

An Overview of Hedge Funds

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A few years ago, The Wall Street Journal observed that “Hot mutual fund tips turn heads at only the very dullest cocktail parties these days, but a mere whisper of a hedge fund is almost guaranteed to draw a crowd.”



Bob Dennis

Since the hedge fund industry has indeed seen a much higher profile in recent years, it has attracted increasing interest and scrutiny from investors of all types. The purpose of this report is to objectively summarize the basic characteristics of hedge funds. Our research was initiated in 2001 in response to some Massachusetts public retirement systems that expressed interest in investing in certain hedge fund strategies. Some common practices of hedge funds, such as employing “short” positions and the use of leverage, are in basic violation of PERAC’s investment regulations as well as the guidelines of many public pension funds nationwide. After many months of examination and deliberation, the Commission approved the issuance of guidelines for restricted hedge fund investment in October 2002. In accordance with these guidelines, the first Massachusetts public retirement system investments in hedge funds began in early 2004.

First of all, what are hedge funds? As with nearly every aspect of the industry, there is no universal agreement but a survey of recent articles reveals the following sample of definitions:

-“Investment pools, mainly for rich individuals and large institutions, that can take risks as they play both sides of various stock, bond, or currency markets (thus, in their most benign forms, hedging their bets)”

-“Private investment pools designed to zig when the market zags”

-“Loosely regulated private pools of investment capital that can invest in both cash and derivative markets on a leveraged basis for the benefit of their investors”

-“Any pooled investment vehicle that is privately organized, administered by professional investment managers, and not usually available to the public”

-“Exclusive investment pools for the wealthy”

-“Turbocharged mutual funds for the benefit of big-money clients in a world of relatively few rules and regulations”

- "Private investment funds that operate in the rarified air largely unknown to the average investor"

- "A catch-all term for private investment partnerships of any kind, with almost any strategy, be it 'shoot the moon' or 'play it safe'"

- "A variety of skill-based investment strategies with a broad range of risk and return objectives"

- "Investment vehicles that are organized so as to avoid the application of most securities laws"

- "Private partnerships wherein the manager or general partner has a significant personal stake in a fund and is free to operate in a variety of markets and to utilize investments and strategies with variable long/short exposure and degrees of leverage"

- "Essentially a black box of hoped-for returns"

- "Investing on steroids"

- "A compensation scheme masquerading as an asset class"

Today, hedge funds are attracting an avalanche of institutional money and are driving the agendas of investment banks, government regulators, and media editors. Hedge funds are an increasingly important--albeit controversial--part of the investment landscape, yet they are essentially just getting started as a mainstream investment option. Much remains uncertain about hedge funds: the biggest players are not well known, the strategies are largely opaque, and their record of success or failure is difficult to ascertain with certainty. Nevertheless, one fact is abundantly clear: hedge funds are here to stay.

Introduction

The traditional school of money management is based on Modern Portfolio Theory (MPT), which assumes that markets are efficient, that beating the market requires increased risk, that investment styles regress to the mean, and that matching returns from major benchmarks is satisfactory. Hedge fund managers hold a nontraditional belief that is the antithesis of MPT; they believe that there are inefficiencies in the capital markets, performance can be increased without higher risk, and that investors should aim for superior returns regardless of the direction of major markets.

The traditional Efficient Market Hypothesis, which assumes no short selling, implies that by diversifying away idiosyncratic or nonsystematic risk, investors can only increase their returns by increasing their level of systematic (i.e.,

market) risk. Hedge funds, however, do the exact opposite. By hedging away systematic risk, they can generate returns that are based entirely on idiosyncratic risk. In other words, their returns come not from what they trade but from how they trade.

Hedge funds cannot truly be considered a separate asset class because the funds do not have a predictable rate of return over time nor do they as a group respond in a predictable way to distinct economic events. About the only things that hedge funds generally have in common is their private partnership structure and the incentive compensation scheme for managers. Since there is nothing in the capital markets that hedge funds directly finance, they play no essential role in the capital structure of the US or world economy.

As we will discuss, hedge fund strategies range from relatively conservative to basically speculative. In general, the main advantage of hedge funds is that they have minimal governmental regulation and the managers have great flexibility. Ironically, the major concerns inherent in hedge funds are also that they have minimal governmental regulation and the managers have great flexibility.

Hedge funds may well offer a reasonable probability of attractive risk-adjusted returns that have strong diversifying benefits relative to the equity and fixed income markets but, in addition to minimal governmental supervision, they also involve leverage, greater asset concentration, investment in possibly illiquid instruments, limited portfolio liquidity for investors, much less transparency of portfolio holdings, and greater chance for fraud. All of the discrete steps in the decision process for hedge funds--- understanding them, making an asset allocation determination, and implementing the decision--- are much more complex and challenging compared to analogous decisions involving investments in traditional asset classes.

The first hedge fund was created more than fifty years ago but, due to their unregulated nature, information on hedge funds remains sketchy. After another year of healthy (although reduced) inflows, it is estimated that assets under management exceeded \$1.1 trillion as 2005 ended, up from \$400 billion five years ago. In terms of perspective, the industry is still only about one eighth the size of the mutual funds industry, although it is almost one quarter the size of all equity-based mutual funds. In fact, the total value of worldwide hedge funds approximates the assets under management of one of the two mutual fund behemoths, Fidelity and Vanguard. Also, hedge fund assets represent less than 2% of the total global equity and bond market investment universe, although the impact is higher if the effect of leverage is included. An SEC staff report in September 2003 estimated that there were then about 7000 hedge funds in existence; a year-end 2004 study by the Hennessey Group indicated that there were over 8000, which would have been more than double the number from ten years ago. Most hedge funds are relatively small, with about 65% having less than \$100 million in assets and around 50% being smaller than \$50 million.

Estimates of the median hedge fund size range from \$40-70 million. Less than 10% have assets greater than \$250 million. According to Hedge Fund Research and Bloomberg News, the two largest hedge fund firms today are D.E. Shaw (\$19.3 billion), Bridgewater Associates (\$18.7 billion), and Goldman Sachs Asset Management (\$15.3 billion). Although the industry is much more fragmented than the mutual fund industry, a recent analysis of one of the largest universes of hedge funds indicated that the largest 20% of hedge funds account for almost 85% of the total assets under management. The top 20 managers are estimated to control about a quarter of all assets. As another indicator of industry concentration, a year-end 2004 study by Hedge Fund Research reported that the 100 largest hedge fund management firms accounted for almost 60% of total industry assets.

A 2005 survey showed that the average size of investment in a hedge fund was \$19 million, with pension funds, endowments, and foundations above that average and high net worth individuals somewhat below.

Hedge funds make up a small but growing part of plan sponsors' portfolios in the U.S. institutional market. Institutional investors now represent about 30% of hedge fund assets, up from 5% in 1993, with the bulk of remaining assets held by high-net-worth individuals. Minimum investments for hedge funds typically range from \$250,000 to \$500,000. About 75% of the institutional ownership of hedge funds is represented by large foundation and endowment funds, with corporate pension funds accounting for approximately 15% and the balance from public pension funds. Pension funds overall represent about 8% of total hedge fund assets. For foundations and endowments, which have lower liquidity requirements and longer duration liabilities than pension funds, hedge funds have become the largest portion of their alternative investments holdings, comprising about 45%. According to a Greenwich Associates survey, about 60% of endowments and foundations currently use hedge funds. Almost 15% of public pension funds (and a slightly higher percentage of corporate pension plans) used hedge funds in 2005, with increased usage expected in the years ahead. Overall, about 28% of US pension funds, endowments, and foundations reported hedge fund use in 2004, up from just 12% in 2000. For those institutions that utilize hedge funds, typical allocations still are a very low percentage (less than 2%) of total assets for public and private pension funds but are considerably higher for more aggressive users like endowment funds and foundations, where the average allocations are currently reported to be about 15%. According to a new NACUBO study, endowments with more than \$1 billion in assets had an average of 20% of their portfolios allocated to hedge funds, while those between \$500 million and \$1 billion had average allocations of 13.4%.

Amid concerns over good but not great investment performance, total inflows into hedge funds of \$47 billion in 2005 represented a decline of 36% (the first in a decade) from the previous year, according to Hedge Fund Research. The fourth quarter saw an actual \$824 million in outflows, the first such instance in more

than a decade. Hedge funds of funds were especially hard hit in 2005, with net flow of \$9.5 billion down 71% from 2004; the fourth quarter saw an outflow of \$2.1 billion, the second consecutive quarter of declining assets.

Although the industry is actually growing fastest overseas, particularly in Asia, hedge funds remain basically an American phenomenon, with at least two thirds of all managers based in the US. To be exempt from having to register with the Securities and Exchange Commission, hedge funds cannot advertise (although substantial information on specific funds is available to qualified investors on the Internet) and they must generally have no more than 100 investors, at least 65 of whom must be “qualified” investors having at least \$1 million in investment assets or having incomes that have exceeded \$200,000 (\$300,000 for joint income) for at least two years. (In Europe, income restrictions for hedge fund investment are generally much looser---and minimum investment amounts are much lower---than in the US.) Hedge funds have been traditionally organized as limited partnerships where the investment manager is the general partner and may also be a limited partner if he or she also commits a large portion of his or her wealth to the fund.

Most hedge funds and funds of funds offer an offshore version of their hedge fund. These funds are typically managed identically to their domestic counterparts. Offshore funds are usually offered as limited liability companies or corporations and are only open to non-US investors or US tax-exempt “accredited” investors such as pension funds and various tax-exempt trusts. Like domestic hedge funds, they are not subject to portfolio management restrictions that may apply to registered funds and the number of investors they have is not restricted. Many offshore funds are domiciled in international tax havens, such as the Cayman Islands, Bermuda, or the British Virgin Islands, and administered offshore (although US laws mandating offshore administration were lifted in 1997.) Offshore hedge funds exist not to allow US investors to avoid paying taxes but to allow them to accept investors from all over the world.

Due to their relatively short history and the scarcity of good, solid data, there are very few general statements about hedge funds that can go unchallenged. With every point on virtually every aspect of hedge funds having a viable counterpoint, the lack of unassailable truths or even basic facts about hedge funds is what makes them such a fascinating and challenging subject.

Advantages

The key distinguishing feature of hedge funds is that performance is derived not primarily from the returns of the underlying markets (beta) but predominantly from managers’ skill (alpha). As The Wall Street Journal noted in 2001, the hedge fund industry is often considered “the major leagues of investing”. As elaborated by The New York Times, “The industry attracts many of the world’s most talented money managers because it gives them a chance to run their own

firms and operate in an unregulated financial frontier with a nuclear arsenal worth of investment tools.” As noted, many hedge fund strategies are conservative in nature but others achieve their goals by expanding the set of investment opportunities to include currency, commodities, and derivatives. Many of these strategies have long been the source of profits engineered by the trading desks of Wall Street firms and investment banks.

Hedge funds create value by their ability to exploit structural inefficiencies in the markets. Most hedge fund managers are highly focused on a narrow range of expertise and, as a result of being unregulated and unfettered by bureaucratic controls, they can nimbly capitalize on these inefficiencies. The methods used to exploit these market inefficiencies are generally unavailable to traditional active managers. Leverage (borrowing money to increase exposure) is used to maximize profits from these relatively small anomalies and it is estimated that about 70% of hedge funds use some degree of leverage.

In return for their providing liquidity in many markets and by often taking speculative risk, hedge funds enjoy certain trading advantages. They often benefit from superior investment information, lower transaction costs, and better market access. Also, for investors seeking leverage in their investments, hedge funds can typically borrow at lower interest rates than individual investors can from their banks.

Hedge fund managers seek absolute returns without regard to the performance of major market indices. Believing that conventionally managed funds own a large amount of “deadweight” in their portfolios by their necessity to track major benchmarks, hedge funds see themselves as offering a superior way of investing in traditional investments. Hedge fund managers will only own securities that they consider to offer distinct investment value and they can take advantage of overpricing of securities not just by under-weighting them relative to a benchmark but also by explicitly betting (by “shorting”) that such securities will underperform. Hedge fund managers also see distinct advantages in the flexibility arising from not being confined to such narrow investment mandates as “growth” or “value”. They see managers of traditional funds (particularly mutual funds), hamstrung by fierce competition and stringent regulation, as being unable to adopt or utilize the unique, often complex strategies that, in their view, have been proven successful in achieving positive returns even in the most difficult markets.

Hedge fund managers also have no obligation to stick with markets that are not performing or strategies that are not working. The best managers will be nimble, flexible, and opportunistic enough to adapt to changing environments and to search for the next great idea. Dramatic gains in computing power and communication ability have allowed managers to design and implement strategies of unprecedented complexity, and new markets in both traditional asset classes and derivatives are creating a host of new trading opportunities.

The best hedge funds are uniquely positioned to succeed in today's changed investment universe.

Hedge fund fees are high---they typically involve a management fee of 1% of assets and an incentive fee of 20% of profits (usually above a certain hurdle rate). This structure is similar to that of venture capital and other private equity partnerships. Managers justify these fees as appropriate given the very specialized investment and legal research that is needed for these strategies. They also point out that, while their annual 1% management fees are similar to, and sometimes less than, those of traditional money managers, many of the latter (most of whom fail to beat their market benchmarks) actually actively manage less than half their portfolios while essentially indexing the balance.

Most funds also have a "high water mark" that is intended to protect investors by requiring the manager to offset any losses with subsequent gains before incentive fees are paid; this provision safeguards against investors paying twice for the same increase in value or for a return to a previous high. The incentive-based compensation discourages complacency and minimizes the likelihood of managers simply trying to track or marginally outperform some benchmark. In contrast to traditional asset management, where compensation is at least partly based on the level of assets under management, these performance-based incentives attract many of the industry's best investment managers to hedge funds. Since SEC limits on the number of investors---as well as capacity constraints inherent in the specialized investment strategies---serve to insure that most hedge funds will be much smaller than typical mutual funds, it is apparent that hedge fund managers must achieve gains in order for their firms to be profitable. The fact that the managers typically invest their own funds in these products brings about a further alignment of interests.

(In nearly every aspect of hedge funds, there are few absolute truths and two sides to every point. In this case, some question whether it is that vital for a manager to have his own wealth invested in his hedge fund, pointing to concerns that might arise if a manager suddenly experiences changed circumstances that cause him to drastically reduce his own risk tolerance.)

The term hedge fund is often synonymous with Long-Term Capital Management, the mammoth Connecticut-based fund that collapsed in 1998 in the wake of a global liquidity crisis and requiring a Fed-brokered \$3.6 billion bailout by its creditors. LTCM's highly speculative strategies, which mostly involved extremely leveraged fixed income arbitrage bets, were atypical of hedge funds then and are even more a thing of the past in today's world. Nevertheless, in many ways, LTCM's demise was a watershed event for the industry. It reminded investors that any product that has the potential for very high returns also has the potential for very disappointing returns, and that a portfolio of many different bets does not necessarily imply a diversified portfolio, particularly when illiquid instruments are involved. The firm's partners felt that they were victimized by the confluence of

highly unusual economic and financial market events similar to a “100-year flood”, but their highly-touted models were based on relatively short history (going back only about ten years) and they did not anticipate that their portfolio of thousands of positions would become highly correlated in their exposure to a worldwide liquidity and credit crisis. Besides illustrating the need for hedge fund investors to do careful research and to own a diversified set of funds, LTCM’s fall has clearly influenced hedge fund managers to use much lower leverage (LTCM employed up to 30 times leverage) and to drastically enhance their risk control procedures. “The days of the gun-slinging hedge funds are largely gone”, the head of a major hedge fund consulting firm noted recently.

For a number of reasons, reports on hedge fund performance must be taken with at least a small grain of salt, but the general consensus from available data is that hedge fund strategies have achieved higher historical returns than traditional stock and bond investments with similar risk characteristics. In addition to favorable risk-adjusted returns, hedge funds have shown low correlation to the general markets and low correlations among the various strategies. Also, reflecting the large idiosyncratic characteristic of hedge fund managers, much lower correlations exist even among managers within specific strategy categories than are found among traditional active managers. The fact that hedge funds possess attractive investment characteristics and have also delivered generally strong returns has certainly been behind the impressive growth of this genre in recent years.

Alfred Winslow Jones, the reporter for Fortune Magazine who created the first hedge fund in 1949, characterized short selling and leverage as “speculative tools used for conservative purposes.” Indeed, hedge funds have generally fulfilled their mandate of providing investors protection during down markets. Hedge funds generally trailed the major market indices during the stock market’s overheated performance of the late 1990s, but their potential advantages as true hedging vehicles was evident in their reported performance during the three-year equity bear market that began the current decade. During the year 2000, when the S&P 500 declined 9% and the NASDAQ tumbled 39%, various trackers of hedge fund performance indicated composite returns of +5% or higher across the total array of strategies, with some of the more conservative, non-directional strategies (such as convertible arbitrage and market neutral, as will be discussed below) registering gains in the +10% to 15% range. In 2001, the S&P 500 was down 12% and the NASDAQ fell an additional 21%, but composite hedge fund returns were reported to be +4 to 5% or even higher, with some non-directional strategies posting impressive positive returns as high as 15%. In 2002, the S&P 500 was down 22% and the NASDAQ’s epic collapse continued with a further 32% decline, but composite hedge fund returns were generally flat and some of the non-directional strategies achieved returns of +5 to 9%. (See Table One)

Over the three-year period ending June 30, 2003, which roughly coincided with the bear market, over 97% of hedge funds with assets greater than \$20 million

performed better than the S&P 500 over that time, according to the hedge fund database CISDM.

The year 2003 saw the end of the bear market as the S&P 500 rebounded by 28.7% and the NASDAQ surged 50.0%. During this year, composite performance of hedge funds was in the 15-20% range, confirming the adage that, while hedge funds are expected to hold up better than stocks during a bear market, they are likely to lag the major benchmarks during the market's good years.

Hedge fund performance in 2004 was seen as disappointing by many observers. Constrained by lackluster markets, low volatility, and in some cases, too much money chasing the same market opportunities, hedge funds struggled to match the returns of the stock market. While the S&P 500 was up 10.9% and the broad market Wilshire 5000 advanced 12.6% for the year, aggregate hedge fund returns were in the 8-9.5% range.

By mid-year 2005, a cover story in Barron's declared that "The Thrill is Gone" as most hedge fund indices indicated flat or negative returns and inflows were clearly slowing. At year-end, composite returns of 7.5-9.5% exceeded those of the US stock market (S&P 500 up 4.9%, Wilshire 5000 up 6.3%) or bond market (+2.4%) but were nevertheless disappointing to investors who were paying large fees and expecting stronger performance. Some strategies, like convertible arbitrage, were suffering through one of their worst year in over a decade. Once again, the lackluster returns from hedge funds were attributed to too much money chasing too few trading opportunities as well as to the paucity of volatility and strong market trends in a range-bound market. Amid signs of slowing cash inflows, the industry was becoming increasingly concerned that the heady days of hedge fund growth might be coming to an end.

Concerns The vast majority of hedge fund investors have apparently been satisfied that their investments have achieved their objectives. However, as one experienced consultant has noted, while hedge funds certainly have aspects that are clearly "good", they also have characteristics that can be "bad" and even downright "ugly". While a thorough due diligence could well lead to a very favorable outcome from a hedge fund investment, the probability of an unpleasant surprise is clearly higher than in the realm of traditional investments. Rather than market risk, manager risk is the major challenge facing hedge fund investors. As The Wall Street Journal recently observed, hedge funds today are "run by everyone from proven money managers to failed stockbrokers."

First of all, there is the issue of transparency. While surveys of hedge fund performance have consistently indicated better risk/adjusted returns than on most traditional investment products, the aura of mystique and secrecy surrounding hedge funds has made it difficult for academicians to adequately explain how and why hedge funds have performed as they have.

Being unregulated, hedge fund managers are not required to disclose their portfolio holdings or even their current strategies. Managers are further reluctant to divulge their positions due to well-founded fears about the investment risks inherent in having competitors or major trading desks aware of their positions. Hedge fund managers may see themselves as poker players sitting around a table who may not want to show what's in their portfolios because they may not be able to unload it when they need to. With the chance that competitors could seek to either duplicate or "front-run" the strategies themselves or to simply sabotage the manager's ability to profit from the opportunity he has identified, the risk of too much transparency is very real. (There might also be a degree of "cultural hubris" behind their desire for secrecy.) Also, managers would rather not disclose what securities they own and they are particularly fearful of publicizing the list of stocks they are "short". Not only do corporations severely frown on investors who short their stock but such positions are vulnerable to a "short squeeze" where competitors will run up the price of the stock in the market, pressuring the hedge fund manager to "cover" his position at a loss.

While the Long Term Capital Management collapse in 1998 may have influenced an improvement in overall risk management in hedge funds, it has not necessarily brought about any better portfolio transparency. Many believe that one of the factors that led to LTCM's downfall was the fact that so many in "the Street" knew about that fund's positions during its final weeks. Accordingly, it is estimated that, as of a few years ago, only about 25% of hedge funds are reasonably transparent today while another 25% offer conditional disclosure.

Once again, one cannot generalize about hedge funds but it is not unusual for questions about a hedge fund manager's portfolio to receive a response of "It's a proprietary strategy." Barron's reported in 2001 on a successful hedge fund that requires its investors to not even disclose that they're invested in the fund.

The issue of transparency is clearly a serious challenge to fiduciaries such as public fund trustees who are required to know how their managers are invested. With regard to managers who cannot or will not divulge their current positions, investors should insist on at least a reasonably frequent summary of recently current information. At the minimum, they should require managers, as an alternative to full position disclosure, to report summaries of positions as well as sources of value added and what risks are currently contained in the portfolio. (Of course, controversy over transparency is not limited to hedge funds. Many have questioned the SEC requirement that mutual funds disclose, on a delayed basis, their portfolios only twice a year. The private equity industry has been involved in a major controversy with public pension funds concerning those funds' right to disclose performance and other vital data concerning their venture capital and other partnerships.) On the subject of transparency, most market participants would agree that total position transparency, even if available, does not imply risk transparency. Most investors do not have the time or resources to fully and correctly interpret positions and what they truly imply about a hedge fund's actual

risk exposure or the extent of any style drift. Transparency without the knowledge to use it accomplishes little. For example, it may be very difficult to discern whether a listed stock holding is a simple “long” position, part of a paired “long/short” relative value trade, or a hedge against a “short” position. The number of positions can also be daunting; as an extreme example, Long Term Capital Management had about 60,000 trading positions on their books at the time of its collapse. Thus, more important than what securities or instruments a manager might own at a given time is knowledge of what he is actually doing in terms of strategies followed and risks taken. Similarly, in analyzing a portfolio’s activity, what the manager trades is less important than how he trades. Furthermore, even awareness of overall risk exposure may be of limited use if investors have little recourse to effect changes in the portfolio.

One of the goals of achieving transparency should be to detect possible style drift, but style drift is rarely a viable issue in hedge funds since most offering memoranda give the managers wide flexibility to deviate from the described strategy. As one consultant recently observed, “Having to write down an investment policy is culturally anathema to some hedge fund managers.” Nevertheless, investors must still be very vigilant in this regard. Accordingly, even more important than the content, frequency, and timeliness of a manager’s written reports, investors should be comfortable with the manager’s availability for continuing due diligence visits and appropriate direct dialogue. Investors should expect hedge fund managers to openly communicate any changes in strategy or style or changes in key personnel.

Overall, as hedge funds seek to enhance their appeal to institutional investors, a trend toward improved essential transparency seems to be developing. On the other hand, a fund’s willingness to provide transparency is likely to be directly proportional to its necessity of attracting additional assets under management. Investors must understand that the maximum possible level of portfolio transparency is the highest level that can be provided by a hedge fund manager without compromising his strategy. For funds with large exposures and/or illiquid positions, full position transparency could truly increase the risk of the fund. In general, strategies that involve greater liquidity and greater portfolio turnover should be able to offer the greatest potential level of transparency.

A possible solution to the transparency conundrum may be developing wherein hedge fund managers report to an independent third party. This party verifies and checks all the positions and then summarizes the data and the risk exposures to the plan sponsor. CalPERS is among the large pension funds that hope to achieve workable transparency by using third parties as a “Chinese Wall” between themselves and their hedge fund managers.

There are many sides and contrasting opinions in the controversy over transparency. As one plan sponsor said recently, it may border on negligence to not receive substantive portfolio information from a hedge fund manager. The

chief investment officer of a large endowment fund that has about 40% of its assets in hedge funds recently took an opposite view as he observed, “You don’t require Coca Cola to disclose its secret formula.”

In summary, investors should understand both the pluses and minuses of full position disclosure, but there should be no compromise on their demand for process and strategy transparency. An investor must, first of all, have a clear understanding of a fund’s strategy. Entrusting funds to an enigmatic “black box” should not be acceptable. An investor should be able to trust his manager, but also must be able to “look under the hood” whenever necessary in order to verify that the manager is not straying from his promised strategy.

Another issue involves custody, where the likely use of derivatives, short positions, and other unconventional instruments requires the manager’s broker/dealer to insist on a separate custody relationship. This could conflict with a retirement board’s legal or policy requirement that all securities are held in the system’s name and that all custodian responsibility is assigned to the system’s master custodian. Since prime brokers typically provide a line of credit that finances the leverage used by hedge funds, it is in the broker’s interest to assure that a blow-up does not occur. Nevertheless, since the prime brokers generally work on behalf of the hedge fund manager, investors must carefully evaluate the alignment of interests.

For many of the big Wall Street brokerage firms, providing “prime brokerage” services to hedge funds is one of their most profitable lines of business today. Some estimates have reported that prime brokerage is responsible for as much as one third of the largest investment banks’ earnings. Besides back-office, trading, and other services, prime brokers often also provide seed money to hedge funds and might even take equity stakes. In arranging “capital introduction” meetings, prime brokers serve as an intermediary between hedge funds and potential clients. There is the potential for conflicts of interest when prime brokers steer private clients to hedge funds from which they not only glean significant trading commissions but in which they may even be a direct or indirect (parent or affiliate company) investor. Morgan Stanley, Bear Stearns, and Goldman Sachs are the leading firms in the prime brokerage business.

In recent years, it has become increasingly common for hedge funds to have more than one prime broker. This reflects the fact that the prime brokerage business has become increasingly specialized as well as the fact that hedge funds may feel more comfortable not having one broker have total access to its positions and strategies.

The investment agreements between hedge funds and their investors are often seen as “frightening” documents (in the words of one consultant) in that the terms are not only complicated but are almost totally protective of the manager, not the investor. As the CIO of a major public pension fund observed, when it comes to

negotiating terms for investment in hedge funds, “It’s basically take it or leave it.” Legal counsel for institutional investors often spend several weeks in difficult negotiations with hedge funds in an effort to achieve the most favorable terms possible for their clients.

As previously noted, the managers see their fees as justified by supporting a very specialized staff and providing proper motivation for performance, but they are nonetheless high, typically 1% of assets under management and 20% of profits, and generally going higher. A 2005 study by the Hennessee Group indicated that more than half of responding hedge fund managers are charging more than 1% for management. Some of the most successful hedge funds are reported to be charging management fees as high as 3% or even higher and incentive fees as high as 50%. A 2003 report by Sanford C Bernstein & Co estimated that hedge funds generated \$27 billion in fees in 1999----more than the \$19 billion generated by the entire US mutual fund industry, which had more than six times the assets under management. While many industry observers anticipated that hedge fund fees might face downward pressure from increased competition and lower returns during the bear market, this has not come to pass and fees are generally higher than ever. As one industry executive recently said, “People are willing to pay for top talent. They always have been and always will be.”

For investors paying hedge fund fees, it is important to be reasonably certain that they are paying for performance achieved through proprietary absolute return strategies and excellent research, not from simply having exposure to the markets in strategies very similar to traditional management. If “alpha” is the excess return over a benchmark (i.e., incremental performance attributable to manager skill) and “beta” is performance achieved through market exposure, investors should not pay high “alpha” fees for “beta” performance that could be obtained through much lower costing investment structures. Unfortunately, it is usually not easy to make this determination with certainty. Some hedge fund strategies may involve what some call “exotic beta”, or market-related returns not yet available through low-cost vehicles), rather than pure alpha. An example of such a strategy might be the performance differential between growth and value stocks. Under the hedge fund fee structure, it is very possible for mediocre managers to become very rich merely by being invested in the right markets at the right time. Under such circumstances, hedge fund fees represent a virtual transfer of wealth from investors to managers.

In the context of the high fee structure, investors face a difficult challenge in selecting and gaining access to managers who can consistently provide attractive returns and who do so through rare skill and not through luck or market mimicking. As one manager noted, “Why should the appeal of rich fees be limited to smart managers?”

In analyzing fees, the benchmark for determining profits is often a “hurdle rate” consisting of an increment over a risk-free investment such as LIBOR or a

Treasury bill. The “high water mark”, which requires managers to offset any losses with subsequent gains before any incentive fees are paid, also comes into play. Nevertheless, skeptics would further point out that, since losses are borne entirely by investors while the manager earns a meaningful percentage of the profits, this structure provides the manager with a clear incentive to take high risks. The fact that most managers have their own money in the fund may be at least a partly offsetting aspect. Finally, investors should be wary of hedge fund managers offering preferential fee structures to particular accounts.

Under certain circumstances usually caused by leveraging, Unrelated Business Taxable Income (UBTI) could accrue to investors.

Like other types of alternative investments, hedge funds are typically illiquid for investors, often requiring an initial lockup period of at least a year and then redemption only periodically. Some funds further dissuade redemptions by imposing a redemption fee. In order to prevent a disastrous sudden run on their assets, some funds establish “gates” that limit the percentage of a hedge fund’s assets that can be redeemed at any given time. Since a stable asset base can be helpful to a manager, particularly one in the early stages of its existence, in carrying out his investment strategy, some institutional investors have been amenable to longer lock-up periods in exchange for a lower fee. Indeed, studies have shown that longer lock-up periods increase the probability of a fund surviving.

Some of the most established hedge funds, as well as some new ones created by “star” managers, have been instituting longer lock-up periods, some as long as four and a half years. Managers claim that longer lock-up periods help them develop stable businesses and that it demonstrates commitment from investors. Other managers justify longer lock-ups as necessary because they have begun to invest in certain strategies---such as various forms of private equity---that have longer time horizons. In any case, longer lock-up periods may pose a dilemma for some institutional investors and most funds of funds, raising fears that many of these investors and sponsors will settle for less than first-tier hedge funds.

Since managers can terminate their fund at any time and return the proceeds to investors, the “high-water mark” provision that ostensibly protects investors could also work against them by giving managers a reason to simply terminate their funds (and return the current value of holdings to investors) if prospects for profitability are minimal. As The Wall Street Journal recently noted, “If a hedge fund company is far below its previous peak, there is little incentive for portfolio managers to stay at the firm and wage an Ahab-like fight to find the old peaks once again.” Indeed, the annual “mortality” rate (the percentage of existing funds that are prematurely terminated) for hedge funds is as high as 20%, while the average “lifespan” of a hedge fund is estimated to be between 3.5 and 6.5 years. Seven hundred hedge funds were reported to have closed in 2002, and one study claimed that 17% of all hedge funds in existence on January 1, 2003 were

out of business by December 31 of that year. However, studies done by the Hennessee Group and by Morgan Stanley Capital International indicated that the attrition rate for 2004 was in the 5-8% range. A study by TASS Research indicated that the average annual attrition rate for hedge funds over the ten-year period through 2003 was close to 9%.

Another concern is that, while investors are basically “locked in”, they have little recourse if, as frequently happens, key personnel at the fund leave for other opportunities. To address this, investors have begun to insert a “key man clause” in the contract; this provision gives investors the option to redeem their funds if a key manager is suddenly no longer at the fund. Given the red-hot job market for proven hedge fund managers, turnover among key personnel is likely to be an important trend that investors must closely watch.

The hedge fund industry is a very Darwinian space. As noted, the attrition rate for hedge funds is rather high and there is some evidence that it may actually be increasing. The leading reasons for the shutting down of funds include insufficient asset size and disappointing performance, which may, of course, be inter-related. Unless the managers of a new hedge fund have significant investment cache from their previous positions, they are likely to have money only from family and friends as they strive to build a track record that will attract substantial assets. The manager’s expectations and attitude are also relevant. For instance, does the manager have a get-rich-quick philosophy or a long-term commitment to succeed? Some studies have shown that the age of a fund does not affect its likelihood to terminate. On the other hand, whether the market environment has been consistently favorable or unfavorable for a particular strategy can obviously affect a fund’s lifespan.

The period of lackluster returns during the 2000-2002 bear market hastened the rate of hedge fund closures. CSFB/Tremont, one of the largest hedge fund databases, reported that almost three quarters of the approximately two thousand hedge funds it tracks earned no performance fees in 2002 since they failed to surpass previous high-water marks. Almost 90% of the long/short funds (the largest category of hedge funds, representing more than a third of the total) were reported to be below their high-water marks at year-end 2002.

Lacking the diversification requirements of traditional investments, hedge funds may take large positions relative to market liquidity. Especially during periods of market turmoil, managers may not be able to exit these concentrated positions quickly or efficiently. This liquidity risk is magnified by the “herd” risk where money managers may share a common investment style and have identical positions. Together with the fact that hedge funds often invest in instruments that are themselves essentially illiquid, it is fair to say that, for a large number of hedge fund strategies, the main risk is not market risk but liquidity risk. On the other hand, the more liquid a market is, the more efficient it is likely to be. Thus,

managers who work with illiquid assets may be more likely to discover profitable anomalies.

For managers who diversify their asset bases by offering multiple strategy products or investors who diversify their holdings by investing in multiple strategies, it is still conceivable that liquidity could be a concern if it turns out that the same investors or group of investors are major investors in the affected products.

Leveraging to some degree is a practice common to many conventional financial institutions (i.e., banks) and traditional investments (corporate stocks, real estate, etc.). Portfolios can achieve benefits of diversification through modest use of leverage, but the aggressive leveraging found in many hedge funds not only brings the risks of magnified losses from investment errors but also entails risks of loss caused by a general tightening of credit. Leverage allows a manager to have an asset base that exceeds invested capital, possibly by a large multiple, but also saddles him with “counter-party risk” involving the reliability of other financial institutions. Thus, leverage adds risk because it amplifies the effect of market volatility and since it also exposes the manager to the risk that the leverage may be withdrawn. In distressed markets, a critical cycle can arise when counter-parties force hedge funds to liquidate, asset prices deteriorate, and further investor redemptions ensue. Starting with Long Term Capital Management, use of excess leverage has been one of the primary causes of hedge fund failures over the years. The use of leverage can vary significantly along the wide spectrum of specific hedge fund strategies.

In nontraditional portfolios such as hedge funds, especially those further complicated by leverage, operational risk---involving errors in analyzing, trading, and recording positions---can be very damaging. The complex nature of portfolios is why hedge funds allow infrequent redemption by investors. A sizeable redemption at a particular time could cause an inopportune unwinding of very fragile trading positions.

There is also an “F-word” associated with hedge funds and that word is “fraud”. Although very infrequent, there have been numerous instances of bloated returns, undisclosed losses, and even more sinister financial schemes. The Securities and Exchange Commission has sued for recovery of more than \$1 billion in investor losses related to various hedge fund frauds in recent years; well over 50 separate cases were involved. The recent enforcement actions were due to false and misleading statements in offering documents, misleading performance data, misleading valuations, misappropriation of assets, insider trading, market manipulation, and fraudulent allocation of investment opportunities.

Although it could be argued that it is not easy to defraud the sophisticated investors who are the primary clientele of hedge funds, background checks on

key personnel should be an important part of a potential investor's due diligence process. Also, the risk of fraud could be reduced through the use of a separate account structure where the manager does not have direct access to the investor's funds. In any case, detection of fraud is difficult for investors because, while some episodes directly relate to a manager's dishonesty and/or greed, others begin as an unintended result of lax administrative controls.

Given the relative newness of the hedge fund industry, the many distinct strategies, and the fact that the industry is unregulated, there is no single widely recognized benchmark or standard for performance measurement. In contrast to the mutual fund industry, there are no firms or publications that compile and compare the performance records of every hedge fund or hedge fund product in existence. There are several organizations that provide data on hedge fund performance, usually categorized by a number of distinct strategies that are not consistently defined among the data providers. No database is all-inclusive, however, as most reporting managers do so to only one index. It is estimated that all the databases combined represent 75-85% of all hedge funds as many funds, particularly those that are not interested in seeking additional investor capital, do not report to any database. The indices of these databases also have different methods of calculation. The task of constructing viable indices is complicated by the fact that managers' investing strategies might vary dramatically even across narrowly defined styles, raising the possibility that different data providers will classify a particular fund in different subclasses.

While many observers see the development of viable hedge fund benchmarks as several years off, the race to create such measures, as well as products structured on them, is hastening. In 2002, Morgan Stanley Capital International (MSCI) initiated a series of non-investable hedge fund indexes consisting of almost 1500 hedge funds. The next year, MSCI brought out an investable index comprising 120 hedge funds. In 2003, Standard & Poor's claimed to have the first investable hedge fund index, consisting of 40 separate hedge funds in three categories (arbitrage, event-driven, and directional/tactical) and nine specific strategies. Also in 2003, CSFB/Tremont announced the formation of an investable hedge fund index comprising 60 hedge funds in 10 different strategies; in each strategy category, the six largest open funds would comprise the index. Finally, Hedge Fund Research also initiated an investable index in 2003 that currently includes 68 funds. By early 2005, all of these investable indices had garnered at least \$2.5 billion in assets. By some estimates, as many as 17 hedge fund indexes existed by 2005, and total assets linked to investable hedge fund indexes in March 2005 was estimated to be as high as \$12 billion.

Hedge fund indexing does have its practical applications, but it also has serious theoretical shortcomings since hedge funds are not a distinct asset class and there is no clear way for investors to allocate among hedge funds in order to achieve an "average" return. While it is logical to attempt to obtain index returns from a particular financial market, the theory of obtaining index returns from

investments that seek absolute returns, or alpha, unrelated to market returns is considerably less clear. The broader and more inclusive an index seeks to be, the less likely it is to be investable. The concept of a viable investable hedge fund index is further challenged by the fact that many of the best hedge funds are closed to additional investment and/or do not disclose their performance. Index providers must limit their universe to only hedge funds with the highest level of fund transparency, pricing accuracy, and liquidity. Also, the turnover rate in such indexes might be high since fewer than 20% of all hedge funds survive past five years. The development of investable hedge fund indices is in the early stages, and given the absence of perfect information on the universe of hedge funds, significant challenges loom ahead. A fundamental challenge will always be finding the right balance between having enough funds to be representative and not having so many as to make investability difficult. One fact for sure is that the hedge fund indexes all have different methodologies, strategy weights, as well as liquidity rules so that a decision to invest passively in hedge funds cannot be separated from the choice of which index to invest in. Also, the fees for investing in an index fund are not appreciably lower than those associated with actively managed funds of funds even though it might be argued that the task of seeking “representivity” is less challenging than finding hedge funds that are likely to outperform.

There are a number of additional caveats regarding reported performance figures, beginning with the fact that most of the organizations that collect and publish this data have close ties to the industry itself. Furthermore, most reported performance is based on a relatively short history. More than half the managers have track records of less than five years and about 90% have been in existence for less than ten years. While it is likely that some of the best performing funds refuse to disclose their performance in order to stem an unwanted spurt in interest, it is even more troublesome that poorly performing funds have obvious reasons to keep their returns “in-house”. The basic fact is that reporting of performance by hedge funds is essentially voluntary.

The fact that hedge funds are routinely started and abruptly closed certainly complicates the task of accurately measuring performance. There is no doubt that survivorship bias---the exclusion of returns from terminated funds or funds---affects the validity of reported industry returns by some indeterminate extent. Some studies have estimated the effect of survivorship bias has overstated composite returns by as much as 3% per year. Others, such as the CEO of Tremont Capital Management, have declared that database returns are actually understated because the greatest influence is from successful managers who cease reporting their returns because they are no longer interested in attracting new investors. Also, while the data vendors generally backfill a fund’s performance history when it is added to their database, the database will not contain any funds that ceased operation before the start of the database itself. Since most hedge fund databases started around 1994, this means that even databases that normally do not eliminate defunct funds suffer from survivorship

bias for the years before 1995. Also, the practice of backfilling can be questioned since it is likely that only funds with favorable records will be forthcoming about their performance and open to their retroactive inclusion in public databases.

Also, there are no specific rules or industry standards that govern the pricing of hedge funds. While there are legitimate issues about the accuracy of pricing even in traditional investments, skeptics raise the issue of whether the volatility of hedge fund returns is understated and the performance is overstated either by the real difficulty of pricing illiquid securities on a timely basis or by intentional “fudging”. For example, on hard-to-price derivatives, as well as on such thinly traded illiquid securities as distressed and emerging market debt, convertible bonds, and certain mortgage backed securities, there can be a huge differential in price depending on whether the security is priced at the bid price, the asked price, or the mid-point. Furthermore, for instruments such as these that may not be traded in a transparent liquid market, well-meaning professionals will often price the same securities very differently. Thus, it is imperative that potential investors examine the valuation methodologies of hedge funds. Increasingly, investors are insisting on independent pricing of securities by a third-party.

Nevertheless, while there has been no industry-wide validation of performance by an independent organization, it is fair to conclude from the available data that hedge fund managers, over their relatively short history, have successfully achieved their objective of favorable risk/adjusted returns regardless of the direction of the major markets. (Reported returns for three major strategies and for hedge funds overall are presented in Table One of this report.) Potential investors must realize, however, that given the wide variety of investment styles as well as the myriad dimensions of “manager risk” involved in this genre, the variation in returns within each distinct category can be very wide. Funds in the more narrowly defined or risk-controlled strategies tend to have less dispersion in fund returns than those in styles that have broader manager discretion.

As an example of the dispersion of hedge fund returns, the HedgeFund.net universe indicated a composite return of 9.36% for the 5,100 funds in its database for 2005, with the top 25% returning 12.84% and the bottom 25% rising only 2.85%.

Some statistical analyses have further pointed out that the validity of reported mean returns may be tempered by the fact that the dispersion of returns in at least some strategies is not normally distributed (i.e., approximately the same number of funds would be above average as below average) but somewhat negatively skewed (meaning that the probability of below-average performance is greater than the probability of above-average gains).

Also, the traditional use of return variance as a proxy for risk may be inadequate for hedge funds. Some of the tools employed, such as short selling and leverage, as well as some of the more speculative strategies employed make hedge funds

prone to “event risks”, leading to occasional “blow-ups”. Such risks, which generally cannot be detected from examining historical return patterns, can materialize as sudden, often substantial, losses of portfolio value. Historical return volatility can be a very misleading indicator of the true volatility of any strategy that contains the potential, however slight, of extraordinary losses (sometimes referred to as “fat-tail risk”).

In terms of the investment strategies themselves, there remains the risk that even for the best and the brightest of managers, the relationships between securities or among asset classes they are betting on might simply and unexpectedly change. Financial instruments that may be otherwise uncorrelated may become totally correlated during times of financial crisis. As investors in Long-Term Capital Management painfully realized, even if certain relationships do eventually revert to the mean, they could remain mispriced longer than some funds can remain solvent.

A final concern is that the very rapid growth in hedge fund assets in recent years will serve to limit their future performance prospects. In addition to overall questions of industry-wide or firm-specific capacity constraints, various arbitrage strategies could be particularly vulnerable as growing numbers of funds and higher volumes of capital may be crowding out the potential for the spreads that make such investments attractive. As was noted by Barton Biggs, then Chief Investment Strategist of Morgan Stanley Dean Witter, “Hedge fund strategies are not infinitely scalable.” (Somewhat ironically, Mr. Biggs left Morgan Stanley in 2003 to start his own hedge fund.)

The concerns noted in this section must be considered in the context of the favorable results generally reported for hedge funds. Nevertheless, these concerns demonstrate that the task of doing due diligence on hedge funds is very complicated, difficult, and time-consuming.

Strategies

For all intents and purposes, hedge funds cannot be considered a distinct asset class, defined as a collection of investments with a reasonably homogeneous set of characteristics that are stable over time. Unlike equity, fixed income, or real estate, hedge funds are not characterized by a common set of legal, institutional, and statistical properties. Hedge funds are essentially a collection of investment positions.

The word “hedge fund” is no more descriptive of what a particular fund does than the term “mutual fund” is of an investment in that genre. As previously noted, hedge fund strategies range from being conservative---with low volatility of returns--- to aggressive-- basically speculative. There are as many as thirty distinct strategies for which performance indices exist.

There is no universally accepted or official classification standard for hedge fund styles, but the following is a reasonable consensus view.

1) Relative Value (low market exposure)

In these strategies, managers use mathematical, fundamental, or technical analysis to determine and take advantage of relative pricing discrepancies between various instruments. Typical strategies include “market neutral”, where a manager’s long equity positions are equally balanced by the value of his short position, and “convertible arbitrage”, where managers establish short equity positions in conjunction with holdings of convertible bonds. These strategies are basically non-directional relative to the overall market and will have “beta” of close to zero relative to a major equity market benchmark such as the S&P 500. The expected returns of these strategies range between those of bonds and equities and they have expected volatility less than or equal to that of bonds. Fixed income arbitrage, which seeks to take advantage of perceived mispricings within the yield curve or across or within specific fixed income sectors, is usually seen as one of these low-risk strategies; however, due to highly unusual, distressed market conditions as well as extraordinarily high leverage, this was the strategy that largely led to Long Term Capital Management’s collapse in 1998. While having low correlation to the stock market, returns on convertible arbitrage and fixed income arbitrage will be meaningfully affected by trends in the bond market, particularly whether credit spreads are narrowing or widening.

2) Event-Driven (some market exposure)

These strategies are designed to capture price movements generated by a significant pending corporate event such as a merger, restructuring, liquidation, bankruptcy, or reorganization. Typical strategies would include “merger arbitrage”, where a manager establishes long and short positions in the equities of the acquired and acquiring companies involved in an anticipated merger, in the expectation of profiting if and when the transaction is consummated. Returns are dependent on specific deals, but merger and acquisition activity generally thrives better in rising than falling markets. This strategy is relatively conservative on a risk/return basis. There is also “distressed securities”, where managers expect to profit from a recovery in the fortunes of currently out-of-favor companies; this strategy bears some market sensitivity but is mostly individually credit sensitive and is likely to do best when spreads are narrowing. Betas for these strategies would be somewhat higher than those of the relative value strategies but still very low, usually no higher than .25.

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