# <u>DEMOCRATIZING THE HEDGE FUND:</u>

## Considering the Advent of Retail Hedge Funds


*Donald E. Lacey, Jr.*

*International Finance Seminar*

*Harvard Law School*


*April 2003*

## CONTENTS

# DEMOCRATIZING THE HEDGE FUND

## EXECUTIVE SUMMARY

Though periodically vilified in the popular press, hedge funds have become an important element of a diversified investment strategy thanks to their unique risk-return profile. In the United States, however, the potential benefits of this strategy class are limited by legislation that has dramatically circumscribed the set of individuals and institutions allowed to invest. Would a relaxation of the policies that keep hedge funds away from retail investors be beneficial to the investing public? If so, what constraints would we want to loosen, and what costs would such a change impose on the financial system? This paper examines these and related questions, ultimately drawing the following conclusions:

1. **Retail investors' portfolios could benefit from higher returns and lower volatility if greater access to alternative investment strategies were allowed.** Many of the trading and investment strategies commonly associated with hedge funds are appealing because they tend not to correlate with the performance of broad market indices. If retail investors could diversify into some of these strategies, portfolio theory predicts that their overall returns would become significantly more stable.

2. **However, hedge funds pose significant risks to retail investors.** The opacity of a traditional hedge fund is a far cry from the highly-regulated world of mutual funds most retail investors are used to. The limited disclosure rules to which hedge funds are subjected around the world have repeatedly given rise to fraud and other misconduct. Making hedge funds in their current form available to the retail market increases the risk that smaller investors, who are less able to bear losses, will be taken advantage of.

3. **The experience of jurisdictions that have broadened access to hedge funds suggests that large mutual fund complexes and brokerages—*not* traditional hedge funds—become the chief players in the resulting market for retail hedge funds.** Traditional hedge funds lack the infrastructure and experience needed to service large numbers of retail investors. By contrast, mutual fund companies already possess the necessary back-office and compliance functions, and portfolio managers are typically well-versed in the nuances of the underlying assets hedge funds trade in. Additionally, these companies are eager to capture relationships with the "mass affluent" and develop products that have higher fees than they can charge via traditional mutual funds.

4. **In the US, the 1940 Investment Company Act's restrictions on leverage, short-selling and liquidity are the three major impediments to mutual funds interested in offering retail investors access to hedge fund-like strategies.** The touchstones of most successful hedge fund strategies are the related concepts of leverage, short-selling, and the ability to invest in illiquid securities. The '40 Act, however, severely limits mutual funds' ability to engage in these sorts of activities. These constraints explain the lackluster performance of so-called 'alternative strategy' mutual funds that purport to offer 'hedge fund-like' performance to ordinary investors. However, these rules, while burdensome, preempt certain risks to the United States' financial infrastructure, suggesting that any reform proposals should advocate their relaxation, not their elimination.

5. **Properly-managed reform should allow retail investors to reap the benefits of alternative investment strategies without giving up the disclosure and fee regulation that protect them.** Products that offer hedge fund-like performance require greater latitude in trading and investment strategy than mutual funds are currently allowed. However, it is not immediately obvious that latitude in that regard must be accompanied by similar laxness in fee and disclosure regulation. Because the regulatory regimes in countries that have

embraced retail hedge funds nonetheless implicate a significant regulatory pullback along all three dimensions, the result may be an unintended windfall for the mutual fund industry, at the expense of ordinary investors.

6. **Amending the '40 Act to allow mutual funds greater flexibility in the use of leverage, short sales, and illiquid investing will provide significant benefits to the investing public without imposing significant costs on the financial system.** The US will serve its retail market best if it adopts a strategy of broadening the set of strategies mutual funds may engage in, rather than broadening the set of individuals who may invest in traditional hedge funds. The latter approach—even in jurisdictions that have created 'hybrid' regimes of retail hedge fund regulation—appears to shortchange smaller investors in the areas of disclosure and fee regulation. Allowing mutual funds to pursue some alternative trading techniques, while otherwise maintaining the existing regulatory framework, is preferable.

## INTRODUCTION

In the United States and elsewhere, most (non-pension) pooled investment activity takes place either via mutual funds or hedge funds.[1] Both vehicles offer investors obvious advantages over the "do it yourself" approach of selecting and trading individual securities. First, the goal of diversification is much more easily and inexpensively attained. Second, the investor is able to outsource the arduous task of researching investment opportunities to a skilled professional. Beyond these basic similarities, however, various aspects of securities and investment company regulation engender profound practical differences between hedge funds and mutual funds. Hedge funds are able to offer a wider set of investment techniques to a smaller universe of investors; mutual funds face a circumscribed set of investment techniques but are able to access the entire universe of available investors.

The poor performance of major equity indices since 2000 has prompted widespread demand for investment opportunities that possess a demonstrated ability to weather market downturns.[2] Investor interest has focused particularly on hedge funds, whose robust performance in recent years has burnished their image as a reliable source of relatively stable returns.[3] In the US, high net worth individuals and institutions have purchased shares in hedge funds in greater numbers; entrepreneurs have introduced funds of funds in an effort to target qualified investors of

---

[1] There are, of course, many other types of pooled investment vehicles: bank common trust and collective investment funds, insurance company separate accounts, ERISA employee benefit plans, commodity pools, and pooled income funds. *See, e.g.*, David E. Riggs and Charles C.S. Park, *Mutual Funds: A Banker's Primer*, 112 BANKING L.J. 757, 759-61 (1995). An in-depth discussion of these vehicles, many of which are governed by regulations substantially different from mutual and hedge funds, is beyond the scope of this paper.

[2] *See, e.g.*, Leslie C. Giordani, *Foreign Life Insurance Strategies*, SH032 ALI-ABA 531, 554-57 (2002).

[3] *Id.* at 556. *See also* Jane Tchinkova, *Opportunities in Hedging*, TICKER MAGAZINE, Oct. 2002, *available at* http://68.192.187.219:8082/story.htm?story_id=1278.

lesser means; and mutual funds have attempted to offer "hedge fund-like" strategies to the retail market.

Elsewhere, the response to widespread demand for hedge funds has been more straightforward: jurisdictions like Singapore and Hong Kong now allow hedge funds to solicit capital from retail investors. The experiences of these and other nations have led many observers to raise the question of whether such a move would be advisable for the United States. Generally, the response of the SEC to such proposals has been lukewarm.[4] Regulators have expressed concern at the low levels of investor protection traditionally associated with hedge funds, as well as the systemic risk issues that a dramatic expansion of the hedge fund industry might pose to the financial infrastructure.[5] This paper examines the underlying foundations of the debate, reviewing the current state of the hedge fund industry and its many regulatory exemptions, exploring some of the quantitative arguments in favor of allowing retail investors to diversify into hedge funds, and describing the experiences of jurisdictions that have opted to dramatically broaden access to hedge funds.

The picture that results is mixed. On the one hand, there is a strong argument that allowing retail investors access to hedge funds would improve the risk-return profile of individuals' portfolios. On the other, regulatory fears of investor abuse are well-founded. Hedge funds operate in a near-total regulatory void that has repeatedly given rise to fraud and other misconduct. Any prudent suggestion for allowing retail investors access to hedge funds necessarily implicates a substantial reworking of U.S. investment company and securities

4 *See, e.g.*, Harvey Pitt, Remarks Before the 2002 Investment Company Institute General Membership Meeting (May 24, 2002), *available at* http://www.sec.gov/news/speech/spch562.htm.

5 *Id*. *See also* U.S. Securities and Exchange Commission, *Hedging Your Bets: A Heads Up on Hedge Funds and Funds of Hedge Funds*, *available at* http://www.sec.gov/answers/hedge.htm; Barry P. Barbash, Wesley M. Yett and Eva M. Myolenko, *New Products in the Alternative Investments Arena*, SH029 ALI-ABA 73, 77-78 (2002).

regulation. Indeed, those jurisdictions that have opened hedge funds up to retail investors have been forced to create entirely new "hybrid" regulatory regimes that reflect a complex mix of preexisting mutual and hedge fund regulation.

There may be a simpler way to deliver the benefits of hedge funds to retail investors without incurring the costs described above: to loosen the restrictions on the sorts of investment strategies the notoriously overregulated mutual fund industry may engage in. Contrary to the claims of hedge fund boosters, mutual funds possess the necessary competence to adopt many common hedge fund strategies. Mutual funds commonly trade in the same assets hedge funds do, and many hedge fund managers got their start as portfolio managers at mutual funds. Additionally, mutual funds already have a demonstrated competence in the back-office and compliance functions necessary for an effective retail operation. In fact, mutual funds appear to be the dominant players in the emerging retail hedge fund markets of Singapore, Hong Kong and Ireland.

# THE HEDGE FUND INDUSTRY

> *"It's hard to explain hedge funds to a lot of the people who want to get into them, because there's no good definition of what a 'typical' hedge fund does. The industry is very diverse."* [6]
>
> *-- Jeanne H. Sun,*
> *Strategy Analyst, JP Morgan Private Bank*

## Defining Characteristics

For all that has been written on the subject of hedge funds, agreement on a precise definition of the term remains elusive. It is neither defined nor used anywhere in U.S. securities laws, and academic attempts to clarify what exactly is meant by the words vary in length from one sentence to several pages.[7] That entities called "hedge funds" exist in numerous different jurisdictions and variously engage in a wide range of investing strategies and techniques only intensifies the taxonomic problem.

To begin parsimoniously, hedge funds can be generically defined as private investment vehicles run by professional managers and subject to little or no direct regulation or disclosure requirements. Moving away from an umbrella definition, one can identify many additional characteristics common—but not universal—among hedge funds:

---

6 Telephone Interview with Jeanne H. Sun, Strategy Analyst, JP Morgan Private Bank (Feb. 13, 2003).

7 *Compare* Riggs and Park, *supra* note 1, at 759, *with* David Varadi, *Alpha, Beta, Gamma: Hedge Funds for the Retail Investor*, IFID CENTER RESEARCH REPORT #01-02 4-6 (2001). Two recently-rejected pieces of legislation in the United States did contain definitions of the term. 1999's proposed Hedge Fund Disclosure Act defined "unregulated hedge funds" as all pooled investment vehicles (i) with assets in excess of $3 billion; (ii) privately organized by professionals and not widely available; and (iii) not registered under the 1940 Investment Company Act. The Derivatives Market Reform Act of 1999 followed a similar definition but cut the assets under management requirement to $1 billion. *See* Scott J. Lederman, *Understanding the Evolving World of Capital Market and Investment Management Products: Hedge Funds*, 1293 PLI/CORP 181, 188 (2002).

- **Performance fees.** Hedge funds tend to adopt fee structures that allow the managers of the fund to share in a significant portion of its profits, in addition to charging a basic management fee. An example of a typical arrangement would be for a manager to charge 1-2% of a fund's assets under management, plus 20% of any profits over and above a stated benchmark.[8] Generally, this benchmark is a percentage return fixed at the outset, rather than a return tied to the performance of a market index.[9] Funds increasingly also feature a "high water mark" provision in the fee arrangement, whereby a manager has to recoup certain losses before he then shares in subsequent profits.[10] The industry's fee architecture is very attractive relative to compensation for mutual fund managers, but it has been accused of providing hedge fund managers an incentive to assume inappropriately high levels of risk in their investment decisions.[11]

- **Leverage.** Hedge funds generally operate at higher levels of leverage than other sorts of pooled investment vehicles, although the magnitude of the difference is generally overstated in the popular imagination thanks to widespread publicity surrounding the 1998 collapse of Long Term Capital Management. Simply stated, leverage refers to the practice of borrowing in order to put more money into a fund's investments, thereby magnifying the fund's return on equity.[12] Leverage can be achieved in any number of ways: by borrowing money from a bank or other financial institution, by using derivatives, or by shorting securities. At the time

---

8 *See generally* Lederman, *supra* note 7, at 189-90. *See also* NASD Investor Alert, *Funds of Hedge Funds—Higher Costs and Risks for Higher Potential Returns*, Aug. 23, 2002.

9 *See* Varadi, *supra* note 7, at 16-18.

10 *Id.*

11 *See* James M. Clash, *Personal Finance: No Hedging Here*, Forbes, Aug. 6, 2001, *available at* http://www.forbes.com/2001/08/06/070s03.html.

12 A distinction may be drawn between indebtedness leverage, described above, and economic leverage, which can be effected using various derivative instruments. *See* discussion *infra* at 62.

of its collapse, LTCM had by some estimates a leverage ratio of approximately 300:1 (in other words, $300 borrowed for every $1 of investor capital), but borrowing of that magnitude is extremely uncommon in the industry.[13] The average ratio is 1.6:1, and many hedge funds operate with still less leverage, as the following Van Hedge Funds survey results demonstrate:[14]

| Use of Leverage by Hedge Funds, December 2002 | | | | |
|---|---|---|---|---|
| Fund's Investment Style | No Leverage | Some Leverage | | |
| | | Low (L/R < 2:1) | High (L/R > 2:1) | Total |
| Aggressive Growth | 24.50% | 59.30% | 16.20% | 75.50% |
| Distressed Securities | 48.20% | 45.60% | 6.10% | 51.80% |
| Emerging Markets | 36.30% | 46.80% | 16.90% | 63.70% |
| Fund of Funds | 31.90% | 51.00% | 17.10% | 68.10% |
| Income | 43.20% | 29.70% | 27.00% | 56.80% |
| Macro | 11.30% | 37.10% | 51.60% | 88.70% |
| Market Neutral - Arbitrage | 18.30% | 22.80% | 58.80% | 81.70% |
| Market Neutral - Securities Hedging | 25.40% | 29.50% | 45.10% | 74.60% |
| Market Timing | 38.20% | 22.90% | 38.90% | 61.80% |
| Opportunistic | 20.80% | 44.50% | 34.70% | 79.20% |
| Several Strategies | 30.20% | 38.80% | 31.00% | 69.80% |
| Short Selling | 32.60% | 44.20% | 23.30% | 67.40% |
| Special Situations | 20.70% | 60.10% | 19.20% | 79.30% |
| Value | 26.30% | 56.30% | 17.40% | 73.70% |
| Total Sample | 27.00% | 45.10% | 27.90% | 73.00% |

- **Inflexible Redemption/Subscription Policies.** In contrast to mutual funds, which are required by regulation to give investors the right to move money in and out of a fund daily, hedge funds usually limit investors' opportunities to invest or withdraw money from the fund to only a few times a year. Moreover, the initial "lock-up" period for hedge funds typically ranges from one to five years.[15] There are a number of reasons for this industry practice. First, the administrative difficulties of pricing assets on a daily basis and coordinating investors' subscriptions or redemptions would be costly. Second, some more leveraged hedge funds would face higher costs of funding if their equity capital could be quickly withdrawn.

---

13 Varadi, *supra* note 7, at 5.

14 Survey results cover both domestic and offshore hedge funds. Data from Van Hedge Fund Advisors International, *available at* http://www.hedgefund.com/abouthfs/attributes/Leverage/leverage.htm.

15 FINANCIAL STABILITY FORUM, REPORT OF THE WORKING GROUP ON HIGHLY LEVERAGED INSTITUTIONS 83 (2000).

Third, in some cases, hedge funds are invested in relatively illiquid assets, and regularly selling (or buying) small parts of their investments in order to pay back (or put money to work for) investors would hurt returns.

- **Secrecy.** Hedge funds are historically secretive entities, reluctant to share information about their investor base, size of assets under management, or—most importantly—their trading and investment strategies. Sometimes, hedge fund managers take this trait to extremes: when he learned that FORTUNE magazine was planning to publish his picture in connection with a story on hedge funds, Citadel Investment Group head Ken Griffin arranged to buy the film himself from the photographer.[16] The industry's collective paranoia is generally attributable to the premium managers and investors place on their ability to ferret out unique investment opportunities in relatively efficient markets, and the fear that any dissemination of information could erode that advantage.[17]

- **Restrictions on investor base and advertising.** Most countries have restricted the number of investors allowed to participate in any one hedge fund, allowed only investors of great wealth or income to participate in funds, and forbidden hedge funds from general advertising.[18] Though the LTCM debacle prompted widespread calls for expanding these restrictions, the worldwide trend has recently been in the opposite direction: the barriers to hedge fund ownership are steadily being relaxed, and some jurisdictions have even gone so far as to allow hedge funds to solicit retail investors.[19]

---

16 Andy Serwer, *Hedge Funds: Wall Street's Secret Power Elite: Where the Money's Really Made*, FORTUNE, March 17, 2003, at 106.

17 TREMONT PARTNERS, INC. AND TASS INVESTMENT RESEARCH LTD., THE CASE FOR HEDGE FUNDS 15-17 (2001).

18 *See* Lederman, *supra* note 7, at 188-192.

19 Hong Kong, Singapore and Ireland all stand out as examples of this trend. *See* discussion *infra* at 43. Whether the upcoming SEC round-table discussion on hedge funds will ultimately stand as a counterexample remains unclear.

## Investing Styles

To speak of hedge funds as a unique "asset class" is to misconstrue the key distinction between hedge funds and other types of pooled investment vehicles. For the most part, hedge funds invest in the same underlying "assets" as do mutual funds.[20] Hedge funds, however, invest *differently* in those assets: by using leverage, by selling assets short, by concentrating positions. The range of techniques employed helps to contribute to the lack of definitional clarity around the term "hedge fund": if the *type* or *style* of fund isn't specified, the potential risks and rewards of investing in any given fund are very uncertain. The following list describes common types of hedge funds and compares their historical risk-return profiles:[21]

- **Convertible Arbitrage.** This strategy profits from differences between the prices of the common stock and convertible bonds a company issues. Essentially, a hedge fund manager will buy a convertible bond for a given company and short that same company's common stock, so that he has in effect retained ownership of only the company's underlying bond. If the equity price appreciates, the manager will be able to convert his bond to equity and cover his short; if it falls, he profits from the fixed coupon payments from the bond and the short position he has taken in the company's stock. **r: 12.2%; σ: 6.5%.**
- **Fixed Income Arbitrage.** This style exploits the differences in spreads between certain types of fixed income securities, on the assumption those spreads will converge. If a hedge fund

[20] *See, e.g.*, *Director's Comments*, CTR. FOR INT'L. SEC. AND DERIVATIVES MKTS. MONTHLY REVIEW (Ctr. for Int'l Sec. and Derivatives Mkts., Univ. of Massachusetts-Amherst), May 2002, at 1. Exceptions to this general rule would include hedge funds that specialize in bankruptcy claims trading or particularly illiquid securities.

[21] Risk-return data is calculated based on monthly returns data provided by Hedge Fund Research, Inc., which the author has annualized for the ten-year period from January 1992 to January 2002. 'r' denotes historical annual return; 'σ' the historical standard deviation of those annual returns. Data is provided in the appendix.

manager following this approach notices two bonds with similar characteristics (for instance, two mortgage-backed securities with the same duration, term structure and prepayment expectations) that are priced very differently from one another, he will short the relatively more expensive security and take a long position in the cheaper security, hoping to profit as the lower-priced security appreciates and the cheaper-priced security falls. **r: 8.4%; σ: 6.6%.**

- **Equity Statistical Arbitrage.** An approach analogous to fixed income arbitrage, equity arbitrage makes use of quantitative techniques to exploit pricing discrepancies between related equity securities. Hedge funds following this strategy rely on a combination of short and long positions in order to partially hedge the risk of adverse market-wide moves. **r: 8.9%; σ: 6.8%.**
- **Relative Value Arbitrage.** This approach utilizes either fundamental or technical analysis to isolate undervalued and overvalued securities; once identified, relative value hedge funds will take long positions in the undervalued securities while shorting the overvalued ones. Relative value funds operate in fixed income, equity and commodity markets and may accurately be regarded as an amalgam of convertible, fixed income, and equity statistical arbitrage strategies. **r: 13.2%; σ: 7.4%.**
- **Equity Market Neutral.** The performance of a fund following this strategy, in theory, will remain completely unaffected by market-wide trends in equity securities. Instead, all profits will stem from superior security selection techniques. In practice, this amounts to taking long positions in certain stocks and then shorting the index as a whole. **r: 9.6%; σ: 4.3%.**
- **Event-Driven.** Also known in some circles as "corporate life cycle investing," the idea behind this strategy is to profit from significant corporate events such as mergers, acquisitions, bankruptcies, and recapitalizations. Event-driven hedge funds attempt to predict

the effect of a given corporate action on that company's equity and debt securities, taking according positions in the market. Depending on the business cycle, the performance of event-driven funds may resemble that of merger arbitrage or distressed strategies. **r: 14.8%; σ: 9.2%.**

- **Merger Arbitrage.** Hedge funds utilizing this strategy seek to profit from corporate mergers and acquisitions by shorting the stock of the acquiring corporation and taking a long position in the takeover target. Occasionally, merger arbitrage funds will short relevant equity indices in an effort to hedge away market-wide risks. This strategy is popular in times of increased LBO and hostile takeover activity but obviously loses steam when the M&A market cools off. This phenomenon periodically leads many 'merger arbitrage' funds to remake themselves as generic 'event-driven' funds. **r: 11.7%; σ: 5.9%.**
- **Distressed Securities.** Hedge funds specializing in distressed securities generally focus on corporate bonds. The underlying theory is that the fixed income markets occasionally misestimate the likelihood of a company's default, or underrate bondholders' prospects in bankruptcy. A hedge fund will in such a scenario take a long position in the distressed company's bonds, on the assumption that the ultimate payoff (either in or out of bankruptcy) will be favorable. Sometimes, a distressed bond fund will seek to profit from a corporate reorganization by purchasing a sufficient quantity of bonds to give it a 'blocking position' in the issuer's bankruptcy approval process. **r: 13.8%; σ: 11.1%.**
- **Market Timing.** This technique utilizes technical analysis to determine when a given market is poised for a quick rally or a decline. Typically, a computer model will generate a "buy" or "sell" signal based on historical pattern analysis and the hedge fund will move money from (or to) a safe money-market fund into (or out of) equity mutual funds in response. The hedge fund makes money by being in the market only when it's going up. **r: 12.9%; σ: 8.2%.**

- **Equity Non-Hedge.** In contrast to equity market neutral hedge funds, equity non-hedge strategies are generally not hedged against equity market downturns. These funds will take leveraged long positions in certain equity securities their managers expect to outperform the market, but this long position will not be counterbalanced by a hedge against the index as a whole, thanks to the manager's bullish 'macro' view. These funds tend to outperform their peers when the equity markets are strong and underperform in bear markets. **r: 15.3%; σ: 15.8%.**
- **Macro.** Made famous thanks to such high-profile names as George Soros' Quantum Fund, macro hedge fund managers employ a "top down" approach to investment decisions: they analyze macroeconomic and geopolitical data and then assume leveraged positions in the fixed income, equity and currency markets that correspond to their predictions of future economic developments. A classic example of macro techniques in action occurred in 1992, when Soros built up a huge short position in the British pound on the view that the currency was overvalued.[22] **r: 17.5%; σ: 13.4%.**
- **Short Selling.** Though many hedge funds incorporate short selling as part of their strategy, a dedicated short selling fund does not short merely as part of a larger hedging or financing scheme. Rather, a manager of this sort of fund simply locates stocks he believes are overvalued on either a technical or fundamental basis and shorts them. Success with this

---

[22] *See, e.g.*, MICHELE FRATIANNI AND MICHAEL J. ARTIS, THE LIRA AND THE POUND IN THE 1992 CURRENCY CRISIS: FUNDAMENTALS OR SPECULATION? 20-21 (Indiana University Department of Business Economics and Public Policy Working Paper No. 96-022, 1996).

strategy—in addition to selecting the right stocks—often hinges on finding enough stock to borrow as part of the shorting process.[23] **r: 15.1%; σ: 16.8%.**

- **Emerging Markets.** Hedge funds that follow an emerging markets strategy concentrate on markets in developing countries, taking positions in the securities of those countries and or local corporations. Emerging markets funds may either hedge their currency exposures or attempt to speculate on the direction of emerging economies' currencies in the style of a macro fund. **r: 16.3%; σ: 32.0%.**

- **Funds of Hedge Funds.** For a variety of reasons, funds of hedge funds have become a popular alternative to buying an outright stake in a particular hedge fund. In this model, investors pool money together and then use that capital to purchase shares of many different hedge funds. Sometimes but not always, the fund of funds approach is used to diversify cheaply into a variety of hedge fund strategies. The structure is also frequently used to allow access to individuals who have less capital to invest.[24]

## Industry History and Statistics

Though the first hedge fund was established in the United States over fifty years ago, the vehicles only gained real prominence in the 1960s, when significant numbers of them began to make use of various hedging and arbitrage strategies to trade in domestic equity markets.[25] Their star

---

[23] In a "short sale," what technically happens is that the "shorter" borrows stock from a counterparty, agreeing to repay that counterparty *in stock* at a future date. Finding a counterparty and agreeing on a reasonable rate of 'interest' for the stock loan are therefore crucial elements to the transaction.

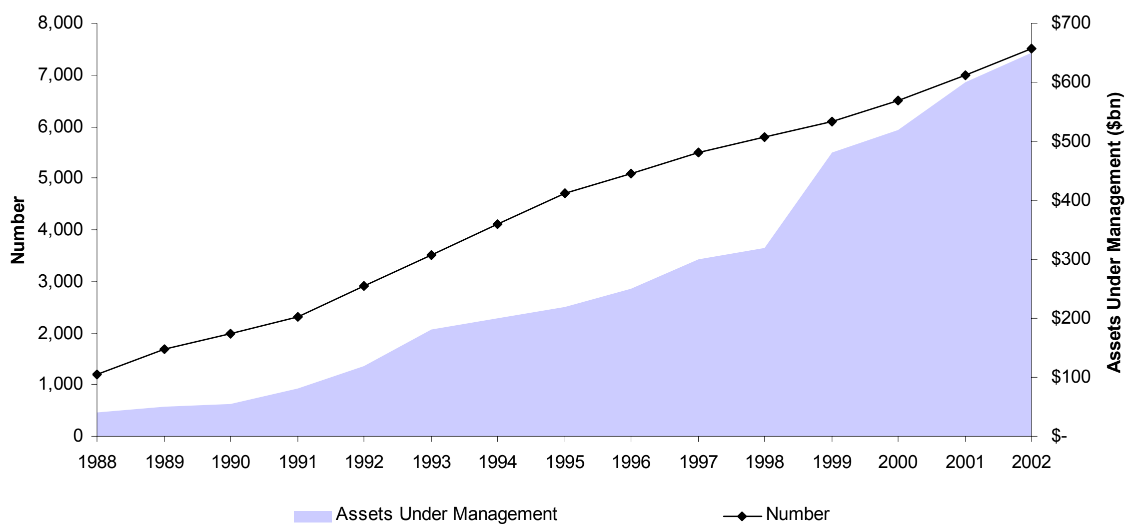
[24] For a more in-depth discussion of this relatively new phenomenon, see infra at 58.

[25] Credit for the first hedge fund goes to Alfred Jones, a Harvard-trained sociologist and FORTUNE magazine editor, who began his fund in 1949. *See* Lederman, *supra* note 7, at 188.

waned during the bear markets of the early 1970s, but the 1980s saw a dramatic resurgence in interest, both in the US and abroad.[26]

Today, some observers estimate that there are over 6,000 hedge funds in operation worldwide and that these funds have upwards of $500 billion under management.[27] Though the lack of regulatory oversight makes exact comparisons difficult, all indications are that the last decade has witnessed a remarkable increase in both the number of hedge funds and the size of the assets they manage.[28] The following chart represents Van Hedge Fund Advisors' estimates of growth in the industry over the past fourteen years:[29]

**Growth in the Global Hedge Fund Industry, 1988 - 2002**




[26] Lederman, *supra* note 7, at 188.

[27] *See* Barry P. Barbash, Wesley M. Yett and Eva M. Myolenko, *New Products in the Alternative Investments Arena*, SH029 ALI-ABA 73, 76-78 (2002). However, Van Hedge Fund Advisors puts the numbers even higher, at 7,500 and $650 billion, respectively. *See* Van Hedge Fund Advisors, "Size of the Hedge Fund Universe," *at* http://www.hedgefund.com/abouthfs/universe/universe.htm.

[28] *See* Barbash et al, *supra* note 27, at 76.

[29] *See* Van Hedge Fund Advisors, *supra* note 27. Though helpful, it should be noted that estimates differ considerably from one data source to the next in this area.

In addition to reporting aggregate growth estimates, Van Hedge Fund Advisors has also compiled statistics on the 'typical' hedge fund manager. The overall picture is of an industry dominated by small, generally short-lived funds, run by experienced managers who have significant amounts of their own capital in the fund. The 'typical' fund, for instance, has a median amount of only $22 million in capital under management, and has been in existence only 3.9 years.[30] The 'typical' manager has more than $500,000 of his own money invested in his fund and has had 15 years of experience in the securities industry, of which 10 have been in some form of portfolio management.[31] The following survey results provide some insight into the investment techniques commonly used by hedge funds:[32]

| Van Hedge Fund Advisors Survey of Hedge Fund Characteristics, 4th Quarter 2000 | |
|---|---|
| **Characteristic** | **Percent For Whom True** |
| Has hurdle rate (benchmark) | 18% |
| Uses high water mark when calculating performance fees | 87% |
| Has audited financial statements or performance results | 96% |
| Is diversified | 52% |
| Can short sell | 84% |
| Can use leverage | 72% |
| Use derivatives for speculative purposes | 29% |
| Use derivatives for hedging and never speculation | 45% |

## Regulatory Framework

In the United States, hedge funds are allowed to pursue the various trading strategies described earlier because they structure their operations to meet various exemptions in the statutes that embody the federal regulatory scheme for pooled investment vehicles: the Securities Act of 1933, the Securities Exchange Act of 1934, the Investment Advisers Act of 1940, and the Investment

30 Van Hedge Fund Advisors, "All About Hedge Funds: Global Hedge Fund Characteristics, as of 4Q 2000," *at* http://www.hedgefund.com/abouthfs/attributes/Characteristics/characteristics.htm.

31 *Id*.

32 *Id*.

Company Act of 1940.[33] Because these exemptions are limited in both number and scope, virtually all hedge funds operating in the US make use of the same small set of loopholes.

**The Securities Act of 1933**

The Securities Act of 1933 requires all public offerings of securities to be preceded by the filing of a registration statement with the SEC. Pooled investment vehicles, in particular, are required to register with the SEC pursuant to § 5 of the Securities Act.[34] Until the registration document is filed and approved, no shares in an investment vehicle may be sold to the public.[35]

In order to avoid the onerous registration requirements imposed by § 5, hedge funds make use of § 4(2) of the Securities Act, which exempts a "non-public" offering from registration. The original purpose of this exemption was to remove regulatory burdens in situations where the underlying objective of the '33 Act—the protection of small investors—was not implicated: namely, offerings involving only small numbers of wealthy investors.[36] Hedge funds make use of the exception via Rule 506 of Regulation D, which provides a non-exclusive safe harbor to issuers seeking a § 4(2) exemption. Rule 506's impact on hedge funds is three-fold:

- **Hedge funds must limit their investor base to wealthy individuals and institutions.** Rule 506 requires that an offering be made only to "accredited investors," a term defined in relevant part by Rule 501 of Regulation D to include the following:

---

[33] *See, e.g.*, Willa E. Gibson, *Is Hedge Fund Regulation Necessary?*, 73 TEMP. L. REV. 681, 688 (2000). Obviously, this is not an exhaustive list of the regulations affecting pooled investment vehicles in the United States. For instance, the USA PATRIOT Act requires hedge funds to register with the Treasury Department. The list above merely reflects the industry's *major* regulatory drivers.

[34] 15 U.S.C. § 77e(c) (1994).

[35] *Id*.

[36] *See, e.g.*, THOMAS L. HAZEN, THE LAW OF SECURITIES REGULATION 224 (3d ed. 1996).

(i) institutions with assets in excess of $5 million;

(ii) a natural person who has an individual net worth, or joint net worth with the person's spouse, that in excess $1 million at the time of the purchase; or

(iii) a natural person with income exceeding $200,000 in each of the two most recent years or joint income with a spouse exceeding $300,000 for those years, and a reasonable expectation of the same income in the current year.[37]

- **Hedge funds must limit the number of investors and the amount of capital they solicit.** Rule 506's second requirement is that the offering must qualify as either a "private offering" or a "private placement." Generally, courts and the SEC consider four factors when determining whether an offering meets this second requirement: "the number of offerees, the offerees' need for information, the offerees' access to information … and the size of the offering, both in terms of the number of securities offered and the aggregate offering price."[38] As a practical matter, the first and last factors tend to be most important.[39]

- **Hedge funds cannot advertise.** Rule 506 has been interpreted to prohibit offerors attempting to qualify for the exemption from heavily advertising the offering.[40] Additionally, offerors must provide investors with an offering memorandum that contains all material information.[41]

---

37 Partial listing taken from http://www.sec.gov/answers/accred.htm. The complete definition contains additional categories irrelevant to this paper.

38 HAZEN, *supra* note 36.

39 *See* Gibson, *supra* note 33, at 690.

40 *See* Jonathan H. Gatsik, *Hedge Funds: The Ultimate Game of Liar's Poker*, 35 SUFFOLK U.L. REV. 591, 602-03 (2001).

41 *See, e.g.*, Waterman v. Alt Verde Indus., 643 F. Supp. 797, 807 (E.D.N.C. 1989); Gibson, *supra* note 33, at 691.

**The Securities and Exchange Act of 1934**

The far-ranging Securities and Exchange Act of 1934 covers numerous aspects of the secondary securities markets, in contrast to the '33 Act's focus on the primary markets. Two areas of the '34 Act are of special relevance for hedge funds: Section 15's broker-dealer registration requirement, and § 12(g)'s issuer registration guidelines.

- **Hedge funds need not register as "broker dealers" pursuant to § 15.** Willa Gibson explains the contours of the broker dealer registration requirements as they relate to hedge funds:

  > Because hedge funds and their managers are generally not considered broker-dealers, they are not required to register with the SEC. They are not considered brokers because a broker is "engaged in the business of effecting transactions in securities for the accounts of others." A hedge fund and its manager do not effect securities transactions for the accounts of others, but rather they engage in securities transactions for their own accounts. A dealer is defined as "any person engaged in the business of buying and selling securities for his own account, through a broker or otherwise, but does not include a bank, or any person insofar as he buys or sells securities for his own account, either individually or in some fiduciary capacity, but not as a part of a regular business." The definition of dealer provides a "trader exception" which excepts from its coverage one who buys and sells securities for its own account but not as a part of a regular business. A hedge fund and its manager fall within the "trader exception" because they trade securities for their own account, rather than as a part of a securities business.[42]

- **Hedge funds must register under § 12(g) if they have more than 499 investors.** Section 12(g) requires domestic securities issuers with total assets exceeding $10 million and held by more than 499 persons to register those securities with the SEC.[43] This explains why most hedge funds in all instances limit the number of investors to fewer than 500 individuals.

---

42 Gibson, *supra* note 33, at 692.

43 *Id*.

**The Investment Company Act of 1940**

The Investment Company Act of 1940 is the centerpiece of US efforts to regulate pooled investment vehicles. It supplies most of the key constraints on mutual funds—for instance, diversification, short selling, leverage, and daily subscription/redemption policies.[44] In order to execute nearly every common hedge fund investment strategy, an exemption from the '40 Act's strictures is essential. Hedge funds can choose one of two routes to escape registered investment company status under the '40 Act:

- **Hedge funds can qualify for the § 3(c)(1) exemption if they have fewer than 100 investors and do not conduct a public offering.**[45] Historically, § 3(c)(1) was the only way for a hedge fund to avoid being defined as an investment company for the purposes of the '40 Act. Its two prongs are reasonably straightforward, but the '100 investors' requirement becomes somewhat involved if the 'investor' being counted is in fact an entity consisting of multiple other investors. In such a case, if the investing entity owns more than 10% of the hedge fund, the '40 Act requires that each of the investing entity's owners be counted for purposes of determining the number of investors in the hedge fund.[46] The standards for what constitutes a public offering mirror those promulgated under Rule 506 of Regulation D.[47] Note that while § 3(c)(1) makes no explicit reference to any limiting characteristics of the investors in a hedge fund, a fund making use of § 3(c)(1) must still limit its investor base to

---

44 *See, e.g.*, ROBERT C. POZEN, THE MUTUAL FUND BUSINESS 88-89 (2d. ed. 2002).

45 15 U.S.C. § 80a-3(c)(1).

46 *See, e.g.*, Gibson, *supra* note 33, at 695.

47 *See infra* at 20-21.

'accredited investors' as defined by Rule 501 of Regulation D in order to avoid coming within the scope of the 1933 Securities Act.[48]

- **Alternatively, hedge funds can qualify for the § 3(c)(7) exemption if they only sell to 'qualified purchasers' and do not conduct a public offering.**[49] The National Securities Markets Improvement Act of 1996 created this additional option for investment vehicles interested in avoiding the '40 Act.[50] Section 3(c)(7) differs from § 3(c)(1) in two ways. First, it contains no restriction on the number of investors allowed to participate in a given hedge fund—although to avoid public reporting requirements pursuant to § 12(g) of the 1934 Securities and Exchange Act, funds typically limit themselves to 499 investors notwithstanding.[51] Second, it is available only to those hedge funds whose investors meet the statutory definition of 'qualified purchasers'—namely,

  (i) a natural person or family-owned company with at least $5 million in investments;

  (ii) a trust (not formed for the specific purpose of investing in hedge funds) with at least $25 million in investments; or

  (iii) any other person "acting for its own account of the accounts of other qualified purchasers," with at least $25 million in investments.[52]

  The SEC has defined 'investments' broadly but does require certain forms of indebtedness to be deducted when calculating the total.[53] The 'qualified purchaser' standard is significantly

48 *Id.*

49 15 U.S.C. § 80a-3(c)(7).

50 *See* Stephen M. Schultz and Steven B. Nadel, *An Update on Hedge Funds: A New Law Makes These Investments More Attractive*, 7-OCT BUS. L. TODAY 58, 59 (1997).

51 *See, e.g.*, Gatsik, *supra* note 40, at 606.

52 *See* Schultz and Nadel, *supra* note 50, at 59.

more restrictive than the 'accredited investor' standard that applies (by extension of the 1933 Securities Act) to hedge funds under § 3(c)(1). A natural person earning $200,000 a year *or* worth $1 million could participate in a § 3(c)(1) hedge fund, but would need at a minimum to be worth five times that amount to purchase shares in a § 3(c)(7) fund.[54]

**The Investment Advisers Act of 1940**

The oft-noted discrepancy between the performance fees charged by hedge funds and the more mundane fee arrangement practiced by the mutual fund industry is attributable to § 205(a) of the Investment Advisers Act of 1940. This provision requires any advisor within the scope of the Act to refrain from charging performance based compensation unless the investor being charged is a "qualified client," which Rule 205-3 of the Act defines as an individual who:

(i) has a net worth of at least $1.5 million;

(ii) has at least $750,000 under management with the adviser;

(iii) is a 'qualified purchaser' under § 2(a)(51)(A) of the Investment Company Act of 1940; or

(iv) is a 'knowledgeable employee' of said investment adviser.[55]

---

53 *See* 15 U.S.C. § 80a-3(c), 2(a)(51)(A)(i).

54 In fact, because the $1 million requirement in the 'accredited investor' standard is phrased in terms of 'net worth' and the $5 million requirement in the 'qualified purchaser' standard is phrased in terms of 'net investments' (e.g., exclusive of, say, the value of a primary residence) the difference between the two rules may as a practical matter be even greater.

55 *See* 17 C.F.R § 275.205 (2000). The preceding page describes what characteristics qualify an individual as a 'qualified purchaser' for purposes of the '40 Act. Note that though this provision of the Investment Advisers Act is merely a curiosity for hedge funds that have avoided registration under the Act, it is a crucial consideration for the small but emerging class of 'hedge funds' that have opted to register under the 1933 Securities Act and the 1940 Investment Company Act. These hedge funds, by virtue of having 'held themselves out' to the public, cannot qualify for the 'small adviser' exception described above. The result is that they can only accept subscriptions from investors who fall within the 'qualified client' guidelines if they intend to charge the performance fees typical

Additionally, investment vehicles falling within the ambit of the Advisers Act must register with the SEC and maintain certain books and records. The National Securities Markets Improvement Act of 1996 exempted § 3(c)(7) funds from § 205's performance fee prohibition, but these funds typically seek not to become registered investment advisers in order to avoid the Act's other SEC reporting and recordkeeping requirements.[56] Section 3(c)(1) funds are not exempted under § 205, which makes avoidance of the Advisers Act a paramount concern for them.[57]

To avoid registration, hedge funds typically seek refuge in the Advisers Act's "small adviser" exemption, which applies to investment advisers who (1) have fewer than 15 clients; (2) do not hold themselves out to the public as investment advisers; and (3) do not provide investment advice to either registered investment or business development companies.[58] Rule 203(b)(3) allows a limited partnership to qualify as a single 'client' for purposes of the 'small adviser' exemption; hedge funds make use of this rule by separating their 'investment adviser' function from the limited partnership of investors.[59] In the famous case of Long-Term Capital Management, for instance, LTCM was exempt from registration under the Advisers Act because it 'advised' only one client, the offshore partnership of investors known as the Long-Term Capital

---

of hedge funds. Note that strictly speaking, mutual funds are not completely prohibited from charging a form of performance based compensation, namely, *symmetrical* performance fees of very limited magnitude. This is in practice very uncommon: in 2000, fewer than 150 out of a universe of approximately 8,000 mutual funds had any sort of performance component in their fee structure. *See* POZEN, *supra* note 44, at 443.

56 *See* Schultz and Nadel, *supra* note 50, at 61.

57 *See* Lederman, *supra* note 7, at 213. This also has the effect of making § 3(c)(7) funds the only vehicles an hypothetical retail fund of hedge funds could invest in once it decided to abandon a performance fee and solicit ordinary investors (thanks to §205's look-through feature). *See infra* at 60.

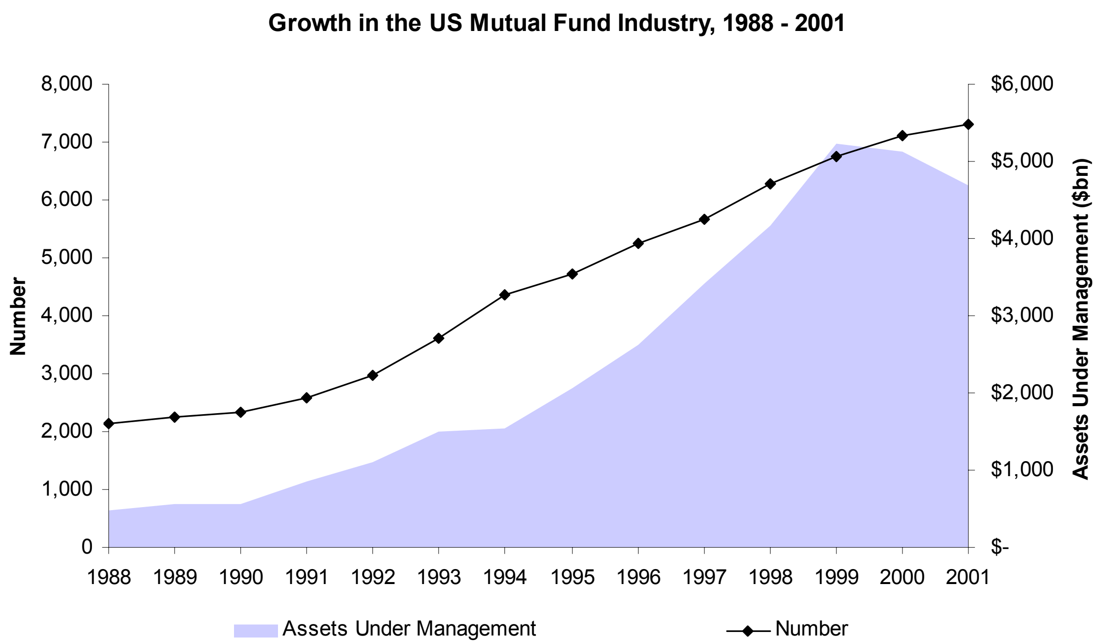
58 *See* Gibson, supra note 33, at 698.

59 *Id.*

Portfolio.[60] Hedge funds, therefore, are very rarely subject to any provision of the Investment Advisers Act.

## Comparing Industries: Mutual Funds and Hedge Funds

The first and most obvious distinction observers draw between the mutual fund and hedge fund industries is one of size: in terms of assets under management, the *US* mutual fund industry has ten times the assets under management of the *global* hedge fund community. Because the average mutual fund is also ten times the size of the average hedge fund, however, there are roughly the same number of mutual funds as hedge funds. One common theme in both industries is the rapid growth each has experienced over the 1990s. The following chart depicts the recent extent of growth in domestic mutual funds.[61]




60 *See* Gatsik, supra note 40, at 614.

61 INVESTMENT COMPANY INSTITUTE, MUTUAL FUND FACT BOOK, 23, 34 (42nd ed. 2002). Note that this chart represents only individuals' share of the assets under management in the industry, which in 2001 represented 76% of the total. Banks, pension funds, insurance companies and other institutions made up the remaining 24%.

An interesting phenomenon one notes in comparing the two industries is the remarkable degree to which the mutual fund industry acts as a source of talent for the hedge fund community. The story of well-respected portfolio managers at large mutual funds either being hired by existing hedge funds or starting their own funds is a familiar one to readers of any newspaper's financial columns. Industry-wide data on the percentage of hedge fund managers who were previously portfolio managers at mutual funds is hard to come by, but the following chart demonstrates the pervasiveness of this trend at Fidelity, the nation's largest mutual fund complex. The situation is interesting because it appears to undercut a recurring theme in the hedge fund industry's efforts to explain its frequent outperformance of mutual funds: namely, that hedge fund managers are a special breed, uniquely skilled in spotting investment opportunities and utilizing extremely complex quantitative methodologies foreign to the decision-makers at mutual funds.[62]

**Key Fidelity Departures to Hedge Funds, 1995 - 2001**

| Portfolio Manager | Hedge Fund Joined | Year |
|---|---|---|
| Larry Bowman | Tiger/Bowman | 1995 |
| Jeffrey Vinik | Vinik Asset Management | 1996 |
| Michael Gordon | Vinik Asset Management | 1996 |
| Kevin Richardson | Tudor Investment Corp | 1997 |
| Andrew Kaplan | Pequot Capital | 2000 |
| John Muresianu | Lyceum Partners | 2000 |
| Simon Wolf | Pequot Capital | 2000 |
| David Felman | Andor Funds | 2001 |
| Gregory Fraser | GRT Capital | 2001 |
| Timothy Krochuk | GRT Capital | 2001 |
| Marshall Hurd | Woodrow Partners | 2001 |

Many of Fidelity's portfolio managers are no doubt attracted to hedge funds by the considerably more favorable fee structure hedge funds operate under. The hedge fund industry's practice of taking upwards of 20% of a fund's profit in addition to a management fee of several percentage points is a key differentiator between it and the mutual fund industry, where fees are

62 *See, e.g.*, TREMONT PARTNERS, INC. AND TASS INVESTMENT RESEARCH LTD., *supra* note 17, at 15-17. It stretches credulity to suggest that portfolio managers-cum- hedge fund managers only pick up these unique abilities once they leave their mutual funds.

much lower and strictly constrained by the 1940 Investment Advisers Act and the 1940 Investment Company Act.[63] Presumably few individuals would be willing to pay for the privilege of investing in a hedge fund, however, if higher fees were the only distinction between hedge funds and their larger cousins. From the perspective of the investor, the benefit of a hedge fund lies in its ability to make use of various investment techniques that are beyond the grasp of mutual funds for various regulatory or structural reasons. The 1940 Investment Company Act, for instance, severely limits the activities of mutual funds in the following areas:

- **Leverage.** A significant factor in the creation of the '40 Act was legislative concern with the collapse of leveraged mutual funds following the implosion of domestic equity markets in 1929. The Act's preamble, in fact, criticizes excessive leverage as a major risk to both the public interest and the interest of investors.[64] The provision that speaks most directly to that concern is § 18(f), which restricts what industry practitioners have come to call 'indebtedness leverage' in mutual funds. Section 18(f) prohibits mutual funds from issuing any class of security (e.g., a bond) senior to shareholders, and requires that the sum of all bank borrowings be covered by assets worth at least 300% of the debt.[65] Additionally, § 12(a) authorizes the

---

63 For a discussion of the Advisers Act's Rule 205(3), see infra at 25-26. Generally, mutual fund fees can be broken down into three categories: the management fee, distribution (12(b)1) fees that defray marketing and sales costs, and other expenses such as fees paid to a mutual fund's transfer agent. *See, e.g.*, INVESTMENT COMPANY INSTITUTE, *supra* note 61, at 15.

64 *See* Peter A. Ambrosini, *Investment Company Regulation and Compliance: Derivatives*, SG100 ALI-ABA 159, 160 (2002).

65 *Id.* For greater clarification on what constitutes a "senior security" see § 18(g)'s definition of the term. Note that § 18(f)'s prohibition does not extend to all activities that have the effect of creating a leveraged position (e.g., "economic" leverage, as opposed to "indebtedness" leverage.) An example of a permitted form of leverage, for instance, would be a mutual fund's acquisition of a call option on a given security: the effect of the call option would be to magnify the fund's return in the event the security's price appreciated beyond the option's strike, so in a very real sense, the fund would be 'leveraging' its position in the stock. Because the call option would never

SEC to promulgate rules relating to margin purchases and short sales, two practices that may have the effect of creating indebtedness leverage.[66]

- **Redemption and subscription policies.** In contrast to hedge funds, which are allowed to restrict the ability of investors to take money in and out of a fund, mutual funds must price all their investments on a daily basis, calculate a net asset value (NAV) per share, and stand ready to redeem and sell shares at that value.[67] By avoiding this requirement, hedge funds are in theory able to invest in less liquid securities and also better able to weather short term crises in investor confidence, which widens the range of investment ideas they may prudently pursue. Additionally, this makes hedge funds more able to take advantage of liquidity crunches, which occur when mutual funds must sell into an unfavorable market to meet redemption requests.[68]
- **Liquidity.** Mutual funds are not permitted to invest more than 15% of their net assets in "illiquid assets," which the SEC staff defines as "any asset that may not be sold or disposed of in the ordinary course of business within seven days at approximately the value at which the mutual fund has valued the investment."[69]
- **Disclosure.** In addition to the familiar prospectus- and advertising-related requirements imposed on mutual funds by the '40 Act (e.g., "past performance is not an indication of future

require the fund to pay anyone back in the event the security fell, however, it has incurred no future liability in purchasing it, and has therefore not fallen afoul of § 18(f)'s restriction on "indebtedness" leverage.

66 *See* 15 U.S.C. § 80a-12(a).

67 *See, e.g.*, Riggs and Park, *supra* note 1, at 764.

68 *See* TREMONT PARTNERS, INC. AND TASS INVESTMENT RESEARCH LTD., *supra* note 17, at 15-17.

69 Ambrosini, *supra* note 64, at 161.

results"), the SEC also requires mutual funds to report their holdings on a semiannual basis.[70] Controversy currently surrounds a proposal to require quarterly reporting of holdings to shareholders: mutual fund managers have expressed concern that this effort toward transparency will make it still more difficult for them to conceal their investing strategies from the market.[71]

- **Diversification.** If a mutual fund identifies itself to the public as diversified, the '40 Act requires that for 75% of its holdings, a mutual fund cannot hold more than 10% of the voting securities of an issuer and may not have more than 5% of the total fund assets invested in any one issuer. The binding constraint in this area for most mutual funds, however, is the Internal Revenue Code, which requires that a fund meet a separate diversification test before it can qualify for tax pass through treatment. Robert Pozen describes the test as follows:

  > Under the Code's diversification requirements, as to 50% of the assets of a fund, the fund may not acquire more than 10% of the voting securities of any one issuer and may not invest more than 5% of the total fund assets in any one issuer. With respect to the remaining 50% of its assets, the fund may not invest more than 25% in any one issuer.[72]

  The Code diversification requirement applies to all '40 Act registered investment companies (not just mutual funds) which gives most hedge funds yet another good reason to avoid registration. However, it also applies to any hedge fund structured as an unregistered

---

70 For a detailed description of the ins and outs of mutual fund advertising, see "Advertising the Fund," Chapter 6 of the 2001 Kirkpatrick and Lockhart LLP Investment Management Training Program, *reprinted in* POZEN, *supra* note 44, at 111-16. Actually, mutual funds must report their holdings *to the SEC* via schedule 13F on a quarterly basis. They are required to disclose their holdings *in a shareholder* report only semiannually. *See* Scott Cooley, *Commentary: Tell Investors What They Own*, MORNINGSTAR, Feb. 6, 2002, at S1.

71 *See* Russ Wermers, *The Potential Effects of More Frequent Portfolio Disclosure on Mutual Fund Performance*, INVESTMENT COMPANY INSTITUTE PERSPECTIVES, June 2001, at 1. *See also* POZEN, *supra* note 44, at 93.

72 POZEN, *supra* note 44, at 89.

partnership, if the fund has more than 100 investors—making it binding on some § 3(c)(7) hedge funds.[73]

- **Short selling.** Because the act of selling a security short gives rise to a future obligation to pay back a counterparty with the underlying security at some future date, short selling has been interpreted as a form of "leverage" proscribed by § 18(f) of the '40 Act. The SEC, however, allows mutual funds to avoid § 18(f)'s 300% asset coverage test for short sales if one of the two following conditions is met:

  (i) if the security shorted is also owned by the mutual fund, so that the short is at all times "covered"; or

  (ii) if the mutual fund maintains a segregated account containing liquid securities equal in value to the current market value of the transaction.[74]

73 The IRS diversification rule is binding on the emerging class of registered funds of hedge funds, which cannot meet the test thanks to the opacity of their underlying investments. As a result, registered funds of hedge funds instead register as partnerships, which allows them to take advantage of pass-through taxation so long as a liquid market for the partnership "shares" does not exist. Telephone Interview with Joshua B. Deringer, Associate, Drinker, Biddle and Reath LLP (April 7, 2003).

74 Eric Roiter, *Investment Companies' Use of OTC Derivatives: Does the Existing Regulatory Regime Work?*, 1 STAN. J.L. BUS. & FIN. 271, 281. Roiter states that "assets in these [segregated] accounts must consist of cash, US Government securities, or other liquid high grade debt obligations. Equity securities cannot be used." Subsequently, the SEC amended its position on this matter: equity securities can be used so long as they are liquid. *See Merrill Lynch Asset Management, L.P.* (SEC 1996) '96 – '97 CCH Dec. ¶ 77.300. Note also that the first option is profoundly unhelpful for a mutual fund manager looking to trade on an adverse view of a stock.

## THE ATTRACTION OF HEDGE FUNDS

> *"RISKY. EXTREMELY VOLATILE. Potentially toxic. Such are the criticisms routinely hurled at hedge funds. The truth, however, is that, at least in the past six years -- a period that included both a bull and a bear market -- they've stacked up well against stock-market benchmarks, both in performance and in volatility."*[75]
>
> *-- Martin J. Gross*
> *President, Sandalwood Securities*

Hedge funds have recently attracted significant interest from smaller investors in light of their robust performance throughout the current market downturn. Indeed, though commentators have in the past decried some hedge funds' proclivity for risky behavior, most funds' performance reflects a focus on reducing portfolio risk via hedging and trading strategies uncorrelated with broad market indices.[76]

### The Risk-Return Argument

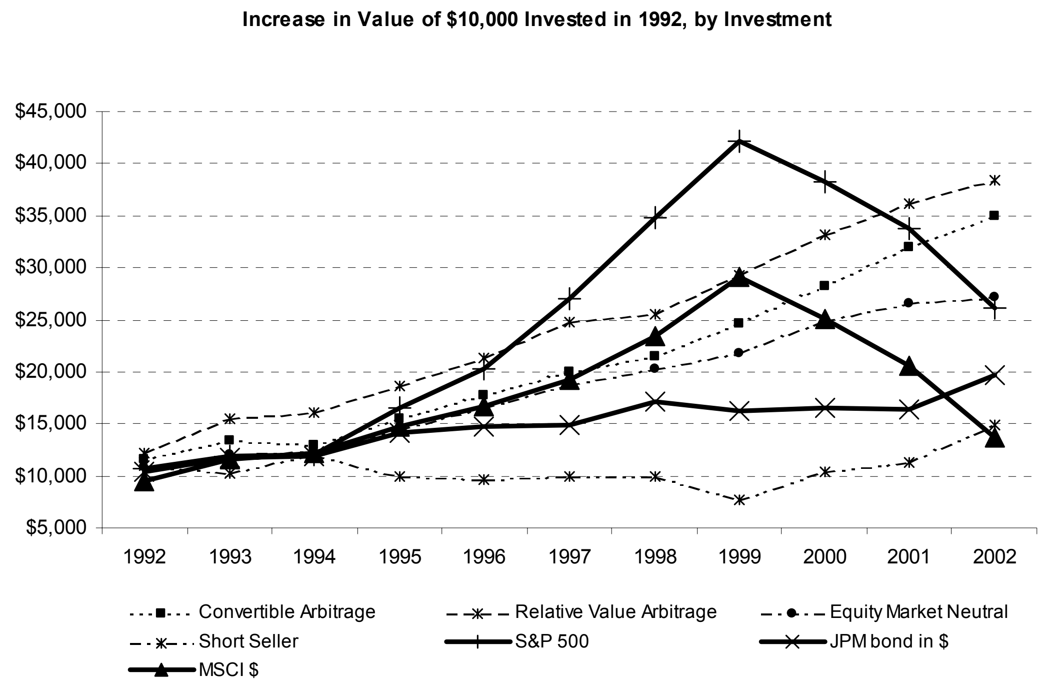
Though hedge funds are known for their outsize returns to investors, their true appeal as an investment lies in the level of risk they incur while delivering those returns—and their lack of correlation to other sorts of investments. As the following chart demonstrates, a $10,000 investment in several different sorts of hedge funds in 1992 would not only have gained significantly in value over the following ten years (in the case of the median relative value

---

75 Martin J. Gross, *Tame Wolves: Surprise! Hedge funds can be less volatile than long-only funds*, BARRON'S ONLINE, Mar. 3, 2003, *at* http://online.wsj.com/article_barrons_email/0,,SB1046479258860674OO,00.html.

76 *See, e.g.*, Statement of Van Hedge Fund Advisors International, Inc., to Congress Concerning Long Term Capital Management, October 1, 1998, *available at* http://www.hedgefund.com/abouthfs/articles/testimony.pdf.

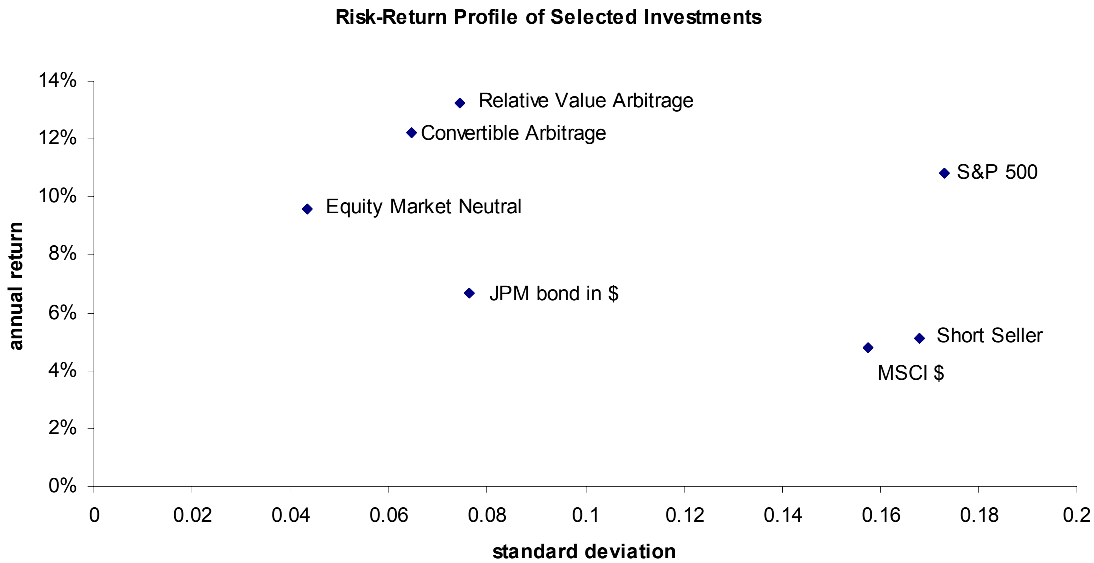
arbitrage fund, $10,000 would have turned into $38,400, a return of 250%); its performance over the decade would have been a story of steady returns, in stark contrast to the up-and-down performance evidenced by the S&P 500 over the same period.[77]




The following chart quantifies the argument that hedge funds produce a superior risk-return tradeoff by comparing the average annual returns of several representative hedge fund strategies and mainstream investments with the annual standard deviations those strategies incurred from 1992 - 2002. Ideally, of course, an investor would prefer investments that returned more with less volatility, implying that investments toward the upper left of the chart would be

77 Returns for construction of this time series were taken from the S&P and Hedge Fund Research, Inc., websites, located at http://www.standardandpoors.com and http://www.hedgefundresearch.com, respectively. "JPM Bond in $" represents the dollar-denominated version of the JP Morgan Global Bond Index, "S&P 500" the Standard and Poor's US equity index, and "MSCI in $" the Morgan Stanley Capital Index of European equities, denominated in US dollars. For a more in-depth discussion of the four hedge fund investing styles (relative value, convertible arbitrage, short selling, and equity market neutral), see infra at 13-17. See Appendix for data.

preferable to those in the bottom right. Hedge funds, as the chart demonstrates, generally stack up quite favorably against traditional fixed income or equity investments.[78]




## Covariance and the Efficient Frontier

The paramount concern of a rational investor is to maximize the return of his investment portfolio while minimizing the volatility of those returns, which explains the importance of the above chart. Modern portfolio theory, however, adds a crucial third consideration—the correlation of various investments with each other.[79] The insight is that to the extent one risky asset can be counted on to perform well whenever an equally-risky asset does poorly, the two investments' volatilities tend to cancel each other out, mitigating risk at the portfolio level. Unfortunately, of course, very few assets are perfect opposites of one other. But some investments come closer

---

78 The standard deviations for this dataset were calculated based on monthly returns data taken from http://www.standardandpoors.com and http://www.hedgefundresearch.com covering the period 1/1/92 to 1/1/02. Multiplying those numbers by √12 produced the annualized deviations shown on the chart.

79 *See generally* Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77-91 (1952). Note that covariance and correlation are intrinsically related concepts: the *covariance* of two assets, divided by the product of those two assets' standard deviations, gives their *correlation* coefficient.

than others. As the following correlation matrix demonstrates, hedge funds are as a general proposition much less correlated with traditional investments than those investments are with each other.[80] Though the presentation and terminology may be unfamiliar, the larger point is actually quite intuitive: investors shouldn't carry all their eggs in one basket. Hedge funds are attractive baskets to diversify into, because their performance only weakly tracks the sorts of assets investors usually hold.

| | | Hedge Funds | | | | | | | | | | | | | | Traditional | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Correlation of Monthly Returns on Selected Investments, 1992 - 2002** | Convertible Arbitrage | Fixed Income Arbitrage | Statistical Arbitrage | Relative Value Arbitrage | Equity Market Neutral | Event-Driven | Merger Arbitrage | Distressed | Market Timing | Equity Non-Hedge | Equity Hedge | Macro | Short Seller | Emerging Markets | S&P 500 | JPM bond in $ | MSCI $ |
| **Hedge Funds** | Convertible Arbitrage | 100% | 18% | 21% | 63% | 24% | 60% | 46% | 61% | 32% | 47% | 49% | 39% | -37% | 45% | 32% | -5% | 33% |
| | Fixed Income Arbitrage | 18% | 100% | 2% | 27% | 3% | 20% | -1% | 37% | -1% | 9% | 5% | 17% | -2% | 28% | -9% | -27% | -3% |
| | Statistical Arbitrage | 21% | 2% | 100% | 22% | 53% | 42% | 42% | 28% | 33% | 39% | 36% | 23% | -26% | 26% | 60% | 5% | 52% |
| | Relative Value Arbitrage | 63% | 27% | 22% | 100% | 21% | 67% | 51% | 74% | 23% | 49% | 50% | 36% | -36% | 47% | 32% | -10% | 37% |
| | Equity Market Neutral | 24% | 3% | 53% | 21% | 100% | 29% | 31% | 22% | 17% | 23% | 36% | 26% | -17% | 10% | 18% | 18% | 18% |
| | Event-Driven | 60% | 20% | 42% | 67% | 29% | 100% | 70% | 80% | 53% | 80% | 79% | 57% | -64% | 70% | 61% | -11% | 64% |
| | Merger Arbitrage | 46% | -1% | 42% | 51% | 31% | 70% | 100% | 52% | 27% | 49% | 50% | 23% | -34% | 45% | 44% | -4% | 44% |
| | Distressed | 61% | 37% | 28% | 74% | 22% | 80% | 52% | 100% | 36% | 62% | 62% | 45% | -51% | 68% | 40% | -15% | 45% |
| | Market Timing | 32% | -1% | 33% | 23% | 17% | 53% | 27% | 36% | 100% | 75% | 73% | 52% | -73% | 53% | 67% | 5% | 70% |
| | Equity Non-Hedge | 47% | 9% | 39% | 49% | 23% | 80% | 49% | 62% | 75% | 100% | 93% | 54% | -90% | 70% | 76% | -3% | 76% |
| | Equity Hedge | 49% | 5% | 36% | 50% | 36% | 79% | 50% | 62% | 73% | 93% | 100% | 58% | -85% | 65% | 68% | 0% | 70% |
| | Macro | 39% | 17% | 23% | 36% | 26% | 57% | 23% | 45% | 52% | 54% | 58% | 100% | -42% | 59% | 37% | 7% | 44% |
| | Short Seller | -37% | -2% | -26% | -36% | -17% | -64% | -34% | -51% | -73% | -90% | -85% | -42% | 100% | -58% | -66% | 2% | -65% |
| | Emerging Markets | 45% | 28% | 26% | 47% | 10% | 70% | 45% | 68% | 53% | 70% | 65% | 59% | -58% | 100% | 56% | -15% | 60% |
| **Trad'l** | S&P 500 | 32% | -9% | 60% | 32% | 18% | 61% | 44% | 40% | 67% | 76% | 68% | 37% | -66% | 56% | 100% | 3% | 89% |
| | JPM bond in $ | -5% | -27% | 5% | -10% | 18% | -11% | -4% | -15% | 5% | -3% | 0% | 7% | 2% | -15% | 3% | 100% | 14% |
| | MSCI $ | 33% | -3% | 52% | 37% | 18% | 64% | 44% | 45% | 70% | 76% | 70% | 44% | -65% | 60% | 89% | 14% | 100% |

The cornerstone of modern portfolio theory is the so-called 'efficient frontier'—a graphical representation of the minimum risk one can achieve with a set of investments given a desired return.[81] Conceptually, the efficient frontier is important because it brings together each of the elements of portfolio construction discussed so far: expected return, risk, and correlation. The general approach is to take a certain expected return and then 'optimize' an hypothetical

80 Correlations were calculated based on monthly returns data collected from http://www.standardandpoors.com and http://www.hedgefundresearch.com. For a more detailed description of the various investing strategies listed in the 'hedge fund' part of the matrix, see infra at 15-17.

81 *See, e.g.,* Markowitz, *supra* note 79, at 77-91.

portfolio consisting of various investments, so that the expected standard deviation of that portfolio's return profile is minimized.[82] The resulting intersection of (minimum standard deviation needed to achieve return, return) forms a data point on the efficient frontier. The procedure is repeated for a different level of expected return, and so on, to form a curve representing the best risk-return tradeoffs one can achieve given a fixed set of investments to choose from. The chart that follows compares two different efficient frontiers.[83] The frontier on the right represents the optimal risk-return possibilities for retail investors under the current regulatory regime, and the second represents the frontier retail investors would face if they had access to hedge funds. Alternatively, one might view the two frontiers as representing (on the

---

82 Put more rigorously, the variance (standard deviation squared) of a portfolio p of two assets x and y is:

$$\sigma_p^2 = \omega_x^2\sigma_x^2 + \omega_y^2\sigma_y^2 + 2\rho_{xy}\sigma_x\sigma_y\omega_x\omega_y$$

where $\omega_i$ is the percentage of the portfolio invested in asset i, $\sigma_i^2$ is the variance of asset i, and $\rho_{xy}$ is the correlation coefficient of assets x and y. Note that $\rho_{xy}\sigma_x\sigma_y$ is the mathematical covariance of x and y. The portfolio variance for three assets x, y, and z merely expands the above expression to:

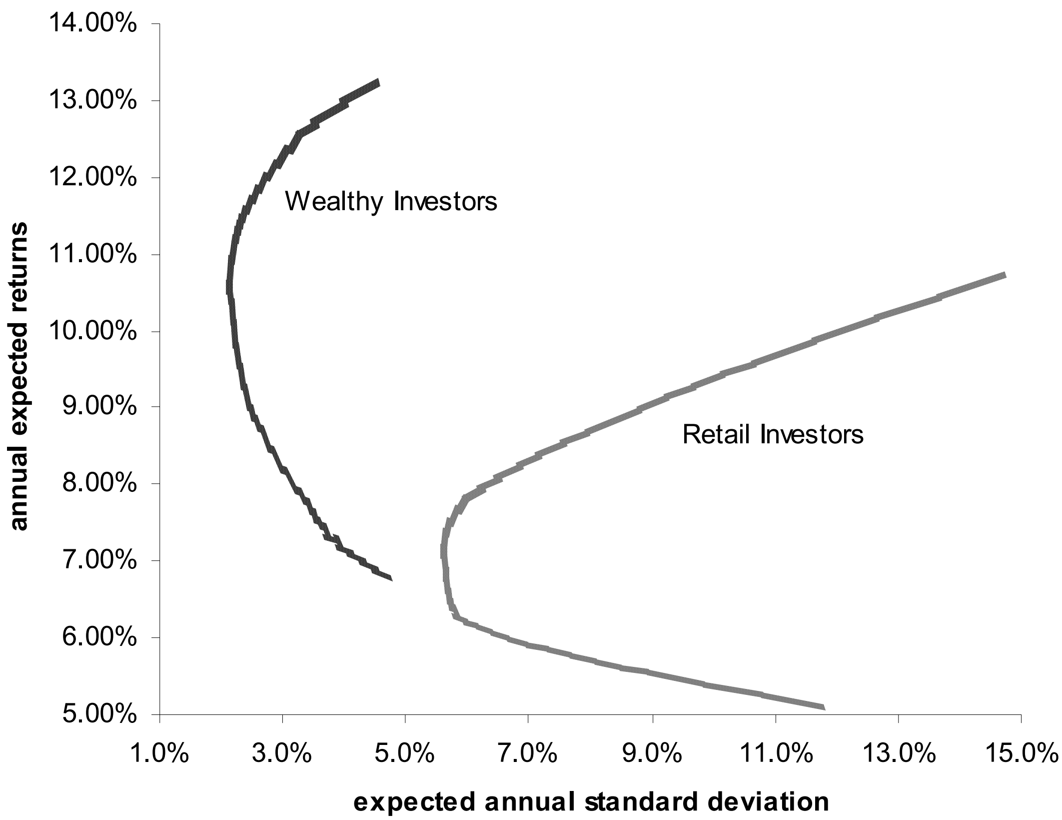
$$\sigma_p^2 = \omega_x^2\sigma_x^2 + \omega_y^2\sigma_y^2 + \omega_z^2\sigma_z^2 + 2\rho_{xy}\sigma_x\sigma_y\omega_x\omega_y + 2\rho_{xz}\sigma_x\sigma_z\omega_x\omega_z + 2\rho_{zy}\sigma_z\sigma_y\omega_z\omega_y$$

and so forth for more assets, although one normally resorts to matrix notation at this point.

83 The return series that underpin this graph are the same as those used in previous charts. The portfolio optimization necessary for frontier construction was completed in Microsoft Excel via a Visual Basic algorithm written by the author and is available upon request. The investments comprising the "Retail Investors" frontier are the S&P 500, JPM Global Bond Index (dollar-denominated), and the Morgan Stanley Capital Index of European Equities (dollar-denominated). Additional investments allowed in the "Wealthy Investors" frontier were the following hedge fund strategies: Short Selling, Relative Value, Convertible Arbitrage, Equity Market Neutral. Computational limitations precluded a set of more than seven available investments, with the result that not all of the hedge fund strategy classes described infra at 15-17 were included in the "Wealthy Investors" frontier. Most efficient frontier analyses allow for the possibility of financing investments in high-return assets by shorting low-return assets, which results in higher returns because the optimal portfolio is itself leveraged. In the instant case, the assumption that either wealthy or retail investors either could or would want to finance long positions in, say, European equities by shorting the JPM Global Bond Index seemed unrealistic. To avoid this outcome, the optimization algorithm used here required all asset holdings to be greater than or equal to zero; consequently, the maximum returns shown here are lower than other studies' have been, although the general direction of results is consistent. *See, e.g.,* VIKAS AGARWAL AND NARAYAN NAIK, ON TAKING THE 'ALTERNATIVE' ROUTE: RISKS, REWARDS, STYLE AND PERFORMANCE PERSISTENCE OF HEDGE FUNDS 6-19 (London Business School Hedge Fund Centre Working Paper No. HF-001, 2000) *available at* http://www.london.edu/hedgefunds/Hedge_Fund_Centre/.

left) wealthy investors' current investment choices versus (on the right) retail investors' options. The results, though rough because of data limitations, are striking: retail investors suffer lower returns, at far greater risk, because they are unable to invest in the alternative strategies offered by hedge funds.

**Efficient Frontiers: Comparing Wealthy and Retail Investors**




## Some Caveats

Nearly all students of the hedge fund industry agree that the inclusion of hedge funds in an investment portfolio has a positive effect on the risk-return tradeoff for that portfolio.[84] What is

84 *See, e.g.*, Statement of Van Hedge Fund Advisors, *supra* note 77. *See also* Robert Rosenbaum, *Funds of Funds: The Right Choice for Your Clients' Allocations to Hedge Funds*, INVEST. MGMT. CONSULTANTS' ASSOC.

not so clear, however, is whether the methodology utilized for the preceding chart correctly states the magnitude of the expected benefit. Generalized applications of the traditional Markowitz mean-variance paradigm to hedge funds are subject to three key qualifications:

- **Many datasets of hedge fund returns inadequately adjust for survivor bias.** Over time, some hedge funds obviously collapse due to poor performance. Many indices of hedge fund returns respond to closed funds by dropping those funds from their calculations—the result being an eventual overstatement of what an initial investment in the "index" would have returned.[85] In the sometimes volatile world of hedge funds, this overstatement can be substantial: studies suggest that many popular statistics on annual average hedge fund returns are overstated by 1.5-3.0% as a result of the problem.[86] The Hedge Fund Research database utilized for the above example attempts to correct for survivor bias by keeping closed funds'

NEWSLETTER (Invest. Mgmt. Consultants' Assoc., New York, N.Y.) Sept./Oct. 2000, at 3; AGARWAL AND NAIK, *supra* note 83; Thomas Schneeweis, Richard Spurgin, and Vassilios Karavais, *Alternative Investments in the Institutional Portfolio*, *at* http://www.umass.edu/som/cisdm/files/papers/AIMA%20asset%20alloc%20031902.pdf.

85 Imagine that the universe of hedge funds is comprised of two funds A and B: A returns 50% after one year, but B loses all of its investors' money in its first month of operation and declares bankruptcy in month two. An index that simply dropped the bankrupt fund from its performance statistics would misleadingly imply that an across-the-board investment in hedge funds would return 50% after a year. In fact, such an investment would have resulted in a *loss* of 25% - the average of +50% and -100%.

86 *See, e.g.*, S. Brown, W. Goetzmann and R. Ibbotson, *Offshore Hedge Funds: Survival & Performance*, 72 JOURNAL OF BUSINESS, 91-117 (1999); W. Fung and D. Hsieh, *Performance Characteristics of Hedge Funds and Commodity Funds: Natural vs. Spurious Biases*, 35 JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS 291-307 (2000); B. Liang, *On the Performance of Hedge Funds*, FINANCIAL ANALYSTS JOURNAL, July/August 1999, at 72-85; G. AMIN AND H. KAT, WELCOME TO THE DARK SIDE: HEDGE FUND ATTRITION AND SURVIVORSHIP BIAS 1994-2001 1-3 (University of Reading ISMA Centre Working Paper, 2001).

returns in the index as of the last reporting date, which should mitigate if not altogether eliminate the concern from that return series.[87]

- **The variance of hedge fund returns may be understated if returns are not normally distributed.** Hedge funds are famously noted for their "fat tails," or a tendency for returns not to follow a Gaussian distribution. The result of this phenomenon, called kurtosis, is that the risk of outsize gains and losses will be understated if hedge funds' volatility is expressed via a variance measure predicated on a normal distribution—which is precisely what the traditional Markowitz approach assumes. The degree of kurtosis prevalent in hedge fund return series differs with the investing style: returns from fixed income arbitrage funds, for instance, are much less likely to be Gaussian than other investment strategies.[88]

- **The observed correlation between hedge funds and other investments tends to collapse to unity in crisis situations.** The traditional Markowitz approach may understate the risk of investing in hedge funds in another respect: not only may the *variance* of hedge fund returns be off, but the *covariance* estimates may fail to reflect the tendency of hedge funds to closely track equity markets in severe downturns. Because the assumption of a linear relationship among asset classes may be invalid in the case of hedge funds, the reduction in portfolio risk an investor might expect from diversifying into hedge funds may be overstated by the traditional efficient frontier analysis described above.[89]

---

87 *See* Hedge Fund Research Inc., "HFRI Monthly Performance Indices: Frequently Asked Questions," *at* https://www.hedgefundresearch.com/index.php?fuse=indices-faq&1046467756#6. Note that this correction may be insufficient if a closed fund fails to report the last few months' worth of poor performance.

88 *See, e.g.*, Cross Border Capital Hedge Fund Research, "Choosing Investment Styles to Reduce Risk," *at* http://www.hedgeresearch.com/Docs/October%201999%20~%20Choosing%20Investment%20Styles%20to%20Reduce%20Risk.pdf (1999).

89 For a more in-depth discussion of the problem and more sophisticated methodologies for deriving an accurate picture of the diversification and risk-return tradeoff offered by hedge funds, see G. AMIN AND H. KAT, HEDGE

Though these points highlight the limitations of the model outlined in the preceding section, it is important to note that even the most skeptical studies have concluded that they are not of sufficient magnitude to undermine its basic conclusion.[90] For instance, the Financial Stability Forum—hardly a cheerleader for risky investments—concludes:

> Evaluating the risk-adjusted performance of hedge funds is difficult because of their dynamic trading strategies. Further, because of the relatively short time series of hedge funds' returns, conclusions about their past (and by some accounts, 'superior') risk-adjusted performance have to be treated with caution. *Nevertheless, hedge funds may provide substantial diversification benefits, because their returns typically have relatively low correlation with standard asset classes*.[91]

A separate concern is whether today's hedge fund risks, returns, and correlations will persist tomorrow: specifically, whether increasing inflows will ultimately have the effect of depressing returns and correlating performance with more mainstream investments.[92] The answer to this question depends ultimately on the ability of tomorrow's hedge fund managers to find new opportunities to put additional capital to work. On today's facts, however, it appears clear that the prudent allocation of part of a portfolio to hedge fund-style investments will result in better, safer, returns for investors—high net worth or otherwise.

### Who's Excluded?

While the above example demonstrates the significance of the exclusionary effects of the current U.S. regulatory regime, it sheds no light on the proportion of the investing public affected by the

---

FUND PERFORMANCE 1990-2001: DO THE MONEY MACHINES REALLY ADD VALUE? (University of Reading ISMA Centre Working Paper, 2001).

90 *See, e.g.*, Cross Border Capital Hedge Fund Research, *supra* note 88, at 3 ("[T]hese different investment styles can produce meaningful diversification benefits."); AMIN AND KAT, *supra* note 89, at 2 ("The best results are obtained when 10-20% of the portfolio is invested in hedge funds.").

91 FINANCIAL STABILITY FORUM, *supra* note 15, at 79 (emphasis added).

92 *See* discussion *infra* at 74.

various standards that govern access to hedge funds. In fact, the current regulatory regime excludes a broad swath of the investing public. According to the Investment Company Institute, 54.8 million U.S. households—52% of the total—owned mutual funds in 2001.[93] The typical fund investor for that year was 46 years old, was college-educated, had a median household income of $62,100, and owned median household assets of $100,000, of which roughly $40,000 was in mutual funds. Certainly, therefore, hedge funds are well beyond the reach of the 'average' investor. An ICI-commissioned survey by Roper Starch Worldwide, however, paints a still clearer picture. According to Roper, only 4% of mutual fund-owning households had incomes greater than $150,000, and only 15% had assets in excess of $500,000, in 2001.[94] Extrapolating from this data, the inference is that considerably less than fifteen percent of the investing public has access to the *lowest* rung of hedge fund ownership in the United States: § 3(c)(1)'s 'accredited investor' standard.

93 INVESTMENT COMPANY INSTITUTE, *supra* note 61, at 38.

94 INVESTMENT COMPANY INSTITUTE, 2001 PROFILE OF MUTUAL FUND SHAREHOLDERS 37-44 (2001).

# THE RETAIL HEDGE FUND: REGULATORY COMPARISONS

*"Hedge funds are rapidly losing their status as the preserve of super-rich investors with deep Wall Street connections."*[95]

*-- Dave Tsujimoto*

*Director of Alternative Investments, Frank Russell*

## Singapore

In June of 2001, the Monetary Authority of Singapore issued guidelines that for the first time allowed hedge funds to be sold to the general public. This move is reflective of Singapore's longstanding drive to become a regional fund management center: in the early 1980s, the asset management sector was identified as a key area for development by the government economic planning board, which has moved aggressively since then to court international fund managers. Tax concessions, grants, and substantial allocations of assets from Singapore's national pension scheme are common.[96] As of 2001, the Singaporean fund management industry had US$166 billion in assets under management, which makes it a significant regional player, though still dwarfed by the traditional fund management centers of New York, London and Tokyo.[97]

95 Dave Tsujimoto, *In Defense of Hedge Funds*, REGISTERED REP. MAGAZINE, Nov. 1, 2002, *at* http://registeredrep.com/ar/finance_defense_hedge_funds/.

96 *See* Matthew Harrison, *Fund Management in Hong Kong and Singapore,* CSU RESEARCH AND POLICY, Jan. 6, 2003, at 2-3. Harrison notes that in 1998, the Singaporean pension authority announced that it intended to earmark the equivalent of US$21 billion as "seed money" to promote the development of the sector. *Id.* Current incentives for fund managers in Singapore include tax holidays for a firm's first two years of operation; development grants for office establishment; and 50% staff salary subsidies. *Id.* at 3.

97 Singapore data from the 2001 Survey of the Singapore Asset Management Industry. The London Stock Exchange estimates assets under management in London, New York and Tokyo at (US) $2.5, $2.4, and $2.1 trillion, respectively. *See* "London Stock Exchange Statistics" *at* http://www.londonstockexchange.com/market/.

Today, the only substantive restrictions on retail access—that is, restrictions on the sort of individual who can invest in hedge funds—in Singapore are the minimum subscription levels the MAS requires for certain sorts of hedge funds:

- **Capital-guaranteed funds.** The MAS currently requires no minimum investment for these sorts of hedge funds, which promise all investors that they will be able to redeem their shares for at least what they invested.[98] This guarantee must be backed by an independent third party meeting various strict criteria.[99] This represents a change from the initial minimum of S$20,000 (US$12,000) announced in June 2002. Hedge fund managers themselves, however, are permitted to impose minimum subscription rules for the funds they manage.
- **Funds of hedge funds.** The MAS requires that funds of hedge funds may accept investor subscriptions no lower than S$20,000 (US$12,000); again, this represents a decline from the initial June 2002 requirement of S$100,000 (US$59,000). The relatively new fund of funds structure is described at greater length elsewhere; in the specific case of Singapore, the MAS defines a fund of funds as any fund that is either diversified across at least 15 hedge fund managers or that has no more than 8% of its assets allocated to a single manager.[100]
- **Regular hedge funds.** For all other hedge funds, the minimum required investment imposed by the MAS is S$100,000 (roughly US$59,000).[101] As of March 2003, this subscription requirement is the only one not to have been lowered in the months subsequent to the June

---

98 Yeo Lian Sim, Hedge Funds – A Mainstream Alternative, Keynote Address Before the 2002 Hedge Funds World Singapore Conference (Sept. 19, 2002), *at* http://www.bis.org/review/r020920d.pdf.

99 SINGAPORE HANDBOOK ON UNIT TRUSTS, App. 6 (2001).

100 *Id.*

101 *Id.*

2002 rollout of the retail hedge fund structure, and industry practitioners have speculated that a decrease is in the works here as well.[102]

From the perspective of the hedge fund manager, the MAS has adopted a new regulatory scheme to govern retail hedge funds, while leaving its older exemptions for funds targeted at wealthy individuals or institutions in place. The overall picture can thus be broken down into a three-tiered system: for funds consisting of 30 or fewer 'qualified investors' (individuals worth more than S$5 million and institutions worth more than S$10 million) there is no licensing requirement; for funds sold only to 'accredited investors' (individuals worth more than S$2 million and institutions worth more than S$10 million) there are some limited licensing requirements; and for retail products, a set of licensing and regulatory requirements described in Appendix 6 of the Singapore Handbook on Unit Trusts.

The Appendix 6 regulations establish binding standards for the operations of retail hedge funds in the following areas:

- **Advertising.** The MAS requires that all advertisements and marketing materials for retail hedge funds contain prominent warning statements, to the effect that "hedge funds may not be suitable for all types of investors and are not intended to be a complete investment strategy for any investor."[103]
- **Disclosure.** All three types of retail hedge funds must disclose their intended investment strategy in the prospectus.[104] Additionally, the prospectus must make clear, prominent

---

[102] Telephone Interview with Jeanne H. Sun, Strategy Analyst, JP Morgan Private Bank (Feb. 13, 2003).

[103] Singh Balwinder. *Singapore – Guidelines Set For Hedge Funds*, RISKCENTER ASIA, Dec. 10, 2002 at 14.

[104] SINGAPORE HANDBOOK ON UNIT TRUSTS, App. 6 (2001). For a description of what the various styles a hedge fund might use are, see infra at 15-17.

disclosure of the unique risks of investing in hedge funds.[105] Specific details of the hedge fund's risk management system, investment monitoring process and other internal controls must also be disclosed.[106] Finally, the prospectus must describe the fund's fees and charges and the track record of the manager.[107] The overarching philosophy, in the words of the MAS, is that the prospectus "must contain all material information that a reasonable investor would require to make an informed investment decision."[108]

- **Manager qualifications.** Under the new guidelines, each retail hedge fund must have at least two investment professionals with no less than five years' experience managing hedge funds.[109] For managers of funds of hedge funds, at least three of those five years must have been spent managing funds of hedge funds.[110]
- **Redemption policies.** The MAS has mandated that retail hedge funds must allow investors to withdraw money at least once per quarter, although hedge fund managers are free to adopt more frequent redemption policies if they wish.[111]

In addition, the MAS has placed significant emphasis on educating the investing public as to hedge funds' unique risk-return profile. To that end, Singapore has enacted the Financial Advisers Act, which is aimed at "creat[ing] a class of financial advisers who can advise and inform investors on a whole range of investment products, [particularly] more sophisticated

---

105 Balwinder, *supra* note 103, at 14.

106 *Id.*

107 *Id.*

108 *See* Sim, *supra* note 98.

109 SINGAPORE HANDBOOK ON UNIT TRUSTS, App. 6 (2001).

110 *See* Sim, *supra* note 98.

111 *Id.*

products such as hedge funds."[112] Concomitant with the Act and Appendix 6, the MAS plans to issue a comprehensive code of conduct covering the specific responsibility of advisors to explain hedge fund product features and risks when providing investment advice to clients.[113] In a move designed to supplement this effort, the MAS has created a new division within itself aimed solely at educating retail investors across the financial sector.

Given the effort the MAS has expended in making retail hedge funds a reality and the widespread media coverage the move has sparked, the response of Singaporean hedge fund managers to this new opportunity has been somewhat underwhelming. A recent article in the financial press summed up the local reaction as follows:

> "Hedge fund managers have no interest in the retail market," says Peter Douglas, principal at asset management consultancy GFIA, based in Singapore. Hedge funds are typically small businesses which do not have the infrastructure suitable to support retail investors, he observes. Furthermore, retail customers typically offer smaller fees for the smaller transactions. Therefore, the impact of [the] new guidelines will be "minimal to the point of unobservable," predicts Douglas.[114]

This prediction and others like it turned out not to be entirely accurate. Several retail hedge funds and funds of hedge funds have emerged in the year and a half since Singapore opened the door to retail hedge funds. However, it is notable that the effort has been led primarily by mutual fund companies and other large asset managers, rather than traditional hedge fund managers interested in tapping a new source of investor capital.[115]

---

112 *Id.*

113 *Id.*

114 Elaine Leong, *Monetary Authority of Singapore Guidelines on Retail Hedge Funds 'Useless'*, FINANCEASIA.COM, *at* http://www.financeasia.com/articles/C36FA040-607F-11D5-81CB0090277E174B.cfm.

115 For instance, DBS Bank, HSBC, AXA, and ABN Amro. *See, e.g.*, Press Release, ABN Amro, ABN Amro Launches Multi-Strategy Fund – the first Hedge Fund authorized and registered in Singapore (Aug. 6, 2002) *available at* http://www.abnamroam.com.sg/whatsnew/wn1.htm.

## Hong Kong

Retail hedge funds became a legal reality in Hong Kong on May 17, 2002, when the Securities and Futures Commission introduced Rule 8.7 to its Code on Unit Trusts and Mutual Funds.[116] Some months earlier, the Hong Kong Legislative Council enacted the Securities and Futures Ordinance, which broadened the 'professional investor' exemption for non-retail hedge funds and introduced the concept of high net worth individuals.[117]

The fund management industry in Hong Kong got its start in the 1970s when British merchant banks set up operations aimed at servicing the large numbers of expatriates working there. US asset management firms followed, and in 1978, the government began to seriously regulate the industry via the Code on Unit Trusts, which was replaced by the 1991 Code on Unit Trusts and Mutual Funds; further regulations, all administered by the Hong Kong Securities and Futures Commission (SFC), followed as the industry grew to become a major regional center for asset management, with US$190 billion under management in 2001.[118] With more authorized funds, assets under management, and fund management companies than Singapore, one might suppose Hong Kong's position as the dominant regional player in fund management is assured; however, Singapore's strong growth in the area and its government's avowed intention to become a leader have prompted concern that Hong Kong keep up with its rival in providing cutting edge services and regulation in order to maintain its position.[119]

---

116 Simmons and Simmons, *Oversight: Promotion of Hedge Funds in Hong Kong*, Oct. 2002, 3.

117 *Id*. at 1.

118 For comparison to other regional centers, see infra at note 97.

119 *See generally* Harrison, *supra* note 96, at 1-3, 9-10. See also Brian Thung, Tan Wee Khim and Carlyon Knight-Evans, *Starting Up a Hedge Fund in Asia*, SKYLINE, May 2002, at 1 ("Singapore is aiming to be the premier center in Asia for hedge funds, a position it will vie for with Hong Kong.").

The two financial centers' longstanding rivalry has led many observers to note strong parallels between Hong Kong and Singapore's embrace of hedge funds. Hong Kong's regulatory scheme, for instance, is strikingly reminiscent of the Singaporean approach.[120] Like Singapore, Hong Kong's SFC has established only one real constraint on retail investors interested in investing in hedge funds, a minimum required investment that varies with the type of hedge fund. For hedge funds with a capital guarantee feature, there is no statutory minimum; for funds of hedge funds, which the SFC defines as a fund invested in at least five underlying funds, with no more than 30% of the fund's holdings invested in a particular hedge fund, the minimum is US$10,000; and for traditional hedge funds, the minimum required investment is US$50,000.[121]

The regulatory scheme's impact on prospective retail hedge fund managers addresses many of the same concerns expressed by the MAS when it promulgated Appendix 6 of the Code on Unit Trusts. Like Singapore, Hong Kong has in effect created a multi-tiered regulatory structure for hedge funds, continuing its policy of exempting certain types of hedge funds from regulation by the SFC:

- **Hedge funds set up as corporations and marketed solely to 'professional investors' as defined by the Companies Ordinance.** The Companies Ordinance (CO) defines 'professional investor' as a person whose "ordinary business is to buy or sell shares or debentures, whether as principal or agent," meaning investment advisers or broker-dealers.[122]

---

[120] *See, e.g.*, Letter from Arthur E. Yama, Managing Director, Aquitaine Investment Advisors Ltd., to the Investment Products Department, Hong Kong Securities and Futures Commission, 1 (Nov. 22, 2001) *at* http://eapp01.hksfc.org.hk/apps/iip/hedgefunds.nsf/lkupAll/8/$FILE/Submission%20A6.pdf.

[121] *See* HONG KONG SECURITIES AND FUTURES COMMISSION, CONSULTATION CONCLUSIONS ON THE OFFERING OF HEDGE FUNDS, note 88 (2002). *See also id*. at note 28.

[122] Simmons and Simmons, *supra* note 116, at 3.

- **Hedge funds set up as limited partnerships and marketed solely to 'professional investors' as defined by the Protection of Investors Ordinance.** A perplexing twist on hedge fund regulation in Hong Kong is that though the Protection of Investors Ordinance (PIO), uses the same 'professional investor' terminology as the CO, the SFC has interpreted the PIO 'professional investor' term more broadly than for its companion statute.[123] The result is that hedge funds set up as limited partnerships can be marketed to, say, insurance companies without incurring the wrath of the SFC.

- **Hedge funds offered to a limited number of high net worth individuals via a private placement.** In contrast to other jurisdictions' conception of high net worth individuals, Hong Kong's regulatory scheme makes no reference to income and focuses solely on net assets, defining a high net worth individual as anyone worth in excess of HK$8 million (US$1 million).[124]

For the operators of retail hedge funds, on the other hand, Rule 8.7 establishes binding standards in the following areas:

- **Redemption policies.** Retail hedge funds must have at least one regular dealing day per month and must allow investors to withdraw money at least once per quarter, although hedge fund managers are free to adopt more frequent redemption policies if they wish.[125]

- **Manager qualifications.** The SFC requires that a retail hedge fund company must have at least two executives with at least five years' experience managing hedge funds, including at least two years' experience in the particular investing strategy the retail hedge fund intends to

[123] *See* Simmons and Simmons, *supra* note 116, at 1-3. The PIO interpretation appears more analogous to the US concept of the Qualified Institutional Buyer.

[124] *Id.*

[125] CODE ON UNIT TRUSTS AND MUTUAL FUNDS, Rule 8.7, Dealing, §§ (l)-(n) (2002).

follow.[126] For funds of hedge funds, a minimum of two years' experience with funds of funds is required, and the fund manager must ensure that the managers of the underlying funds in which she invests have at least two years' experience in the strategies they use.[127]

- **Assets under management.** In contrast to Singapore's silence on the matter, the SFC generally requires that a fund company have a total of at least US$100 million under management before it seeks to offer any of its hedge fund products to retail investors.[128]

- **Advertising.** The SFC has adopted a 'scheme name' rule requiring that if a retail hedge fund identifies a particular objective, geographic region or market, it must devote at least 70% of its non-cash assets to that strategy.[129] All advertisements, moreover, must prominently display the following warning statements:

  (i) The scheme uses alternative investment strategies and the risks inherent in the scheme are not typically encountered in traditional funds;

  (ii) the scheme undertakes special risks which may lead to substantial or total loss of investment and is not suitable for investors who cannot afford to take on such risks;

  (iii) investors are advised to consider their own financial circumstances and the suitability of the scheme as part of their investment portfolio; and

  (iv) investors are advised to read the scheme's offering document and should obtain professional advice before subscribing.[130]

---

[126] *Id*., The Management Company, § (a)(i).

[127] *Id*., Fund of Hedge Funds, § (k)(i).

[128] *Id*., The Management Company, § (a)(ii).

[129] *Id*., Name of Scheme, § (h).

[130] *Id*., Disclosure, §§ (r)(i)-(iv), (t). The SFC notes that the warning statements need not follow this precise formulation but must be "clear and not disguised."

- **Disclosure.** The offering document must display the preceding warnings on its front cover and "give lucid explanations of the investment strategy of the scheme and the risks inherent" in it.[131] The explanation must be written in plain English, include a glossary defining any technical terms, and describe:

  > The nature of the scheme; the markets covered; the instruments used; the risk and reward characteristics of the strategy; the circumstances under which the scheme would work best and the circumstances hostile to the performance of the scheme; the risk control mechanism, including the setting of investment and borrowing parameters to control the risks; the terms of the offering; and the responsibilities of each of the relevant parties.[132]

  Finally, the hedge fund's management company must issue a quarterly report to shareholders describing the fund's activities and performance over the reporting period; the report must be issued within one month of the end of the relevant quarter.[133]

Reaction to the SFC's initiative has not been uniformly positive. Particularly irate is Hong Kong's local hedge fund community, which appears to feel as though its concerns have been ignored by an SFC eager to please its main constituency—the mutual fund industry—at the expense of hedge funds. In an open letter to the SFC regarding Rule 8.7, Arthur E. Yama, a Managing Director at Aquitaine Investment Advisors, stated:

> The mutual fund industry and its partners (banks, insurance companies, brokers and lawyers), not the hedge fund industry, wants hedge funds authorized for retail distribution. This is the driver for the SFC's Consultation Paper, not requests originating with hedge fund managers, or, more pointedly, the investing public. … Mutual fund companies are of course eager to see a new "state of the art" product authorized whereby they can simultaneously hope to stimulate dwindling sales and see a big increase in fee income. … [T]he Consultation Paper was rushed to the "public" before the SFC itself fully understood hedge funds or what it intended to accomplish under an authorization.[134]

---

131 *Id.*

132 *Id.*

133 *Id.*

134 Letter from Arthur E. Yama, *supra* note 120 at 4.

Certainly, the response has not been so uniformly negative. However, it is again interesting to note a common feature of all retail hedge funds the SFC has authorized to date: as in Singapore, every announced retail hedge fund has been the creation of large mutual fund complexes rather than traditional hedge fund companies.

### Ireland

Though several European countries have moved to liberalize access to hedge funds, most have done so by slowly relaxing the minimum net worth tests required by the existing regulatory framework. The result is that hedge funds in many European countries, though no longer solely the province of the super-affluent, remain out of the grasp of the ordinary investor.[135] A notable exception to this rule, however, is Ireland, whose central bank has recently taken more direct steps to broaden access to hedge funds. Central Bank of Ireland Notice NU 25, issued in December of 2002, creates an entirely new regulatory scheme that allows retail investors to place assets with funds of hedge funds.[136]

Prior to December 2002, hedge funds in Ireland were required to operate either as Professional Investor Funds (PIFs) or Qualifying Investor Funds (QIFs), structures administered by the CBI and exempt from the European Union UCITS Directive.[137] Participating investors

---

[135] *See* Maha Khan Phillips, *Alternatives: Supermarket Sweep*, GLOBAL INVESTOR MAGAZINE, Mar. 27, 2003, *at* http://www.institutionalinvestor.com/iiochannel/alternativeinvestments/20030326000500.asp. One unlikely exception to this general rule is French supermarket chain Carrefour, which has worked out a special agreement with French regulators whereby it is offering a capital-guaranteed hedge fund to its grocery customers for a minimum investment of €1,000. *Id*. Note also a key difference between the approach taken by Ireland and Singapore/Hong Kong: the latter jurisdictions allow retail investment in a new class of pure hedge funds, while Ireland only allows funds of funds, which can then invest in traditional hedge funds.

[136] *See* Press Release, Kilroys Solicitors, Retail Fund of Hedge Funds Now Available in Ireland (Mar. 2003) *available at* http://www.kilroys.ie/library/financial/retail_hedge_fund_ireland.htm.

[137] *Id*.

must meet significant net worth tests and invest a minimum of €250,000 (for QIFs) and €125,000 (for PIFs) in a given fund, standards which effectively foreclose either option for ordinary investors.[138] Additionally, the prospect of retail investors accessing QIFs and PIFs via funds of funds products was constrained by Notice NU 1.1, which provided that a fund of funds scheme was not permitted to invest more than 10% of its net assets in unregulated (i.e., PIF or QIF) schemes.[139] NU 25 changes the existing regulatory framework by allowing registered funds of funds to invest in unregulated funds at levels above the 10% threshold prescribed by NU 1.1.

Under NU 25, a registered fund of funds may invest entirely in unregulated investment schemes (that is, PIFs or QIFs) so long as it meets the following requirements:

- **The fund must have a minimum subscription per investor of €12,500.[140]** This relatively low subscription requirement is the only potential bar to retail investors. The CBI has indicated that for capital-guaranteed funds it may reduce or eliminate this minimum.[141]
- **The fund cannot invest in other funds of funds schemes.** The CBI's so-called 'layering' requirement is intended to reduce the potential opacity and fee abuse that could inhere in a situation where several funds of funds are 'layered' on top of one another.[142]
- **Fund managers must be experienced.** Though the CBI has not followed the approach of Hong Kong and Singapore in prescribing fixed standards in this regard, it does require that all applications 'demonstrate appropriate experience and expertise in relation to alternative

138 ERNST & YOUNG, SETTING UP A HEDGE FUND IN IRELAND, 2 (2000).
139 *Id.*
140 CENTRAL BANK OF IRELAND NON-UCITS NOTICE NU 25.4.
141 *Id.*
142 *Id. at* NU 25.10.

investment schemes.'[143] Additionally, the CBI expects all applications under NU 25 to describe the managers' plans for ongoing risk management and evaluation of underlying investments.[144]

- **The fund must meet new disclosure guidelines.** The CBI requires that all funds of funds prominently disclose the additional risks that inhere in hedge fund investing, drawing particular attention to underlying investments' potential for leverage, liquidity and valuation problems.[145] In addition, the fund's prospectus must disclose the names of the underlying schemes as well as their managers and domiciles.[146] Finally, the CBI requires all funds of funds to describe in plain English the proposed strategies of the underlying funds and to include a glossary explaining any technical terms investors are likely to be unfamiliar with.[147]
- **The fund must have at least one 'dealing day' per month and settle requests within 95 days.**[148] Though a fund may settle redemption requests more frequently, the CBI appears to mandate a minimum standard roughly equivalent to the Singapore and Hong Kong approaches. However, NU 25.13 does allow a fund of funds to retain up to 10% of redemption proceeds in the event that an underlying fund takes more time to satisfy a redemption request.
- **The underlying hedge funds in which the fund invests must adhere to basic accounting procedures.** The CBI has mandated certain minimum standards for underlying hedge funds, presumably in an effort to mitigate the possibility of fraud. Specifically, any underlying

---

[143] *Id. at* NU 25.9.

[144] *Id.*

[145] *Id.* at NU 25.6.

[146] *Id.*

[147] *Id.*

[148] *Id.* at NU 25.13.

hedge fund must be independently audited under IAS and ensure that all its assets are held by an independent third party.[149]

- **The fund must meet certain diversification tests.** The CBI mandates that the fund of funds cannot invest more than 5% of its assets in any one underlying hedge fund, nor more than 10% in underlying hedge funds run by the same management company.[150] In the event that the underlying management company is a registered investment advisor in any OECD country, the two limits described above rise to 10% and 20%, respectively.[151]

Beyond these specific rules, a fund of funds operating under NU 25 is subject to a number of general provisions applicable to registered funds in Ireland. For instance, the fund of funds itself may not borrow more than 25% of its own asset base for investment in underlying funds.[152]

Industry observers describe the adoption of NU 25 as another step by the Central Bank of Ireland to position the country as an attractive domicile for EU investment managers.[153] The move follows the CBI's 2000 adoption of reforms that dramatically improved the ability of prime brokers to service hedge funds in Ireland, which has already made the country noticeably more popular among investment management companies.[154] Whether the most recent CBI initiative will have a similarly beneficial impact on the country's investment management industry is unclear, although early results are promising: Barclays Global Investors has already established a

---

[149] *Id.* at NU 25.3.

[150] *Id.* at NU 25.2.

[151] *Id.*

[152] *See* Ernst & Young, *Ireland to Allow Retail Funds of Hedge Funds*, 2, *at* http://www.ey.com/global/download.nsf/Ireland/retail_fund_of_hedge_funds/$file/Retail%20Fund%20of%20Hedge%20Funds%20_Jan%202003_.pdf (Jan. 2003).

[153] *See* Press Release, Kilroys Solicitors, *supra* note 136, at 1.

[154] *See* PriceWaterhouseCoopers, "Dublin: European Hedge Fund Hub," *at* http://www.pwcglobal.com/ie/eng/about/svcs/im/hedge.html.

retail funds of funds product—the BGI Diversified Alpha Fund—and the Dublin Fund Industry Association has indicated that additional offerings are on the way.[155]

## United States

The experiences of Singapore, Hong Kong, Ireland and other nations raise the question of whether, and how, the United States should respond to calls for the relaxation of restrictions on hedge fund ownership. Various regulatory barriers and tax rules preclude US retail investment in foreign retail hedge funds, implying that the United States' regulatory framework itself must change before domestic investors can participate in the global trend toward hedge funds' "retailization."[156] In fact, the last decade has witnessed several steps toward liberalization—some driven by regulation and others by the private market. The National Securities Market Improvement Act of 1996, which created the § 3(c)7 exception to the 1940 Investment Company Act, has resulted in the proliferation of funds of hedge funds. The advent of the fund of funds structure has dramatically increased the number of individuals allowed to invest in hedge funds, but it is not the only innovation of relevance to smaller investors: mutual funds themselves have begun to experiment with ways to incorporate alternative investment strategies into true retail products.

Increasing institutional involvement in hedge funds has already impacted retail investors more than either they or most industry observers appreciate. Though often ignored in the current

155 *See* Sabrecorp Limited, "Hedge Funds," *at* http://www.sabrecorp.net/sabre.jsp?pID=4. Note that in contrast to Hong Kong and Singapore, the CBI initiative has not been widely criticized by the domestic hedge fund industry, although this may be because Ireland currently lacks a significant community of local hedge fund managers.

156 Of these, the most binding are likely the US Passive Foreign Investment Company tax rules, which have the effect of penalizing investment in foreign funds that do not follow US rules on annual distribution of realized capital gains, dividends and interest payments. *See generally* HAL S. SCOTT & PHILLIP A. WELLONS, INTERNATIONAL FINANCE: TRANSACTIONS, POLICY, AND REGULATION 18:39 – 18:50 (10th ed. 2003).

debate over the suitability of hedge funds for retail investors, it is worth noting that many small 'retail' investors already have some exposure to hedge funds—via defined-benefit pension accounts.[157] Since 1990 and particularly since 2000, pension funds have dramatically increased their allocations of plan assets to alternative investment classes such as hedge funds.[158] The result is that with no action whatsoever on their part, millions of 'ordinary' Americans' retirement portfolios have significant exposure to hedge funds, albeit less than the 10-20% studies suggest is optimal.[159] Of course, retail investors have no real control over this exposure. But the same is not true of other developments.

**Funds of Hedge Funds**

The asset management industry's interest in broadening access to hedge funds has focused recently on applying the 'fund of funds' concept to hedge funds.[160] The fund of funds approach purports to provide investors several advantages over traditional hedge fund investing. First,

[157] The Census Bureau reports that in 1998, the percentage of American households with defined-benefit plans was 45.9%. *See* www.epinet.org/Issueguides/socialsecurity/socsecfactsreture.html. Note that for purposes of this paragraph, it is the percentage of American households with defined-*benefit* plans (45.9%) that is relevant, not the percentage with defined-*contribution* plans (47.8%), because generally individuals selecting their own investments though traditional 401(k)-style plans are not able to diversify into hedge funds.

[158] 41% of pension funds, according to Deutsche Bank's prime brokerage group, comprise 5% of hedge fund investors, based on capital invested. *See* Susan L. Barreto, *Deutsche Bank Surveys Investors*, HEDGEWORLD, *available at* www.hedgeworld.com/news/read_excite.cgi?storyfile=/sections/peop/peop606.html (Dec. 28, 2001).

[159] *See, e.*g., AMIN AND KAT, *supra* note 89, at 2. The statement follows from the observation that if pension funds themselves only have 10-20% invested, and pension fund assets comprise only a fraction of the average American household's invested assets, American households are on average underinvested.

[160] *See, e.g.*, Robert H. Rosenblum and Leigh H.P. Freund, *A Primer on Structuring Registered Funds of Hedge Funds*, 9 INV. LAWYER 4 at 1, 11-13. Note that generally, a fund of funds attempting to place capital outside of its own fund complex will have to apply for an exemption from the SEC in order to avoid running afoul of § 12 of the 1940 Investment Company Act; however, because the entities in which a fund of hedge funds invests are not themselves registered investment companies, § 12 doesn't apply. A fund of funds must, however, take steps to ensure it and its underlying funds don't trigger the 'look through' provisions of §§ 3(c)(1) and (7).

funds of hedge funds generally allow a much smaller investment than do traditional hedge funds. Second, these funds provide a diversified investment opportunity, because they invest in a number of underlying hedge funds; without funds of funds, a comparable level of diversification would be available only to those extremely wealthy individuals able to invest millions of dollars in several individual hedge funds. Finally, the manager of a fund of hedge funds is able to offer investors the benefit of both his expertise in selecting well-run hedge funds, and his relationships with hedge fund managers—which may allow investors to place capital even in hedge funds that are nominally closed to further investment.

A fund of hedge funds that registers under neither the 1940 Investment Company Act nor the 1933 Securities Act faces the same constraints on its investor base as would a traditional hedge fund. However, several funds of funds in the US have opted to register under either the ’40 Act or both the ’40 Act and the ’33 Act. This development has the potential to alter the hedge fund landscape in two important ways:

- **Funds of hedge funds that register under the ’40 Act allow a completely new class of individuals access to § 3(c)(7) hedge funds.** Registering as a closed-end fund under the ’40 Act allows a fund of funds to accept capital from individuals who meet only the “qualified client” standard under § 205 of the Investment Advisers Act of 1940.[161] From there, the fund of funds can place that capital both with § 3(c)(1) hedge funds *and* with § 3(c)(7) hedge funds that were previously restricted only to “qualified purchasers.”[162]
- **Funds of hedge funds that register under both the ’40 Act and the ’33 Act have the capacity to allow ordinary retail investors access to § 3(c)(7) hedge funds.** Once a fund of funds is registered under both Acts, nothing prevents it from advertising widely to solicit

161 *See infra* at note 163.

162 For a description and comparison of the ‘accredited investor’ and ‘qualified investor’ standards see infra at 20, 24.

investments, and from accepting money from ordinary retail investors. The fund of funds can then place that capital in § 3(c)(7) hedge funds, which have historically only been open to "qualified purchasers" significantly wealthier than individuals in the retail market. As interest in hedge funds has accelerated, some funds of funds have registered under both Acts, but as of this writing none has begun accepting contributions from individuals worth less than $1.5 million—because doing so, while in theory legal, would prevent a fund of hedge funds from charging an asymmetric performance fee thanks to § 205(a) of the Investment Advisers Act of 1940.[163] Interestingly, the only reason a fund of hedge funds open to the general public—and therefore not charging a significant performance fee itself—could not invest in § 3(c)(1) funds is that the Investment Advisers Act applies a 'look through' provision with respect to performance fees charged by § 3(c)(1) entities.[164]

Registering under the Acts, of course, imposes burdens on a fund of hedge funds: the ability of the fund itself to use leverage is restricted, a majority of its directors must be independent, its ability to conduct affiliated-party transactions is restricted, and its reporting obligations—both to the government and to investors—are dramatically increased.[165] The benefits, however, are nonetheless sufficiently compelling to have prompted several funds to take the plunge: the ability to advertise and accept capital from an unlimited number of investors.[166] Ultimately, the result may be the subversion of the system that for so long kept hedge funds out

163 *See infra* at 25. There are some planned retail funds of hedge funds in development but as of this writing no retail fund of hedge funds registration has been declared effective by the SEC. Telephone Interview with Joshua B. Deringer, Associate, Drinker, Biddle and Reath LLP (April 7, 2003).

164 Telephone Interview with Joshua B. Deringer, *supra* note 163. Various planned retail funds of hedge funds have proposed to avoid this problem by investing only in § 3(c)(7) hedge funds. *Id.*

165 *See, e.g.*, Rosenblum, *supra* note 160, at 11-13.

166 Telephone Interview with Joshua B. Deringer, *supra* note 163. In fact, '33/'40 Act registration is fast becoming the norm for new funds of hedge funds. *Id*.

of the hands of individual investors, although tax considerations appear likely to forestall any efforts to establish a fund of hedge funds that trades as an open-ended fund.[167]

The SEC and the NASD have expressed understandable concern about the popularity of the fund of hedge funds structure in a series of speeches and memoranda.[168] The chief worry is obvious: that smaller investors, less sophisticated and less able to bear losses, will be led to invest in hedge funds without fully understanding the risks they are assuming.[169] The continuing opacity of the underlying investment—a traditional hedge fund—is troubling for similar reasons. Though a registered fund of hedge funds must itself be reasonably transparent to outside investors in order to comply with the '40 Act, the hedge funds in which that fund invests are subjected to no additional reporting requirements merely because some of the money they invest may ultimately be a retail investor's.

Regulators have also expressed significant concern about the fee architecture that prevails among most funds of hedge funds: in addition to the substantial management and performance fees charged by the underlying hedge fund manager (usually a 1-2% management fee and 20% of any profits), the fund of funds typically will also charge a management fee of 1-2% and take 5-10% of any profits.[170] An investor whose fund of funds places capital with hedge funds whose

---

[167] Because the underlying investments of funds of hedge funds (namely, hedge funds) are so opaque, funds of hedge funds cannot pass the IRS diversification test described infra at 31. Instead, funds of funds opt to be taxed as partnerships, which has the effect of preserving tax pass-through treatment so long as the shares for those partnerships are not traded in liquid secondary markets. To provide some liquidity to their investors, these funds will periodically repurchase their own shares. *See supra* at 164.

[168] *See infra* at note 5.

[169] *Id.*

[170] *Id*. Note that performance fees at the fund of funds level would not be an issue for any registered fund that opted to solicit capital from retail investors: once investments from individuals worth less than $1.5 million are accepted, §205(a) of the 1940 Investment Advisers Act would prohibit any such fees. However, any performance fees charged by the underlying hedge fund would remain.

investments return 40% for a given year, for instance, could conceivably walk away with a net return of 25%, whereas an individual who had placed capital directly with each underlying fund would walk away with a return of 31%.[171]

Despite the various concerns raised by the SEC and other industry observers, smaller investors have embraced the fund of funds model in hedge fund investing. In the last year, many well-known mutual fund complexes and brokerages eager to tap demand among the 'mass affluent' have either created or announced plans for registered funds of hedge funds: Northern Trust Global Investments**,** UBS PaineWebber, Oppenheimer Funds, Rydex, and Deutsche Bank, among others.[172] Presently, no fund has taken advantage of registration under the '33 Act to court investors worth less than $1.5 million, because doing so would require the elimination of the generous performance fees fund companies find so attractive. As the fund of funds business model develops and mainstream investment management companies continue to search for ways to attract assets in a bear market, however, this aversion will likely dissipate. Funds of hedge funds may ultimately become the vehicle through which retail investors in the US gain access to hedge funds.[173]

**'Alternative Strategy' Mutual Funds**

As noted, hedge funds' robust performance relative to mainstream equity indices since 1999 has prompted widespread interest from the general public. In an attempt to capitalize on this demand, several mutual fund complexes have begun offering mutual funds that purport to offer "hedge

---

[171] This assumes no benchmark, underlying hedge funds with management fees of 2% and performance fees of 20%, and a fund of funds with a management fee of 1% and a performance fee of 10%.

[172] *See* Press Release, Northern Trust, Northern Trust Plans Three Funds of Hedge Funds, *available at* http://www.thehfa.org/pressrelease.cfm. See also Allison Bisbey Colter, *Rydex Plans Fund Based on S&P Hedge-Fund Index*, DOW JONES NEWSWIRES, Jan. 22, 2003.

[173] The day may not be far off. *See supra* at note 163.

fund-like" performance. Charles Schwab, Boston Partners, Rydex, Alternative Investment Partners, and Calamos have all launched mutual funds offering leveraged returns on various equity indices, relative value, convertible arbitrage, and other 'alternative' strategies. Unfortunately, the 1940 Investment Company Act's restrictions on short selling, leverage and liquidity have impeded these and other funds' efforts to replicate the returns of hedge funds that follow similar strategies.

Though the 1940 Act restricts a mutual fund's ability to use leverage, the prohibitions of § 18(f) only speak to what industry practitioners refer to as 'indebtedness' leverage: any transaction that may lead to a future obligation to pay money. Borrowing money from a bank is one obvious example of 'indebtedness leverage'; writing a put is another.[174] As some commentators have noted, this conception of leverage is not coextensive with the idea of 'economic' leverage, the ability of a fund to magnify the return it receives as a result of a particular security's price change. For instance, a mutual fund with a bullish view on a stock could, rather than buying the stock outright, purchase call options on that stock for a fraction of the stock's actual price.[175] In the event the stock appreciates in value, the profit the mutual fund will recognize on its call options could be several multiples of the actual increase in value of the

[174] A 'put' is the right to sell an underlying security at a prearranged price (the 'strike') to a counterparty at some point in the future. At the time of the transaction, the party selling (or 'writing') this right receives consideration up front. Subsequently, if the security price falls below the strike, the counterparty will force the writer to buy the security from it at the (higher) pre-arranged price; the profit the counterparty receives at that time will be equal to the difference between the market price of the security and the price at which it has just sold the security. The writer of the put, therefore, benefits if the security rises in value subsequent to the initial transaction; the holder benefits if it falls.

[175] The holder of a call option possesses the right to purchase a security from a counterparty at a given price (the 'strike') at some point in the future. If the security's price rises above the strike price, the holder of the call option will exercise its right to purchase the underlying security from its counterparty at the prearranged (and now depressed) level, profiting because it can then sell the security it has just bought cheaply to the market at the prevailing (higher) market price.

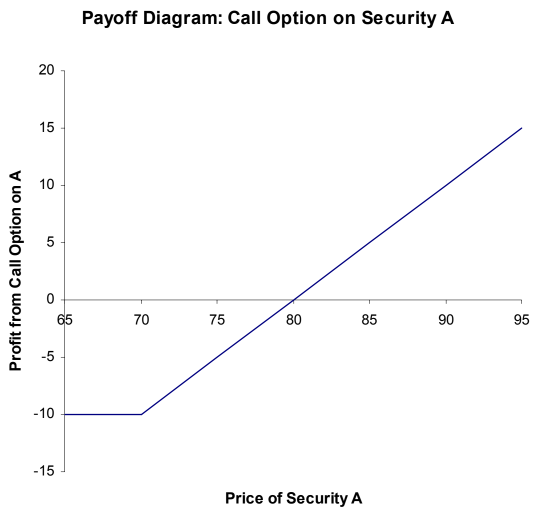
underlying security.[176] In a very real sense, the mutual fund in this scenario has taken a 'leveraged' position in the stock, but because it has paid money up front for the call option and will never have to pay its counterparty anything more, the activity is allowed under § 18(f). Further, a mutual fund may enter into futures contracts or security-shorting arrangements that do implicate § 18(f) without subjecting itself to the 300% asset coverage rule, so long as it sets aside an amount of money equal to the value of the transaction in a segregated account for the duration of the transaction.[177]

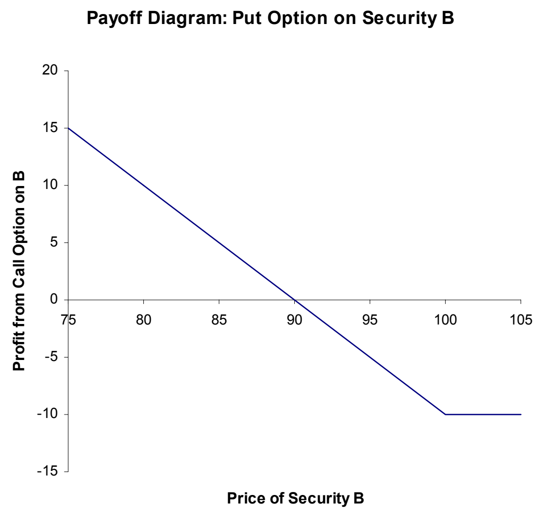
The result of these quirks is that a mutual fund may in some cases mimic the behavior of a hedge fund, leveraging its views on certain securities by being long puts and calls on those securities, or sometimes even shorting securities outright. The following example demonstrates how a mutual fund might execute a leveraged relative value trade on two securities A and B. Assume A and B are currently priced at $70 and $100, respectively, but the mutual fund believes that both securities' fair value is around $85. The fund can purchase security A and short security B so long as it maintains a segregated account of liquid securities equal in value to B's current

176 The 'leverage' stems from the fact that the right to buy a security from a counterparty at a set price in the future costs less than the actual security. For instance, imagine that the stock of XYZ Corp. is trading at $90 and a mutual fund purchases a call option on XYZ, whereby it acquires for $10 the right to buy XYZ at $100 from a counterparty anytime over the next year. If XYZ appreciates in value to $120, the mutual fund will realize a profit of $10 ($120 minus $100, minus the $10 cost of the option) on its trade. This represents a 100% return on invested capital. By contrast, if the mutual fund had simply bought the stock, it would have realized a profit of $30 ($120 minus $90), but this would only be a 33% return on invested capital. The former, 100% return, scenario is permitted under §18(f). However, it is economically equivalent to a mutual fund borrowing $180, purchasing 3 shares of XYZ for a total of $270 (the borrowed money plus its $90) in XYZ stock, selling all the stock once it reaches $120 for a total of $360, paying the borrowed $180 back, and pocketing the remaining $180 for a net profit of $90, or a return of 100% on its initial $90 of invested capital. This sort of activity, of course, is precisely the sort of 'indebtedness leverage' so sharply circumscribed by §18(f).

177 The separate account may consist of cash, equities or bonds, so long as the securities in the account are liquid. Of course, a fund can also incur indebtedness leverage so long as it maintains 300% asset coverage on that indebtedness, limiting its usefulness in most cases. *See* Securities Trading Practices of Registered Investment Companies, Investment Company Act Release No. 10666 (April 18, 1979).

price. But if it wishes to adopt a more leveraged position, it can purchase call options on security A and hold put options on security B. The following payoff diagrams demonstrate how that call and put would behave as the prices of securities A and B vary, on the assumption that each option was purchased for $10 with a strike at the underlying security's current price:




If the mutual fund is correct, when the prices of securities A and B reach $85, it will have realized a profit of $10 on its $20 investment, a 50% return, even though the price of security A has only risen by 21% and B has fallen by 15%.[178]

Unfortunately, as many mutual funds attempting this approach have learned, the constraints of the 1940 Act remain binding impediments in several regards:

- **The technique of holding put and call options on a security allows for some intrinsic leverage, but not as much as a hedge fund can summon forth for certain trades.** The

[178] Thanks to the symmetry of the example, obviously, the return to the fund is the same regardless of whether it puts on one or both trades. However, by putting on both the put and the call, the trade's overall risk profile is lowered because the mutual fund's exposure to a broad market move is reduced. Specifically, if the fund had only been long security A, and the entire market had then sold off sharply (so that A and B converged, but at a much lower price than $85), the mutual fund would have lost money on its trade. But by being long both trades, the fund will offset its losses on the 'A' trade with additional gains on the 'B' trade. Similar logic applies in the event of a market rally: additional gains on the 'A' trade would offset additional losses on the 'B' trade.

economic 'leverage' that inheres in a derivatives trade derives from the difference between the purchase price of the option and the purchase price of the underlying security, as well as the way the option's price moves in response to changes in the underlying reference security's price. In some cases, options possess a great amount of intrinsic leverage; in others, much less. A wide range of factors influence the end result. By contrast, the 'indebtedness' leverage available to hedge funds—while obviously not boundless—is not nearly as constraining or (from the immediate perspective of the portfolio manager) so arbitrary.

- **Many derivatives that don't run afoul of 18(f)'s prohibition on indebtedness leverage are fairly illiquid.** The consequence of illiquidity is two-fold. First, because mutual funds can hold no more than 15% of their investments in securities that "may not be sold or disposed of in the ordinary course of business within seven days at approximately the value at which the mutual fund has valued the investment," the options one might use to effect a leveraged trade in a security may be unavailable for use. Second, though many derivative instruments may not fail the SEC's test for liquidity, if they nonetheless trade in "thinner" markets, they may be expensive.

- **For longer-term trades, derivatives can be a prohibitively expensive form of leverage.** Though derivatives can be an effective way for a mutual fund to achieve leverage, for longer-term trades, puts, calls, and other options can be very expensive. A hedge fund's cost of financing for leveraged positions will be much more favorable in a scenario where, to use the above example, A and B are expected to converge to 85 over the course of the next year rather than the next month. This isn't true, of course, of all 'leveraged' investments a mutual fund might make—for instance, leveraged inverse floating rate bonds—but it is generically true for OTC and exchange-traded derivatives, which comprise the bulk of a mutual fund's opportunities for leveraged trades.

The consequence of these restrictions is that the 1940 Act severely restricts the efforts of mutual funds to offer hedge fund-like performance to retail investors. Unsurprisingly, returns on most 'alternative' funds have been disappointing to date, and subscriptions have not kept pace with the optimistic forecasts that heralded their arrival.[179]

## Lessons

Though the experiences of the US, Singapore, Hong Kong and Ireland differ from one another in many important ways, certain similarities emerge from a comparison of the four jurisdictions. These common themes should provide some clarity to policymakers considering the ramifications of hedge funds' widening appeal. They are as follows:

- **Large asset management companies, not traditional hedge fund managers, are the major backers of efforts to broaden access to hedge funds.** In Singapore, Hong Kong and Ireland, the impetus for regulatory change has come from major investment management companies, not smaller hedge funds interested in soliciting more capital. Moreover, the retail hedge funds that have so far emerged in those jurisdictions are all sponsored by major banks and mutual fund complexes. In the US, the 'fund of hedge funds' structure is also largely a creature of mainstream mutual fund complexes and brokerages.
- **Only mainstream investment management companies have the combination of incentive and infrastructure necessary to make retail hedge funds work.** The appeal of hedge funds to mutual fund complexes is straightforward. First, they result in higher fees than mutual

[179] *See* Allison Bisbey Colter, *Bank Of America Raises $25M For Fund of Hedge Funds*, DOW JONES NEWSWIRES, April 2, 2003, *at* http://biz.yahoo.com/djus/030402/1324000987_1.html. The lackluster response to 'alternative strategy' mutual funds may explain the industry's reluctance to extend the reach of the fund of hedge funds structure to retail investors.

funds are usually able to charge. Second, mutual funds already have the investment skills and back-office infrastructure necessary to operate a retail hedge fund. Third, the product offering fits in well with the global financial-services industry's strategy of developing relationships with the "mass affluent," particularly at a time when traditional investment products are performing poorly.

- **In jurisdictions where they are allowed, retail hedge funds appear to operate with fewer restrictions than mutual funds but more restrictions than traditional hedge funds.** The regulatory regimes established by Hong Kong and Singapore ultimately result in a 'hybrid' scheme that is relatively less onerous for the mutual fund industry but burdensome for traditional hedge fund managers. The practical effect of these regulations is to exclude hedge funds from the game, leaving mutual funds to implement hedge fund-like strategies. In the case of Hong Kong, in fact, some of the enabling legislation appears to have been drawn specifically to exclude small hedge funds from participation in the retail market.[180]

- **Regulatory change seems to represent a windfall for the mutual fund industry.** Mutual fund complexes appear to capture nearly all downmarket demand for hedge funds, delivering a product to smaller investors that costs more and is subject to fewer disclosure standards than their traditional offerings. As the disappointing experience of 'alternative strategy' mutual funds in the US demonstrates, products that offer hedge fund-like performance require greater latitude in trading and investment strategy than mutual funds currently possess. However, it is not immediately obvious that latitude in that regard must be accompanied by laxity in fee and disclosure regulation. Because the regulatory regimes in the US, Singapore and Hong Kong nonetheless implicate a relaxation along all three dimensions, the mutual fund industry benefits.

---

[180] *See* Letter from Arthur E. Yama, *supra* note 120, at 2-3.

# SOME RESERVATIONS

*"I don't think your typical retail investor should be in hedge funds."* [181]

*-- John Bogle*

*Founder, Vanguard Group*

Many industry observers and regulators have expressed concern at the rush to move hedge funds downmarket. Some objections center on retail investors' unfamiliarity with the potential for outsize losses inherent to some kinds of hedge funds, as well as the potential for fraud that stems from hedge funds' notorious opacity. Besides the risk of outright fraud, some investment consultants worry that individuals unfamiliar with the nuances of hedge funds will make the mistake of investing in vehicles that purport to be 'hedge funds' but in fact are more like traditional mutual funds—so that unwary investors end up "paying hedge fund fees for mutual fund performance."[182] For regulators with memories of the Long Term Capital Management debacle, hedge funds' new popularity raises the prospect of increased systemic risk to the world's financial architecture. And finally, one wonders whether the very reasons hedge funds are so attractive in today's market will persist if access is broadened to include all investors.

## A Different Kind of Investment

Hedge fund returns are generally not normally distributed. In comparison with, say, an investment in a stock market index fund, the 'typical' investment in a hedge fund will experience

[181] Clash, *supra* note 11.

[182] Telephone Interview with Jeanne H. Sun, Strategy Analyst, JP Morgan Private Bank (Mar. 23, 2003).

both gains and losses of great magnitude more frequently.[183] In a purely theoretical context, this observation leads academics to qualify their support for the proposition that hedge funds will deliver the remarkable portfolio diversification benefits indicated by traditional Markowitzian mean-variance analysis.[184] A more pointed question, however, is whether hedge funds' atypical returns profile makes them suitable for ordinary investors at all. The specter of newspapers filled with stories of penniless investors—reminiscent of the fallout from the NASDAQ crash, but occurring once every several years rather than once every generation—tempers many regulators' enthusiasm for retail hedge funds.

In jurisdictions that have opted to allow retail hedge funds, regulators have insisted that advertisements and prospectuses prominently disclose the risks of investing in hedge funds. The Central Bank of Ireland goes so far as to require that the following text be printed in bold on the cover of all prospectuses and application forms, in addition to other explanations of the specific risks of the proposed investment strategy:

> This scheme will invest in unregulated collective investment schemes which may not be subject to the same legal and regulatory protection as afforded by collective investment schemes authorized and regulated in the European Union or equivalent jurisdictions. Investment in unregulated schemes involves special risks that could lead to a loss of all or a substantial portion of such investment. An investment in this scheme is not suitable for all investors. A decision to invest in this scheme should take into account your own financial circumstances and the suitability of the investment as a part of your portfolio. You should consult a professional investment advisor before making an investment.[185]

Of course, one may dismiss—many have—these efforts at notification. Prospectus boilerplate may often be ignored by investors hungry to get in on a "hot" opportunity.

---

183 Obviously, the question of what a 'typical' hedge fund would be is problematic thanks to the great disparity between investing styles from one hedge fund to the next. However, the problem of kurtosis manifests itself at the subindex level as well – that is, when only, say, convertible arbitrage returns are examined.

184 *See*, *e.g.*, *infra* at 38.

185 CENTRAL BANK OF IRELAND NON-UCITS NOTICE NU 25.5.

Perhaps a more compelling response to those who worry that ordinary investors may not be ready for the occasionally wild gyrations of a hedge fund is the fact that many investments already available to retail investors, including some commonly thought of as 'safer' alternatives to equities, exhibit the same propensity for kurtosis as do hedge funds. A notable example is found in high yield bond funds, which have at various times gained and lost money in a manner wholly inconsistent with the assumption of a normal distribution of returns.[186] Certain types of real estate investment trusts (REITs) also exhibit return patterns that deviate significantly from normality.[187] Both REITs and high yield bonds, therefore, behave atypically; and they are occasionally misrepresented to retail investors as overly "safe" ways to diversify portfolio risk.[188] But their availability to retail investors has not resulted in catastrophe for the investing public.

## Opacity

The opacity of hedge funds relative to most retail investment products has also given commentators pause. To begin with, most mass-market hedge fund concepts do not envision a daily posting of a fund's net asset value (NAV), which would allow investors to trade in and out of a fund as easily as they now purchase and redeem shares in mutual funds. In Singapore, Ireland and Hong Kong, retail hedge funds are required to accept redemptions only once per quarter; although managers are allowed to accept redemptions more frequently, none has shown

---

186 *See, e.g.*, Mark J. Anson, *An Examination of Hedge Fund Return Distributions*, HEDGE FUND STRATEGIES, Fall 2002, at 17.

187 Most abnormal would be mortgage-backed REITs where the mortgages are IO and PO strips, for instance, or other sorts of high-risk CMOs.

188 *See, e.g.*, Suzanne Woolley, *REITs for the Bold*, BUSINESS WEEK, June 22, 1998, at 24, *available at* http://www.businessweek.com/1998/25/b3583212.htm.

signs of doing so.[189] In the United States, even funds of hedge funds that register under the '40 Act do so as 'interval' closed-end funds that must only periodically offer to redeem invested funds.[190] Though a survey of jurisdictions that have embraced retail hedge funds reveals that all require funds to have outside auditors, concern lingers that investors, unable to determine their funds' performance for long stretches, will be taken advantage of by hedge fund managers.

The experience of traditional hedge funds, whose limited disclosure policies are a familiar industry feature, indicates that fears of investor abuse may be well founded. Repeatedly, dishonest hedge fund managers have taken advantage of lax regulation and defrauded sophisticated investors of millions of dollars. In 2000, 28-year-old hedge fund manager Michael Berger pleaded guilty to falsifying returns on his Manhattan Investment Fund, which specialized in shorting Internet stocks; 250 investors, including Bank Austria, Credit Suisse and the Kuwaiti Pension Fund, were estimated to have lost over $400 million in the scam.[191] In 2001, the Art Institute of Chicago sued the Integral Investment Management, accusing the hedge fund manager of diverting $43 million the Art Institute had invested to an Internet company run by an Integral officer; the SEC, FBI and CFTC have all opened investigations.[192] Ex-Goldman Sachs partner Michael Smirlock pleaded guilty to securities fraud in 2001 after attempting to hide $71 million in losses in three hedge funds he managed for Laser Advisers.[193] In a scam that lasted seven years, David Mobley defrauded investors of at least $59 million via his Maricopa family of hedge

---

189 *See infra* at 46, 50, 55.

190 *See* Rosenblum, *supra* note 160, 11-13. Tax considerations also inform this decision. *See supra* at 167.

191 *See*, *e.g.*, James McLean, *Manhattan Fund Fraud Charges*, EVENING STANDARD, Aug. 25, 2000.

192 *See Fraud Round-Up*, HEDGE FUND FRAUD (Citigate Global Intelligence and Security, New York, N.Y.), Spring 2002, at 1.

193 *Id.* at 2.

funds.[194] The list goes on and on. In response, the SEC has launched a formal probe of the hedge fund industry, issued numerous alert bulletins, and even taken the unorthodox step of posting a "gotcha" website advertising a fictitious hedge fund as part of its campaign to warn investors of the dangers of hedge fund investing.[195]

Hedge funds are thought to be attractive vehicles because they offer investment opportunities that are in various ways "better" than traditional investments: they are either uncorrelated with other investments, or they generate superior returns, or they assume less risk than other types of investments. Because they therefore are a 'unique' product, hedge funds are able to charge management and performance fees significantly in excess of mutual funds. The confluence of an opaque reporting structure and higher fees, however, raises the prospect of a sort of investor abuse that stops short of outright fraud: namely, that unwary investors will put money into 'hedge funds' that in reality act more like mutual funds but charge oversized fees anyway. Given most hedge funds' fixed return benchmarks, this could prove to be a very profitable strategy for an unscrupulous hedge fund manager: if a fund with a 5% benchmark attracted $100 million in capital and put all its money into the S&P 500 during a good year, a manger could walk away with $6 million, much better than the $1 million he would have been paid had he been operating a mutual fund with exactly the same strategy.[196]

---

[194] Securities and Exchange Commission, Litigation Release No. 16446, Feb. 22, 2000, *available at* http://www.sec.gov/litigation/litreleases/lr16446.htm.

[195] Reuters, "SEC Warns Investors on Hedge Fund Dangers," Feb. 12, 2003, *available at* http://news.corporate.findlaw.com/business/s/20030212/financialsechedgedc.html. The SEC's "gotcha" website is located at http://www.growthventure.com/grdi.

[196] This assumes the S&P returns 25% in a "good year," the hedge fund manager charges a management fee of 2% and a performance fee of 20% of profits over the benchmark, and the mutual fund would have charged a management fee of 1%.

Unfortunately, there is really no regulatory solution to this sort of problem, which anecdotal evidence suggests is relatively common, under the current system: hedge fund investors must merely be wary.[197] In a world of retail hedge funds—where more investor capital is available and the investors themselves are less sophisticated—the potential for this sort of abuse would no doubt be magnified. The apparent dominance of the retail hedge fund market by mutual fund complexes increases the risk still further, and raises the possibility of numerous other conflicts of interest, discussed infra at 81.

### Systemic Risk

Apart from the risk that retail investors may be unprepared for the occasional volatility of hedge fund returns or subjected to fraud and other abuse, memories of the Long Term Capital Management crisis color some objections to broadening access to hedge funds. In 1998, market conditions adverse to LTCM's leveraged positions forced its collapse; until the Federal Reserve stepped in to lead a bailout effort, there was considerable concern that fallout from the hedge fund's collapse would seriously damage the world economy.[198] Since 1998, hundreds of academic papers and news articles have analyzed the events surrounding LTCM, reaching various conclusions as to the magnitude of the problems that would have resulted had there been no bailout.[199] Consensus abounds, however, on one point: that the main culprit in the fiasco was the excess leverage LTCM was allowed to assume as it pursued its various trading strategies.[200]

---

197 Telephone Interview with Jeanne H. Sun, Strategy Analyst, JP Morgan Private Bank (Feb. 13, 2003).

198 *See, e.g.*, Susan Beck, *Saving Long-Term Capital on a Short Deadline*, AM. LAW., Nov. 1998, at 28. For an excellent in-depth treatment of the LTCM crisis, see ROGER LOWENSTEIN, WHEN GENIUS FAILED: THE RISE AND FALL OF LONG-TERM CAPITAL MANAGEMENT (2000).

199 *Id.*

200 *See, e.g.*, LOWENSTEIN, *supra* note 198, at 78.

The image of a retail hedge fund industry with many times more capital than traditional hedge funds have today, sporting leverage ratios in excess of 30:1, should rightly raise the eyebrows of anyone concerned with systemic risk.[201] Before concluding that the concept of retail funds is far too hazardous for the global financial architecture to bear, however, it is important to remember that very few hedge funds operate, or would be allowed to operate, with leverage of the magnitude available to LTCM. Most hedge funds, recall, operate with leverage of less than 2:1 on average.[202] LTCM's counterparties allowed it to operate with excess leverage precisely because it was considered such a skillful financial operator relative to most of its peers.[203] Nonetheless, because the possibility remains that an overindulgent prime broker might allow a hedge fund to borrow unreasonably large amounts, regulators in Singapore and Hong Kong are considering placing some limits on the amount of leverage retail hedge funds are allowed to use.

### The Irony of Broadened Access?

A more fundamental point lurks beyond the many valid concerns described so far. Hedge funds, regardless of their specific strategy, can attribute much of their success over the years to the fact that they occupy a unique regulatory niche: other types of investment vehicles are effectively prohibited from copying their tactics.[204] Now, around the world, new structures are broadening

---

[201] On the other hand, this amount of leverage is fairly routine at most major investment banks. *See*, *e.g.*, Cheryl L. Sulima, *Another Financial Bubble? Recent Trends in the Hedge Fund Industry*, CAPITAL MARKETS NEWS (Federal Reserve Bank of Chicago, Chicago, IL), Sept. 2001, at 6.

[202] *See infra* at 11.

[203] *See, e.g.*, Gatsik, *supra* note 40, at 622.

[204] *See, e.g.*, TREMONT PARTNERS, INC. AND TASS INVESTMENT RESEARCH LTD., *supra* note 17, at 15-17.

the base of individuals who may invest in hedge funds, more money than ever before is pouring into hedge fund strategies, and increasingly adulatory media coverage is devoted to hedge funds.

At some point, however, throwing more capital at the same investment idea becomes self-defeating: for instance, if enough people spot the same relative value trade, short the overvalued security and take a long position the undervalued one, then the two securities will quickly be forced to converge thanks to the laws of supply and demand. Once that happens, the arbitrage opportunity disappears, and the search for the next opportunity commences. The more money and searchers there are, the more quickly those opportunities will disappear—and the more the returns of the opportunity-seekers will suffer. Clearly, hedge funds are not immune to this phenomenon. In the words of one European hedge fund manager, "if all the big banks in Europe raise billions to invest in alternative strategies, there will be too much money going in, and returns will come down."[205] A recent FORTUNE magazine described the problem in the following terms:

> Size itself works against these giant hedge funds. Everybody understands the difficulty that the manager of a big mutual fund like Fidelity Magellan has finding enough big ideas to move a multibillion-dollar fund. But for many giant hedge funds, that problem is exacerbated by the fact that they short stocks, which means they have to find shares to borrow. Shorting these days "is really, really hard," says a prominent hedge fund manager. "There are so many more hedge funds out there doing it, the supply of available shares is tight."[206]

Will the returns and correlations investors have come to expect of hedge funds persist in a world of broadened access? For a time, perhaps. But whether they hold up in the long run will depend on the ability of hedge fund managers to put the extra money profitably to work. As more assets flow into once-exclusive—and profitable—arbitrage strategies, traditional approaches to 'alternative investing' will not work as well. Retail hedge fund investors may ultimately discover

[205] *See* Phillips, *supra* note 135. *See also id*.

[206] Serwer, *supra* note 16, at 110.

that their own accession to the vaunted domain of hedge funds will make today's "alternative strategies" a less appealing alternative tomorrow.

# A COMPROMISE PROPOSAL

> *"It's not like those guys know anything we don't. It's just illegal for us to do what they do."*[207]
>
> *-- Portfolio Manager*
>
> *Goldman Sachs, Investment Management Division*

The foregoing analysis of hedge funds makes clear that their emerging availability to retail investors poses both risks and benefits. As regulators in the United States consider the pros and cons of broadened access, it becomes logical to ask whether there exist alternatives to the approaches taken by other jurisdictions: that is, regulatory solutions which preserve the demonstrated benefits of alternative investments while mitigating the risks of investor abuse and systemic instability. In order to satisfy both regulators' concerns and investors' demands, such a solution would require the uniting of a proven scheme of investor protection with an expanded set of allowed investment techniques.

In fact, an intermediate position, which implicates neither a drastic lowering of § 3(c)(1) or § 3(c)(7)'s net worth tests nor the creation of new "retail hedge fund" regulation, is easy to envision. First, the US Congress could act to close the loophole by which '33 and '40 Act-registered funds of hedge funds may indirectly offer hedge funds to the retail public: as has been noted, the prospect of retail funds of hedge funds raises considerable investor protection concerns.[208] Then, the Congress could amend the Investment Company Act of 1940 only insofar as necessary to allow mutual funds to engage in most of the alternative investment approaches

[207] Telephone Interview with Fixed Income Portfolio Manager, Goldman Sachs Investment Management (Mar. 10, 2003); source anonymous.

[208] *See infra* at 59-62.

hedge funds now use, without compromising the disclosure and fee regimes that protect small investors. Specifically, § 18(f), which circumscribes mutual funds' use of indebtedness leverage and ability to short-sell, could be reformed. The SEC's 15% limitation on mutual funds' investments in illiquid securities could also be relaxed. These three elements provide the foundation for nearly all hedge fund investment strategies and are clear roadblocks to mutual funds' efforts to provide alternative products to retail investors.

Each of these provisions traces its pedigree to investment companies' abuses of retail investors in the decades preceding the initial adoption of the 1940 Act, and each still preempts certain risks to the United States' financial infrastructure. For instance, by restricting the degree to which a mutual fund may borrow against its invested assets, § 18(f) effectively precludes 'run on the bank' scenarios where nervous investors reify imagined crises by pulling money out of their mutual funds en masse. Additionally, restrictions on illiquid investments reduce the risk that investors will be uninformed of changes in their funds' real value and makes fraud more difficult. An outright abolition of any of these prohibitions would rightly be difficult for regulators to countenance.

That outright abolition is unappealing, however, does not imply that a relaxation is likewise not in order. Studies demonstrate that most hedge funds operate at levels of leverage far lower than, say, the average commercial bank: over 70% have leverage ratios of less than 2:1. Amending § 18(f) to prohibit indebtedness leverage ratios greater than, for example, 3:1 would permit mutual funds far greater leeway in investment strategy while precluding the possibility of Fidelity becoming the next LTCM. Similarly, allowing mutual funds to invest, say, 40% of their assets in illiquid securities would dramatically broaden their ability to profit from distressed investments and less-liquid derivatives while maintaining a substantial cushion of protection for investors.

Moreover, simply allowing mutual funds to take on additional leverage or invest in less liquid securities does not imply that all mutual funds would take the SEC up on the offer. In the event that some investors prefer a guarantee that their mutual fund will not lever itself, the mutual fund could so provide in its prospectus and thus bind itself to a stricter level of conduct than theoretically possible under the statute. Examples of this phenomenon are widespread under the existing statute: some funds promise not to invest in any derivatives at all, for instance, while others promise never to short sell. Should a fund break its promise, investors have a cause of action against it, which provides ample incentive for mutual funds to live up to the representations they make in their prospectuses.

From a purely practical perspective, there can be little doubt that large fund complexes already possess not only the operational, but the technical, competence to offer alternative strategies to the investing public. The mammoth task of marketing, distributing, and providing tax and recordkeeping services to the retail market is one ill-suited to traditional hedge funds, but mutual fund complexes have evolved sophisticated systems to meet the variegated needs of smaller investors. An investment consultant recently characterized the emerging situation as being defined by the operational problem: "It's still early days, but in the retail world, distribution strength is key. People want firms they trust to be the gatekeepers and choose products for them. So the key players will be institutional with a retail distribution capability also."[209] Moreover, despite the claims of some hedge fund marketers, it is apparent that mutual funds already have the investment aptitude to make use of alternative strategies: mutual fund portfolio managers already trade in the same assets as hedge funds, and a strikingly large proportion of hedge fund managers were once mutual fund portfolio managers.[210]

---

209 *See* Phillips, *supra* note 135.

210 *See infra* at 27-28.

By widening the set of investment strategies mutual funds may engage in rather than increasing the number of investors with access to hedge funds, regulators also sidestep a variety of other concerns. First, there are the ever-present concerns that surround all hedge funds: opacity, the potential for fraud, the asymmetry of returns. Beyond these issues, though, the advent of retail hedge funds presents a new problem. Because as a practical matter, only mutual fund complexes have the necessary resources to administer retail hedge fund products, those large institutions appear to dominate the market for retail hedge funds in every jurisdiction that has opted to allow them. This presents an obvious conflict of interest, given the gross divergence between mutual fund and hedge fund fee structures. A mutual fund company that manages both a mutual fund and a hedge fund has a natural incentive to shift as many customers as possible into the high-fee vehicle. This it might accomplish in several ways: it could encourage customers for whom hedge funds are inappropriate to invest in them anyway; or, it could begin marketing 'less-risky hedge funds' that are nothing more than mutual funds with much higher fees to gullible investors. Still worse, an unscrupulous portfolio manager could attempt to 'cherry-pick' trades in order to artificially inflate his firm's profits from its hedge fund while depressing returns in its mutual funds. Effectively policing these abuses—particularly the first two—could prove extremely difficult.

Allowing mutual funds to invest more like hedge funds eliminates this likely conflict of interest, preserves the high level of disclosure retail investors have come to expect, and broadens the set of opportunities ordinary individuals have when making investment decisions. Certainly, there is a risk that the diminished fee opportunities mutual funds interested in pursuing alternative investment strategies would face under such a regime might reduce the concept's appeal to some potential providers. However, the fact that mutual funds even today are attempting to offer alternative investment strategies demonstrates a natural limit to this objection. Along similar lines, one might argue that all "good" managers will switch to hedge funds, where they can be better compensated, leaving only the substandard managers to invest on behalf of alternative strategy mutual funds. Though such an outcome would certainly be unfortunate for retail investors and is a theoretical possibility, it is unlikely, because mutual funds would presumably be able to offer competitive salaries to their portfolio managers thanks to their larger scale. Amending the Investment Company Act of 1940 to permit mutual funds greater—not unlimited—leeway in trading behavior will best serve the investing public's need for protection and desire for investment alternatives.

## CONCLUSION

> *"[T]here is a significant demand for hedge funds from retail investors, and it is growing all the time."* [211]
>
> *-- Gary Smith*
>
> *Head, ABN Amro Alternative Investment Group*

The growing popularity of hedge funds among new sorts of investors raises a host of questions for regulators. Is there any real value to allowing the mass market access to hedge funds? Does that value outweigh the many possible risks that inhere in these little-understood, opaque investment vehicles? Is the appropriate regulatory response a relaxation of existing barriers to ownership? The creation of a new regime of 'retail hedge fund' regulation? Nothing at all? Some other solution? As this paper has demonstrated, various jurisdictions have reached opposing conclusions to these questions.

And each conclusion is justifiable, for though alternative investment strategies do appear to improve investors' risk-return profiles, the risks of hedge fund investing are significant and difficult to precisely quantify. Hedge funds' lack of oversight has repeatedly given rise to fraud and other misconduct. In the United States, any prudent suggestion for allowing retail investors access to 'true' hedge funds implicates a substantial reworking of U.S. investment company and securities regulation. Those jurisdictions that have opened hedge funds up to retail investors have been forced to create entirely new "hybrid" regulatory regimes that reflect a complex mix of preexisting mutual and hedge fund regulation. Whether these new regulations will stand the test of time is at present uncertain, as none is more than a few years old. But the mutual fund industry's apparent dominance of the emerging retail hedge fund market raises the specter of

---

211 Phillips, *supra* note 135.

conflicts of interest brought on by the different fee structure that prevails among hedge funds. The appropriate response to that potential problem is unclear.

As regulators grapple with the issue of retail hedge funds, they should consider a simpler way to deliver the benefits of hedge funds to retail investors without incurring the costs described above. Relaxing the restrictions on the sorts of investment strategies the mutual fund industry may engage in would mitigate the conflict-of-interest problem and preserve the high standards of transparency and disclosure retail investors are used to. Certainly, mutual funds possess the necessary competence to adopt many common hedge fund strategies: they commonly trade in the same assets hedge funds do, and many hedge fund managers got their start as portfolio managers at mutual funds. Additionally, mutual funds already have a demonstrated competence in the back-office functions necessary for effective mass market operations.

In the end, retail investors interested in investing in hedge funds may discover that they have committed the age-old mistake of driving while looking through the rear-view mirror: as more assets pour into alternative investment strategies, there is reason to expect that those strategies will become less profitable. The much-vaunted risk-return advantage of those strategies may turn out to be little more than a mirage for the ordinary investor who arrives late on the scene. So long as the investing public is clamoring for access, however, regulators have an obligation to allow them to make their own mistakes, subject to certain minimum standards designed to prevent investor abuse and systemic risk. Broadening the set of investment strategies mutual funds may engage in—rather than broadening the set of individuals who can invest in pure hedge funds—is the best way for regulators to fulfill that duty.

# APPENDIX

## Data Used in Construction of Returns, Risk and Efficient Frontier Materials

The following returns dataset was made available to the author by Hedge Fund Research, Inc.

| Date | Convert. Arb | FI Arb. | Stat. Arb. | Rel. Val. Arb. | Eq. Mkt. Neut. | Event-Driven | Merg. Arb. | Distressed |
|---|---|---|---|---|---|---|---|---|
| Sep-91 | 0.013 | -0.026 | 0.010 | 0.020 | 0.019 | 0.015 | 0.011 | 0.019 |
| Oct-91 | 0.012 | 0.000 | 0.003 | -0.005 | 0.010 | 0.023 | 0.014 | 0.020 |
| Nov-91 | 0.017 | -0.012 | -0.002 | 0.007 | 0.012 | 0.005 | 0.014 | 0.004 |
| Dec-91 | 0.016 | 0.015 | 0.029 | -0.012 | 0.021 | 0.017 | 0.012 | 0.008 |
| Jan-92 | 0.021 | 0.047 | 0.002 | 0.057 | 0.004 | 0.042 | 0.020 | 0.071 |
| Feb-92 | 0.009 | 0.025 | 0.018 | 0.026 | 0.010 | 0.021 | 0.010 | 0.055 |
| Mar-92 | 0.010 | 0.025 | 0.017 | -0.008 | 0.006 | 0.016 | 0.013 | 0.023 |
| Apr-92 | 0.008 | 0.023 | 0.009 | 0.021 | 0.000 | 0.003 | 0.001 | 0.003 |
| May-92 | 0.017 | 0.006 | -0.001 | 0.020 | 0.001 | 0.010 | 0.000 | 0.011 |
| Jun-92 | 0.007 | -0.005 | 0.005 | 0.025 | 0.006 | 0.001 | 0.003 | 0.000 |
| Jul-92 | 0.019 | -0.001 | 0.015 | 0.021 | 0.012 | 0.012 | 0.015 | 0.003 |
| Aug-92 | 0.017 | 0.008 | -0.004 | 0.006 | -0.004 | 0.002 | 0.001 | 0.009 |
| Sep-92 | 0.015 | -0.008 | 0.006 | 0.003 | 0.012 | 0.014 | 0.013 | 0.009 |
| Oct-92 | 0.012 | 0.033 | -0.002 | 0.005 | 0.010 | 0.010 | 0.004 | 0.001 |
| Nov-92 | 0.007 | 0.022 | 0.010 | 0.017 | 0.012 | 0.017 | -0.022 | 0.017 |
| Dec-92 | 0.011 | 0.026 | 0.029 | 0.011 | 0.015 | 0.031 | 0.019 | 0.028 |
| Jan-93 | 0.009 | 0.003 | 0.022 | 0.023 | 0.019 | 0.031 | 0.021 | 0.045 |
| Feb-93 | 0.009 | 0.009 | 0.015 | 0.009 | 0.011 | 0.016 | 0.016 | 0.025 |
| Mar-93 | 0.022 | 0.015 | 0.020 | 0.037 | 0.017 | 0.039 | 0.005 | 0.031 |
| Apr-93 | 0.015 | 0.015 | -0.004 | 0.024 | -0.001 | 0.012 | 0.013 | 0.016 |
| May-93 | 0.012 | 0.019 | 0.006 | 0.025 | 0.006 | 0.019 | 0.012 | 0.022 |
| Jun-93 | 0.010 | 0.004 | 0.029 | 0.016 | 0.024 | 0.030 | 0.023 | 0.027 |
| Jul-93 | 0.014 | 0.020 | 0.009 | 0.018 | 0.006 | 0.021 | 0.015 | 0.030 |
| Aug-93 | 0.014 | 0.015 | 0.012 | 0.021 | 0.009 | 0.028 | 0.017 | 0.025 |
| Sep-93 | 0.010 | 0.007 | 0.021 | 0.013 | 0.024 | 0.009 | 0.019 | 0.007 |
| Oct-93 | 0.013 | 0.010 | -0.009 | 0.018 | -0.001 | 0.017 | 0.021 | 0.020 |
| Nov-93 | 0.006 | 0.021 | -0.010 | 0.011 | -0.015 | 0.002 | 0.009 | 0.009 |
| Dec-93 | 0.008 | 0.019 | 0.010 | 0.027 | 0.008 | 0.030 | 0.017 | 0.028 |
| Jan-94 | 0.007 | 0.023 | 0.015 | 0.025 | 0.008 | 0.035 | 0.015 | 0.038 |
| Feb-94 | 0.002 | 0.016 | -0.002 | 0.004 | 0.006 | -0.005 | -0.004 | -0.003 |
| Mar-94 | -0.021 | 0.009 | -0.004 | 0.003 | 0.004 | -0.006 | 0.014 | -0.009 |
| Apr-94 | -0.028 | 0.010 | 0.011 | -0.004 | 0.009 | -0.007 | -0.003 | -0.002 |
| May-94 | 0.000 | 0.008 | -0.007 | -0.001 | -0.010 | 0.009 | 0.012 | 0.004 |
| Jun-94 | 0.002 | 0.013 | 0.002 | 0.002 | 0.006 | 0.011 | 0.009 | -0.005 |
| Jul-94 | 0.016 | 0.004 | 0.009 | 0.011 | 0.004 | 0.016 | 0.007 | 0.011 |
| Aug-94 | 0.008 | 0.007 | 0.009 | 0.001 | -0.004 | 0.018 | 0.020 | 0.012 |
| Sep-94 | 0.001 | 0.009 | -0.008 | -0.003 | 0.000 | 0.004 | 0.006 | 0.004 |
| Oct-94 | -0.001 | 0.007 | 0.006 | 0.001 | -0.001 | -0.004 | -0.003 | 0.004 |
| Nov-94 | -0.008 | 0.008 | -0.003 | 0.000 | -0.005 | -0.013 | -0.002 | -0.017 |
| Dec-94 | -0.015 | 0.001 | 0.016 | -0.001 | 0.008 | 0.000 | 0.015 | 0.001 |
| Jan-95 | 0.006 | 0.006 | 0.003 | 0.013 | 0.002 | 0.020 | 0.009 | 0.011 |
| Feb-95 | 0.010 | 0.003 | 0.020 | 0.011 | 0.014 | 0.013 | 0.015 | 0.021 |
| Mar-95 | 0.018 | 0.018 | 0.012 | 0.006 | 0.018 | 0.007 | 0.015 | 0.016 |
| Apr-95 | 0.019 | 0.006 | 0.016 | 0.016 | 0.019 | 0.021 | 0.004 | 0.018 |
| May-95 | 0.019 | -0.005 | 0.016 | 0.008 | 0.006 | 0.018 | 0.013 | 0.012 |
| Jun-95 | 0.023 | -0.012 | 0.011 | 0.017 | 0.009 | 0.015 | 0.025 | 0.021 |
| Jul-95 | 0.021 | 0.025 | 0.020 | 0.012 | 0.022 | 0.020 | 0.014 | 0.023 |
| Aug-95 | 0.010 | 0.009 | 0.006 | 0.013 | 0.010 | 0.021 | 0.014 | 0.013 |
| Sep-95 | 0.016 | -0.019 | 0.018 | 0.014 | 0.019 | 0.019 | 0.016 | 0.021 |
| Oct-95 | 0.013 | 0.016 | 0.009 | 0.004 | 0.016 | 0.001 | 0.009 | -0.001 |
| Nov-95 | 0.016 | 0.000 | 0.006 | 0.017 | 0.008 | 0.050 | 0.021 | 0.011 |
| Dec-95 | 0.013 | 0.012 | -0.002 | 0.016 | 0.010 | 0.022 | 0.013 | 0.015 |
| Jan-96 | 0.018 | 0.010 | 0.024 | 0.015 | 0.022 | 0.039 | 0.016 | 0.022 |
| Feb-96 | 0.011 | 0.007 | 0.013 | 0.014 | 0.010 | 0.015 | 0.013 | 0.014 |
| Mar-96 | 0.012 | 0.006 | 0.013 | 0.012 | 0.009 | 0.019 | 0.015 | 0.022 |
| Apr-96 | 0.019 | 0.014 | -0.001 | 0.020 | 0.004 | 0.026 | 0.016 | 0.031 |
| May-96 | 0.017 | 0.012 | 0.011 | 0.017 | 0.014 | 0.004 | 0.015 | 0.021 |

| Date | Convert. Arb | FI Arb. | Stat. Arb. | Rel. Val. Arb. | Eq. Mkt. Neut. | Event-Driven | Merg. Arb. | Distressed |
|---|---|---|---|---|---|---|---|---|
| Jun-96 | 0.004 | 0.014 | 0.020 | 0.010 | 0.014 | 0.004 | 0.008 | 0.014 |
| Jul-96 | -0.004 | 0.013 | 0.012 | -0.006 | 0.016 | -0.005 | 0.008 | 0.002 |
| Aug-96 | 0.014 | 0.006 | 0.005 | 0.015 | 0.008 | 0.024 | 0.016 | 0.017 |
| Sep-96 | 0.012 | 0.005 | 0.014 | 0.008 | 0.007 | 0.020 | 0.008 | 0.018 |
| Oct-96 | 0.013 | 0.012 | 0.034 | 0.002 | 0.021 | 0.010 | 0.012 | 0.010 |
| Nov-96 | 0.014 | -0.004 | 0.023 | 0.010 | 0.002 | 0.020 | 0.014 | 0.009 |
| Dec-96 | 0.007 | 0.019 | 0.013 | 0.019 | 0.010 | 0.018 | 0.014 | 0.012 |
| Jan-97 | 0.010 | 0.014 | 0.010 | 0.014 | 0.012 | 0.028 | 0.010 | 0.019 |
| Feb-97 | 0.011 | 0.012 | 0.009 | 0.011 | 0.001 | 0.009 | 0.004 | 0.018 |
| Mar-97 | 0.006 | 0.005 | 0.005 | -0.007 | 0.004 | -0.005 | 0.011 | 0.002 |
| Apr-97 | 0.007 | 0.010 | 0.022 | 0.013 | 0.010 | -0.008 | -0.007 | 0.001 |
| May-97 | 0.014 | 0.003 | 0.012 | 0.018 | 0.015 | 0.044 | 0.019 | 0.017 |
| Jun-97 | 0.017 | 0.007 | 0.022 | 0.019 | 0.015 | 0.027 | 0.021 | 0.019 |
| Jul-97 | 0.016 | 0.006 | 0.036 | 0.016 | 0.022 | 0.027 | 0.016 | 0.021 |
| Aug-97 | 0.011 | 0.004 | -0.003 | 0.014 | 0.002 | 0.005 | 0.010 | 0.011 |
| Sep-97 | 0.011 | 0.005 | 0.022 | 0.019 | 0.022 | 0.036 | 0.021 | 0.028 |
| Oct-97 | 0.012 | -0.004 | 0.013 | 0.010 | 0.014 | 0.005 | 0.008 | -0.002 |
| Nov-97 | 0.001 | -0.001 | 0.014 | 0.013 | 0.005 | 0.014 | 0.020 | 0.007 |
| Dec-97 | 0.004 | 0.007 | 0.015 | 0.009 | 0.007 | 0.015 | 0.019 | 0.003 |
| Jan-98 | 0.019 | 0.004 | -0.001 | 0.020 | 0.005 | 0.003 | 0.010 | 0.011 |
| Feb-98 | 0.015 | 0.013 | 0.015 | 0.014 | 0.008 | 0.034 | 0.019 | 0.024 |
| Mar-98 | 0.016 | 0.013 | 0.019 | 0.016 | 0.013 | 0.029 | 0.011 | 0.022 |
| Apr-98 | 0.014 | 0.010 | 0.005 | 0.019 | 0.007 | 0.003 | 0.016 | 0.016 |
| May-98 | 0.004 | 0.002 | 0.011 | 0.003 | 0.005 | -0.012 | -0.006 | 0.003 |
| Jun-98 | 0.002 | -0.013 | 0.019 | 0.002 | 0.017 | 0.003 | 0.005 | 0.001 |
| Jul-98 | 0.005 | 0.017 | -0.004 | -0.005 | -0.003 | -0.006 | -0.006 | -0.004 |
| Aug-98 | -0.032 | -0.012 | -0.010 | -0.058 | -0.017 | -0.089 | -0.057 | -0.085 |
| Sep-98 | -0.011 | -0.065 | 0.002 | 0.002 | 0.008 | -0.006 | 0.017 | -0.036 |
| Oct-98 | -0.005 | -0.061 | 0.006 | -0.005 | -0.006 | 0.013 | 0.021 | -0.008 |
| Nov-98 | 0.033 | -0.014 | 0.014 | 0.017 | 0.009 | 0.024 | 0.023 | 0.017 |
| Dec-98 | 0.016 | 0.002 | 0.022 | 0.006 | 0.036 | 0.027 | 0.019 | 0.002 |
| Jan-99 | 0.021 | 0.012 | -0.010 | 0.026 | 0.002 | 0.017 | 0.007 | 0.014 |
| Feb-99 | 0.003 | 0.011 | -0.011 | 0.001 | -0.013 | -0.005 | 0.003 | -0.003 |
| Mar-99 | 0.015 | 0.013 | -0.020 | 0.006 | -0.008 | 0.021 | 0.011 | 0.022 |
| Apr-99 | 0.027 | 0.001 | -0.002 | 0.028 | -0.007 | 0.051 | 0.013 | 0.051 |
| May-99 | 0.014 | 0.000 | 0.005 | 0.012 | 0.002 | 0.020 | 0.020 | 0.019 |
| Jun-99 | 0.011 | 0.013 | 0.020 | 0.014 | 0.020 | 0.029 | 0.016 | 0.019 |
| Jul-99 | 0.011 | 0.007 | 0.012 | 0.008 | 0.019 | 0.008 | 0.014 | 0.007 |
| Aug-99 | 0.004 | -0.003 | 0.000 | 0.008 | 0.007 | -0.008 | 0.005 | 0.004 |
| Sep-99 | 0.007 | 0.003 | 0.000 | 0.005 | 0.009 | 0.016 | 0.013 | -0.010 |
| Oct-99 | 0.003 | 0.003 | 0.004 | 0.005 | 0.004 | 0.004 | 0.007 | -0.002 |
| Nov-99 | 0.010 | 0.011 | -0.001 | 0.011 | 0.011 | 0.034 | 0.022 | 0.011 |
| Dec-99 | 0.011 | 0.003 | 0.001 | 0.015 | 0.024 | 0.034 | 0.005 | 0.026 |
| Jan-00 | 0.019 | -0.007 | -0.009 | 0.018 | -0.012 | 0.007 | 0.016 | 0.007 |
| Feb-00 | 0.022 | 0.013 | 0.000 | 0.013 | 0.023 | 0.038 | 0.019 | 0.040 |
| Mar-00 | 0.018 | -0.014 | 0.028 | 0.018 | 0.005 | 0.000 | 0.008 | 0.007 |
| Apr-00 | 0.018 | 0.005 | 0.022 | 0.014 | 0.026 | -0.015 | 0.025 | -0.014 |
| May-00 | 0.013 | 0.030 | -0.003 | 0.007 | 0.003 | -0.008 | 0.015 | -0.008 |
| Jun-00 | 0.017 | 0.003 | 0.009 | 0.022 | 0.015 | 0.029 | 0.016 | 0.023 |
| Jul-00 | 0.007 | -0.010 | 0.007 | 0.009 | 0.000 | 0.002 | 0.012 | 0.003 |
| Aug-00 | 0.014 | 0.018 | 0.016 | 0.016 | 0.031 | 0.020 | 0.013 | 0.013 |
| Sep-00 | 0.012 | 0.005 | -0.007 | 0.009 | 0.009 | 0.006 | 0.014 | -0.004 |
| Oct-00 | 0.004 | -0.005 | 0.012 | -0.005 | 0.002 | -0.013 | 0.005 | -0.009 |
| Nov-00 | -0.007 | 0.006 | 0.002 | -0.001 | 0.010 | -0.023 | 0.012 | -0.025 |
| Dec-00 | 0.000 | 0.003 | 0.010 | 0.006 | 0.026 | 0.024 | 0.012 | -0.003 |
| Jan-01 | 0.027 | 0.022 | 0.009 | 0.020 | -0.016 | 0.046 | 0.011 | 0.028 |
| Feb-01 | 0.017 | 0.004 | -0.018 | 0.011 | 0.021 | -0.004 | 0.004 | 0.013 |
| Mar-01 | 0.017 | -0.004 | 0.001 | 0.003 | 0.018 | -0.003 | -0.008 | -0.006 |
| Apr-01 | 0.016 | 0.011 | 0.015 | 0.008 | 0.001 | 0.012 | 0.002 | 0.002 |
| May-01 | 0.007 | 0.006 | 0.000 | 0.009 | 0.003 | 0.019 | 0.017 | 0.028 |
| Jun-01 | 0.001 | -0.005 | -0.018 | -0.002 | 0.004 | 0.011 | -0.008 | 0.031 |
| Jul-01 | 0.008 | 0.002 | -0.009 | 0.007 | 0.005 | 0.003 | 0.009 | 0.008 |
| Aug-01 | 0.013 | 0.011 | 0.006 | 0.009 | 0.017 | 0.013 | 0.009 | 0.007 |
| Sep-01 | 0.006 | -0.015 | -0.020 | 0.002 | 0.013 | -0.033 | -0.027 | -0.004 |
| Oct-01 | 0.009 | 0.010 | 0.018 | 0.008 | 0.000 | 0.021 | 0.008 | 0.008 |
| Nov-01 | 0.006 | 0.001 | 0.018 | 0.005 | -0.004 | 0.016 | 0.002 | 0.013 |
| Dec-01 | -0.001 | 0.005 | 0.014 | 0.006 | 0.005 | 0.015 | 0.008 | -0.001 |

| Date | Convert. Arb | FI Arb. | Stat. Arb. | Rel. Val. Arb. | Eq. Mkt. Neut. | Event-Driven | Merg. Arb. | Distressed |
|---|---|---|---|---|---|---|---|---|
| Jan-02 | 0.013 | 0.014 | 0.003 | 0.010 | 0.008 | 0.008 | 0.009 | 0.022 |
| Feb-02 | 0.003 | 0.006 | -0.004 | 0.002 | -0.006 | -0.012 | -0.005 | -0.004 |
| Mar-02 | 0.008 | 0.004 | 0.004 | 0.005 | 0.001 | 0.017 | 0.007 | 0.006 |
| Apr-02 | 0.008 | 0.012 | -0.003 | 0.009 | 0.014 | 0.002 | -0.001 | 0.012 |
| May-02 | 0.005 | 0.007 | 0.002 | 0.007 | 0.002 | -0.004 | -0.003 | 0.009 |
| Jun-02 | 0.003 | 0.011 | -0.030 | -0.002 | 0.003 | -0.035 | -0.014 | -0.011 |
| Jul-02 | -0.013 | 0.017 | -0.017 | -0.003 | 0.002 | -0.042 | -0.024 | -0.020 |
| Aug-02 | 0.006 | 0.009 | 0.003 | 0.005 | 0.007 | 0.004 | 0.004 | 0.001 |
| Sep-02 | 0.014 | 0.009 | -0.013 | 0.006 | 0.000 | -0.011 | 0.001 | -0.013 |
| Oct-02 | 0.010 | -0.002 | 0.007 | 0.004 | -0.004 | 0.007 | 0.004 | -0.004 |
| Nov-02 | 0.020 | -0.001 | 0.000 | 0.012 | -0.010 | 0.029 | 0.006 | 0.023 |
| Dec-02 | 0.014 | 0.015 | 0.011 | 0.007 | 0.006 | 0.002 | 0.005 | 0.030 |

| Date | Mkt. Timing | Eq. Non-Hedge | Eq. Hedge | Macro | Short Seller | Emerg. Mkts. | S&P 500 | JPM bond in $ | MSCI $ |
|---|---|---|---|---|---|---|---|---|---|
| Sep-91 | -0.003 | 0.022 | 0.043 | 0.060 | 0.037 | 0.000 | -0.017 | 0.036 | 0.026 |
| Oct-91 | 0.024 | 0.039 | 0.012 | 0.023 | -0.006 | 0.004 | 0.013 | 0.010 | 0.016 |
| Nov-91 | -0.014 | -0.023 | -0.011 | 0.008 | 0.088 | 0.019 | -0.040 | 0.016 | -0.044 |
| Dec-91 | 0.055 | 0.083 | 0.050 | 0.074 | -0.072 | 0.123 | 0.114 | 0.049 | 0.070 |
| Jan-92 | 0.009 | 0.054 | 0.025 | 0.028 | -0.028 | 0.081 | -0.019 | -0.020 | -0.019 |
| Feb-92 | -0.001 | 0.023 | 0.029 | 0.003 | -0.026 | 0.033 | 0.013 | -0.003 | -0.017 |
| Mar-92 | -0.004 | -0.021 | -0.003 | 0.003 | 0.062 | 0.028 | -0.019 | -0.009 | -0.048 |
| Apr-92 | -0.006 | -0.023 | 0.003 | 0.011 | 0.076 | 0.014 | 0.029 | 0.008 | 0.014 |
| May-92 | 0.018 | 0.012 | 0.009 | 0.070 | 0.019 | 0.041 | 0.005 | 0.028 | 0.039 |
| Jun-92 | -0.005 | -0.029 | -0.009 | 0.009 | 0.078 | -0.037 | -0.015 | 0.027 | -0.034 |
| Jul-92 | 0.018 | 0.037 | 0.028 | 0.017 | -0.007 | -0.005 | 0.041 | 0.022 | 0.003 |
| Aug-92 | -0.002 | -0.017 | -0.009 | -0.011 | 0.029 | -0.020 | -0.020 | 0.026 | 0.024 |
| Sep-92 | -0.003 | 0.026 | 0.025 | 0.023 | 0.014 | 0.034 | 0.012 | -0.001 | -0.009 |
| Oct-92 | 0.018 | 0.048 | 0.020 | 0.047 | -0.042 | 0.033 | 0.003 | -0.025 | -0.027 |
| Nov-92 | 0.032 | 0.069 | 0.045 | 0.031 | -0.068 | 0.003 | 0.034 | -0.018 | 0.018 |
| Dec-92 | 0.019 | 0.033 | 0.034 | 0.014 | 0.001 | 0.021 | 0.012 | 0.009 | 0.008 |
| Jan-93 | 0.012 | 0.023 | 0.021 | 0.009 | -0.014 | 0.037 | 0.008 | 0.017 | 0.004 |
| Feb-93 | 0.014 | -0.015 | -0.006 | 0.052 | 0.061 | 0.063 | 0.014 | 0.016 | 0.024 |
| Mar-93 | 0.035 | 0.038 | 0.033 | 0.055 | -0.034 | 0.041 | 0.021 | 0.015 | 0.057 |
| Apr-93 | 0.026 | -0.003 | 0.013 | 0.027 | 0.042 | 0.050 | -0.024 | 0.018 | 0.045 |
| May-93 | 0.043 | 0.052 | 0.027 | 0.030 | -0.092 | 0.056 | 0.027 | 0.006 | 0.023 |
| Jun-93 | 0.008 | 0.014 | 0.030 | 0.072 | 0.002 | 0.046 | 0.003 | 0.001 | -0.008 |
| Jul-93 | 0.018 | 0.022 | 0.021 | 0.037 | 0.034 | 0.009 | -0.004 | 0.000 | 0.021 |
| Aug-93 | 0.010 | 0.044 | 0.038 | 0.037 | -0.051 | 0.056 | 0.038 | 0.029 | 0.045 |
| Sep-93 | 0.006 | 0.020 | 0.025 | -0.007 | -0.025 | 0.026 | -0.008 | 0.011 | -0.018 |
| Oct-93 | 0.029 | 0.037 | 0.031 | 0.048 | -0.033 | 0.078 | 0.021 | 0.000 | 0.027 |
| Nov-93 | -0.016 | -0.022 | -0.019 | 0.000 | 0.038 | 0.040 | -0.010 | -0.007 | -0.058 |
| Dec-93 | 0.037 | 0.038 | 0.036 | 0.079 | 0.007 | 0.100 | 0.012 | 0.010 | 0.048 |
| Jan-94 | 0.019 | 0.032 | 0.024 | 0.021 | -0.049 | 0.053 | 0.034 | 0.010 | 0.064 |
| Feb-94 | -0.007 | -0.012 | -0.004 | -0.006 | 0.010 | -0.006 | -0.027 | -0.011 | -0.013 |
| Mar-94 | -0.012 | -0.031 | -0.021 | -0.034 | 0.113 | -0.044 | -0.044 | -0.005 | -0.044 |
| Apr-94 | -0.002 | -0.004 | -0.004 | -0.012 | 0.033 | -0.024 | 0.013 | -0.001 | 0.031 |
| May-94 | -0.006 | 0.007 | 0.004 | 0.023 | 0.023 | 0.005 | 0.016 | -0.008 | 0.003 |
| Jun-94 | -0.014 | -0.010 | -0.004 | 0.002 | 0.120 | -0.006 | -0.025 | 0.012 | -0.003 |
| Jul-94 | 0.014 | 0.025 | 0.009 | 0.007 | -0.042 | 0.032 | 0.033 | 0.009 | 0.019 |
| Aug-94 | 0.033 | 0.048 | 0.013 | 0.026 | -0.065 | 0.079 | 0.041 | -0.003 | 0.030 |
| Sep-94 | 0.006 | 0.002 | 0.013 | -0.001 | 0.005 | 0.032 | -0.024 | 0.005 | -0.026 |
| Oct-94 | 0.013 | 0.009 | 0.004 | -0.001 | 0.004 | -0.021 | 0.022 | 0.015 | 0.028 |
| Nov-94 | -0.016 | -0.024 | -0.015 | 0.004 | 0.047 | -0.028 | -0.036 | -0.013 | -0.044 |
| Dec-94 | 0.010 | 0.010 | 0.007 | -0.010 | -0.012 | -0.003 | 0.015 | 0.003 | 0.010 |
| Jan-95 | -0.005 | 0.003 | 0.003 | -0.009 | 0.024 | -0.055 | 0.026 | 0.020 | -0.015 |
| Feb-95 | 0.011 | 0.032 | 0.017 | 0.015 | -0.021 | -0.022 | 0.039 | 0.025 | 0.015 |
| Mar-95 | 0.011 | 0.033 | 0.021 | 0.014 | -0.021 | -0.007 | 0.030 | 0.049 | 0.047 |
| Apr-95 | 0.011 | 0.025 | 0.026 | 0.008 | -0.002 | 0.028 | 0.029 | 0.016 | 0.034 |
| May-95 | 0.026 | 0.019 | 0.012 | 0.025 | -0.037 | 0.037 | 0.040 | 0.027 | 0.009 |
| Jun-95 | 0.014 | 0.048 | 0.047 | 0.005 | -0.100 | 0.012 | 0.023 | 0.006 | 0.000 |
| Jul-95 | 0.027 | 0.065 | 0.045 | 0.039 | -0.094 | 0.016 | 0.033 | 0.005 | 0.049 |
| Aug-95 | 0.000 | 0.031 | 0.029 | 0.056 | 0.011 | 0.003 | 0.003 | -0.028 | -0.022 |
| Sep-95 | 0.010 | 0.030 | 0.029 | 0.032 | -0.007 | 0.011 | 0.042 | 0.023 | 0.029 |
| Oct-95 | -0.006 | -0.024 | -0.014 | 0.004 | 0.077 | -0.027 | -0.004 | 0.010 | -0.016 |
| Nov-95 | 0.014 | 0.026 | 0.034 | 0.036 | -0.039 | -0.015 | 0.044 | 0.011 | 0.034 |
| Dec-95 | 0.008 | 0.015 | 0.026 | 0.036 | 0.035 | 0.030 | 0.019 | 0.013 | 0.029 |
| Jan-96 | 0.033 | 0.021 | 0.011 | 0.053 | 0.001 | 0.057 | 0.034 | -0.010 | 0.018 |
| Feb-96 | 0.013 | 0.034 | 0.028 | -0.038 | -0.043 | -0.016 | 0.009 | -0.007 | 0.006 |
| Mar-96 | 0.000 | 0.028 | 0.019 | 0.004 | 0.007 | 0.001 | 0.010 | -0.002 | 0.017 |
| Apr-96 | 0.028 | 0.075 | 0.053 | 0.031 | -0.073 | 0.050 | 0.015 | -0.005 | 0.023 |
| May-96 | 0.014 | 0.054 | 0.037 | -0.008 | -0.028 | 0.043 | 0.026 | 0.001 | 0.001 |

| Date | Mkt. Timing | Eq. Non-Hedge | Eq. Hedge | Macro | Short Seller | Emerg. Mkts. | S&P 500 | JPM bond in $ | MSCI $ |
|---|---|---|---|---|---|---|---|---|---|
| Jun-96 | -0.006 | -0.026 | -0.007 | -0.011 | 0.093 | 0.039 | 0.004 | 0.009 | 0.005 |
| Jul-96 | -0.016 | -0.068 | -0.029 | -0.030 | 0.090 | -0.027 | -0.044 | 0.018 | -0.036 |
| Aug-96 | 0.011 | 0.039 | 0.026 | 0.007 | -0.040 | 0.024 | 0.021 | 0.005 | 0.012 |
| Sep-96 | 0.033 | 0.040 | 0.022 | 0.020 | -0.075 | 0.014 | 0.056 | 0.006 | 0.039 |
| Oct-96 | 0.008 | -0.005 | 0.016 | 0.016 | 0.065 | 0.015 | 0.028 | 0.019 | 0.007 |
| Nov-96 | 0.025 | 0.030 | 0.017 | 0.047 | -0.030 | 0.029 | 0.076 | 0.014 | 0.055 |
| Dec-96 | -0.013 | 0.017 | 0.008 | -0.005 | 0.011 | 0.018 | -0.020 | -0.007 | -0.016 |
| Jan-97 | 0.018 | 0.034 | 0.028 | 0.051 | -0.010 | 0.078 | 0.062 | -0.025 | 0.012 |
| Feb-97 | -0.008 | -0.011 | -0.002 | 0.016 | 0.058 | 0.059 | 0.008 | -0.007 | 0.012 |
| Mar-97 | -0.020 | -0.050 | -0.007 | -0.001 | 0.068 | -0.015 | -0.041 | -0.007 | -0.020 |
| Apr-97 | -0.002 | -0.005 | -0.003 | -0.002 | -0.005 | 0.016 | 0.060 | -0.006 | 0.032 |
| May-97 | 0.041 | 0.090 | 0.050 | 0.018 | -0.082 | 0.038 | 0.061 | 0.023 | 0.060 |
| Jun-97 | 0.023 | 0.032 | 0.020 | 0.018 | -0.002 | 0.064 | 0.045 | 0.011 | 0.049 |
| Jul-97 | 0.043 | 0.056 | 0.051 | 0.059 | -0.029 | 0.046 | 0.080 | -0.004 | 0.045 |
| Aug-97 | -0.005 | 0.009 | 0.014 | -0.013 | -0.018 | -0.021 | -0.056 | -0.001 | -0.069 |
| Sep-97 | 0.038 | 0.064 | 0.057 | 0.031 | -0.026 | 0.006 | 0.055 | 0.022 | 0.053 |
| Oct-97 | -0.013 | -0.027 | 0.004 | -0.016 | 0.046 | -0.080 | -0.033 | 0.020 | -0.054 |
| Nov-97 | -0.001 | -0.015 | -0.009 | -0.003 | 0.022 | -0.039 | 0.046 | -0.012 | 0.018 |
| Dec-97 | 0.016 | -0.004 | 0.014 | 0.029 | 0.027 | 0.013 | 0.017 | -0.001 | 0.012 |
| Jan-98 | -0.007 | -0.009 | -0.002 | 0.002 | 0.013 | -0.054 | 0.011 | 0.010 | 0.028 |
| Feb-98 | 0.026 | 0.057 | 0.041 | 0.019 | -0.050 | 0.040 | 0.072 | 0.008 | 0.066 |
| Mar-98 | 0.022 | 0.040 | 0.045 | 0.051 | 0.001 | 0.029 | 0.051 | -0.008 | 0.042 |
| Apr-98 | 0.022 | 0.014 | 0.014 | -0.001 | -0.023 | -0.006 | 0.010 | 0.015 | 0.010 |
| May-98 | -0.014 | -0.028 | -0.013 | 0.001 | 0.082 | -0.093 | -0.017 | 0.004 | -0.012 |
| Jun-98 | 0.034 | 0.010 | 0.005 | 0.006 | 0.012 | -0.060 | 0.041 | 0.001 | 0.024 |
| Jul-98 | 0.000 | -0.029 | -0.007 | 0.002 | 0.030 | -0.003 | -0.011 | 0.003 | -0.001 |
| Aug-98 | 0.007 | -0.133 | -0.077 | -0.037 | 0.194 | -0.210 | -0.145 | 0.026 | -0.143 |
| Sep-98 | -0.004 | 0.034 | 0.032 | -0.005 | -0.042 | -0.050 | 0.064 | 0.052 | 0.018 |
| Oct-98 | 0.055 | 0.040 | 0.025 | -0.018 | -0.090 | 0.022 | 0.081 | 0.023 | 0.087 |
| Nov-98 | 0.054 | 0.066 | 0.038 | 0.020 | -0.048 | 0.051 | 0.061 | -0.011 | 0.058 |
| Dec-98 | 0.033 | 0.048 | 0.054 | 0.024 | -0.055 | -0.028 | 0.058 | 0.018 | 0.048 |
| Jan-99 | 0.049 | 0.037 | 0.050 | 0.008 | -0.059 | -0.023 | 0.042 | -0.008 | 0.022 |
| Feb-99 | -0.030 | -0.038 | -0.024 | -0.012 | 0.070 | 0.015 | -0.031 | -0.034 | -0.027 |
| Mar-99 | 0.043 | 0.029 | 0.041 | 0.011 | 0.000 | 0.089 | 0.040 | 0.002 | 0.041 |
| Apr-99 | 0.042 | 0.064 | 0.053 | 0.039 | -0.025 | 0.075 | 0.039 | 0.000 | 0.039 |
| May-99 | -0.028 | 0.011 | 0.012 | -0.009 | -0.002 | 0.005 | -0.024 | -0.018 | -0.037 |
| Jun-99 | 0.043 | 0.048 | 0.038 | 0.022 | -0.017 | 0.093 | 0.056 | -0.017 | 0.046 |
| Jul-99 | 0.010 | 0.005 | 0.006 | 0.005 | -0.002 | -0.010 | -0.031 | 0.022 | -0.003 |
| Aug-99 | 0.012 | -0.012 | 0.000 | -0.006 | 0.044 | -0.015 | -0.005 | 0.002 | -0.002 |
| Sep-99 | -0.001 | -0.006 | 0.004 | 0.011 | 0.032 | -0.019 | -0.027 | 0.014 | -0.010 |
| Oct-99 | 0.024 | 0.027 | 0.023 | -0.008 | -0.003 | 0.031 | 0.063 | -0.001 | 0.051 |
| Nov-99 | 0.025 | 0.094 | 0.068 | 0.038 | -0.117 | 0.079 | 0.020 | -0.012 | 0.028 |
| Dec-99 | 0.051 | 0.107 | 0.109 | 0.068 | -0.146 | 0.148 | 0.059 | -0.002 | 0.078 |
| Jan-00 | 0.016 | -0.016 | 0.003 | 0.011 | 0.048 | 0.002 | -0.050 | -0.020 | -0.059 |
| Feb-00 | 0.060 | 0.094 | 0.100 | 0.037 | -0.212 | 0.048 | -0.019 | -0.005 | 0.003 |
| Mar-00 | 0.021 | 0.024 | 0.017 | -0.023 | 0.010 | 0.034 | 0.098 | 0.028 | 0.067 |
| Apr-00 | -0.027 | -0.084 | -0.042 | -0.037 | 0.228 | -0.066 | -0.030 | -0.031 | -0.043 |
| May-00 | 0.015 | -0.048 | -0.024 | -0.015 | 0.097 | -0.051 | -0.021 | 0.007 | -0.026 |
| Jun-00 | 0.015 | 0.072 | 0.049 | 0.012 | -0.114 | 0.031 | 0.025 | 0.025 | 0.033 |
| Jul-00 | -0.013 | -0.027 | -0.016 | 0.001 | 0.073 | -0.004 | -0.016 | -0.016 | -0.028 |
| Aug-00 | 0.034 | 0.074 | 0.054 | 0.017 | -0.124 | 0.032 | 0.062 | -0.008 | 0.032 |
| Sep-00 | -0.022 | -0.043 | -0.011 | -0.022 | 0.134 | -0.055 | -0.053 | -0.002 | -0.055 |
| Oct-00 | 0.004 | -0.052 | -0.020 | -0.007 | 0.087 | -0.033 | -0.004 | -0.013 | -0.017 |
| Nov-00 | -0.019 | -0.084 | -0.043 | 0.003 | 0.162 | -0.055 | -0.079 | 0.021 | -0.062 |
| Dec-00 | 0.033 | 0.017 | 0.032 | 0.046 | 0.004 | 0.014 | 0.005 | 0.037 | 0.016 |
| Jan-01 | 0.003 | 0.080 | 0.029 | 0.022 | -0.019 | 0.066 | 0.035 | -0.001 | 0.019 |
| Feb-01 | -0.033 | -0.074 | -0.026 | -0.017 | 0.118 | -0.027 | -0.091 | 0.000 | -0.088 |
| Mar-01 | -0.020 | -0.051 | -0.023 | 0.008 | 0.071 | -0.031 | -0.063 | -0.029 | -0.068 |
| Apr-01 | 0.038 | 0.057 | 0.023 | -0.001 | -0.120 | 0.016 | 0.078 | -0.004 | 0.072 |
| May-01 | 0.011 | 0.023 | 0.009 | -0.001 | -0.023 | 0.026 | 0.007 | -0.004 | -0.012 |
| Jun-01 | 0.007 | 0.000 | -0.003 | 0.004 | 0.010 | 0.013 | -0.024 | -0.008 | -0.032 |
| Jul-01 | -0.014 | -0.024 | -0.011 | -0.003 | 0.060 | -0.032 | -0.010 | 0.026 | -0.013 |
| Aug-01 | -0.014 | -0.031 | -0.012 | 0.006 | 0.083 | 0.002 | -0.063 | 0.037 | -0.049 |
| Sep-01 | -0.011 | -0.087 | -0.037 | 0.006 | 0.085 | -0.056 | -0.081 | 0.007 | -0.092 |
| Oct-01 | 0.029 | 0.045 | 0.019 | 0.027 | -0.039 | 0.028 | 0.019 | 0.009 | 0.019 |
| Nov-01 | 0.026 | 0.053 | 0.020 | 0.001 | -0.075 | 0.054 | 0.077 | -0.015 | 0.058 |
| Dec-01 | 0.021 | 0.038 | 0.020 | 0.015 | -0.034 | 0.048 | 0.009 | -0.027 | 0.006 |

| Date | Mkt. Timing | Eq. Non-Hedge | Eq. Hedge | Macro | Short Seller | Emerg. Mkts. | S&P 500 | JPM bond in $ | MSCI $ |
|---|---|---|---|---|---|---|---|---|---|
| Jan-02 | -0.009 | -0.006 | 0.001 | 0.000 | 0.045 | 0.020 | -0.015 | -0.016 | -0.031 |
| Feb-02 | 0.001 | -0.017 | -0.011 | -0.017 | 0.038 | 0.021 | -0.019 | 0.005 | -0.009 |
| Mar-02 | 0.021 | 0.048 | 0.020 | 0.019 | -0.045 | 0.038 | 0.038 | -0.004 | 0.043 |
| Apr-02 | -0.014 | -0.002 | 0.001 | -0.001 | 0.048 | 0.025 | -0.061 | 0.036 | -0.034 |
| May-02 | -0.008 | -0.011 | 0.000 | 0.017 | 0.044 | 0.003 | -0.007 | 0.028 | 0.002 |
| Jun-02 | -0.013 | -0.044 | -0.027 | 0.019 | 0.050 | -0.041 | -0.071 | 0.046 | -0.062 |
| Jul-02 | -0.014 | -0.071 | -0.040 | 0.003 | 0.066 | -0.050 | -0.078 | 0.011 | -0.088 |
| Aug-02 | 0.008 | 0.002 | 0.002 | 0.008 | 0.020 | 0.016 | 0.007 | 0.018 | 0.002 |
| Sep-02 | 0.001 | -0.052 | -0.023 | 0.025 | 0.068 | -0.043 | -0.109 | 0.012 | -0.116 |
| Oct-02 | 0.007 | 0.033 | 0.006 | -0.017 | -0.039 | 0.017 | 0.080 | 0.015 | -0.032 |
| Nov-02 | 0.020 | 0.055 | 0.026 | -0.006 | -0.064 | 0.023 | 0.059 | 0.018 | -0.033 |
| Dec-02 | -0.024 | -0.023 | -0.011 | 0.037 | 0.059 | -0.002 | -0.059 | 0.020 | -0.035 |