Do we feel pressured to make an investment? Is this a "hot" manager? Have we been given enough time for our due diligence? Does the manager respond patiently and candidly to our continuing questions? Can we trust this manager? Are there hints of concern about integrity, ego, arrogance, pride, complacency, carelessness, excessive optimism, or personal difficulties?

Some fund managers refer to their investors as their "partners." Are we really prepared to be this person's partner? Do we believe the manager is truly committed to the fund and its investors? Assuming our personal investment objectives are the same as the institution we are serving, would we put a similar portion of our personal wealth into this investment?

Ultimately, due diligence is a human exercise. We need to judge individuals and organizations based often on limited exposure. We must discipline ourselves to constantly examine and reexamine our assumptions and conclusions. Then, rather than dismissing the importance of intuition, judgment, and experience, we should embrace their value in financial and operational analysis. Intuition is really a form of common sense, so we should pay attention to our gut feeling.

Recognize that, in the final analysis, all decisions about investment opportunities are judgment calls. Judgments honed by proper due diligence, however, should not only help us avoid mistakes but also identify opportunities likely to provide superior returns.

Not the End

Once we have committed to a private investment fund, that is only the beginning of our continuing due diligence. While invested, we must continue to monitor the manager's qualitative aspects as well as quantitative measures. Organizations change over time, and this white paper provides a useful checklist as we make our annual in-depth review of the fund and its manager.

We should retain the results of prior due diligence and review them as we prepare for our current due diligence review. Are the manager's published materials and responses to our questions consistent with what he has said previously? How has the manager's investment strategy evolved? When did we last assess the manager's operational risks? Have we lost track of a staff member who seemed important three years ago? Well-maintained files can be valuable – but only if we make use of them.

Appendix — Document Review List

A full review of all documents associated with an alternative investment is a necessary step in the due diligence process. Following is a list of documents that should be reviewed:

- Offering memorandum and subscription agreement
    - Do we have the most updated versions, including the latest amendments?
    - Are they written in clear, understandable language?
    - Is the fund's investment strategy clearly stated?
    - Are the risks and conflicts of interest adequately disclosed?
- Certificate of incorporation
- Governing documents:
    - Partnership agreement
    - Articles of incorporation
    - Articles of association
    - Bylaws
- SEC Form ADV (Parts I and II) and, if applicable, 13F filings (lists of holdings reported quarterly by managers with assets over $100 million) and 13-D filings (required whenever an investor acquires ownership of 5% or more in any public company)
- Audited financial statements as far back as available
    - Review transparency and expenses, especially administrative expenses.
    - Pay special attention to a change in auditor, as the change might indicate an auditor seeking to avoid liability associated with fraudulent practices or a manager seeking a less rigorous audit.
- Any SAS 70 report provided by the auditor on the manager's controls and operating effectiveness (SAS = Statement on Auditing Standards)
- Marketing materials, plus all monthly, quarterly, and annual reports and other communications to investors over the past two or three years
- Written policies and procedures such as:
    - Compliance manual (or equivalent policies and procedures)
    - Code of ethics and related policies
    - Investment decisions
    - Trading and brokerage
    - Record retention
    - IT security policy
    - Risk management
    - Valuation and pricing
    - Business continuity and disaster recovery plan
    - Vendor management policy
- List of references

"Once we have committed to a private investment fund, that is only the beginning of our continuing due diligence."

Contact Us

The Greenwich Roundtable
One River Road
Cos Cob, Connecticut 06807

Tel.: 203-625-2600
Fax: 203-625-4523

www.greenwichroundtable.org