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A Survey of Demographics and Performance in the Hedge Fund Industry

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Abstract

We investigate hedge fund demographics using data from the Alternative Asset Center (AAC) and then hedge fund performance over the twelve years since inception of the Credit Suisse/Tremont Hedge Fund Indices (HFI, 1994-2005). We find that hedge funds are largely domiciled "offshore" while hedge-fund managers are located primarily in the United States, particularly New York, California, Illinois, Connecticut and Florida. We find that the annualized performance of hedge funds as an "asset class" is about the same as that of U.S. equities (S&P 500). That being said, the real benefit of hedge funds lies in risk management as the volatility of HFI is considerably lower than the stock market. We also find that most hedge-fund "styles" provide solid absolute and risk-adjusted returns and conclude that hedge funds have been a worthwhile investment vehicle for fund indexers and active investors.

Any casual following of the financial news would reveal that hedge funds have experienced phenomenal growth, especially over the last fifteen years. In terms of numbers, there were an estimated 8000 hedge funds in 2005, up from only 500 in 1990. During this fifteen-year period assets under management have grown from an estimated $50 billion to $1.5 trillion (*Financial Times*, February 8, 2006). Moreover, the hedge-fund industry has spawned a "fund of funds" business, which has slowly become the preferred way of investing in hedge funds, especially for institutional investors. Today, the number of these combination funds is estimated at about 4000; see Kat and Palaro [2005].

Although a common perception among investors (particularly retail) is that a hedge-fund is a relatively new concept, this investment alternative dates back to the 1940s when Alfred Winslow Jones combined a leveraged long-stock position with a portfolio of short-stock positions in an investment fund; see Inglis [2005] for a more detailed history of the industry. The idea was based on the principle that fund performance depends on the ability to pick stocks with superior performance (alpha) rather than on market direction. This strategy outperformed the returns of mutual funds during those times, which led to an increased popularity of hedge funds in the 1960s. During that decade the nature of hedge-fund management changed, with hedge-fund managers leveraging rather than hedging their positions. When the markets did not perform as robustly as expected, the risky fund strategies did not prosper and from the mid-1960s to the end of the 1970s the hedge-fund industry went through a period of turmoil.

With the advent and burgeoning of the derivatives market, the hedge-fund market began to flourish. Hedge-fund managers started utilizing more sophisticated strategies and offering a wider variety of products. At the height of the bull market between 1995 and 1999, hedge funds posted unprecedented high returns (although remaining below the return on the S&P 500 Index),

engendering a rush among traditional money managers to become hedge-fund managers. The end of the 1990's turned out to be an interesting period for the industry. Cash flows into hedge funds, which peaked at $22.2 billion in 1997, were down to a mere $3.3 billion by 1999 (*Tremont Capital Management*). Perhaps the booming stock market, with annual returns in the 20%-40% range, made the search for alternative asset classes unnecessary. However, in 1999, as net inflows into hedge funds reached their abyss, hedge fund alternatives--as measured by the Credit Suisse/Tremont Hedge Fund Index (HFI)--posted a respectable gain of 18% in the presence of the 21% rise in the S&P 500 Index. In the three subsequent years, hedge funds on the average posted a cumulative return gain of 21% while the S&P 500 was actually down some 43%.

The strong performance of hedge funds during 2000-2002 turned out to be attractive to investors who were frantically looking for alternative investment opportunities**.** Net inflows to hedge funds were $72 billion in 2003 and $123 billion in 2004. As the markets recovered, hedge-fund returns sustained, although once again the S&P 500 index returns proved to be stronger. Although industry returns remained strong, the post tech stock boom period led to the downfall of many hedge funds. With the recovery of the market and continued market volatility, the most successful hedge funds have captured excess returns while lowering volatility, thereby preserving capital and delivering positive returns under all market conditions. 2005 saw a global decline in hedge-fund inflows as compared to the record setting numbers in 2004. A combination of weaker hedge-fund performance both in absolute terms and relative to more traditional funds and a decline in investor sentiment after the 2005 credit rating downgrades of the motor industry, which left a number of funds with substantial losses, likely explain declining inflows (*Financial Times*, February 8, 2006).

Until recently, hedge funds have been popular primarily with high-net-worth individuals. While this is true even today (individual investors make up more than half of all hedge-fund shareholders), an increasingly larger proportion of hedge-fund investors are pensions, retirement plans, endowments, and corporations; see Exhibit 1. As further evidence of the growth of hedge-fund popularity, Exhibit 2 reveals that the largest pension plans doubled their stake in alternatives, including hedge funds, over a ten-year period between 1995 and 2005. For example, alternative investments in the 200 largest pension plans were about 5% in 1995 while in 2005 they accounted for nearly 10% of plan allocations.

In this survey, we investigate hedge fund demographics using data from the Alternative Asset Center (AAC) and then hedge fund performance over the twelve years since inception of the Credit Suisse/Tremont Hedge Fund Indices (HFI, 1994-2005). Our key findings can be summarized as follows:

1. Hedge funds are largely domiciled "offshore", but hedge-fund managers are located primarily in the United States, particularly New York, California, Illinois, Connecticut and Florida.
2. The overall performance of hedge funds (Credit Suisse/Tremont HFI, 1994-2005) as an asset class is about the same as that of U.S. equities (S&P 500).
3. On an absolute-returns basis, hedge funds underperformed the stock market during the "bull market" run-up from 1995 to 1999, while on average they outperformed the market during the "bear market" through 2005.
4. The real benefit of hedge funds lies in risk management, as hedge funds overall outperformed the stock market on a risk-adjusted return basis. This contrasts with the

negative publicity that such alternative investment vehicles receive for perceived lack of regulation, transparency, and disclosure.

5. During 1994-2005, most hedge-fund "styles" provided solid absolute and risk-adjusted returns.
6. The best absolute return styles were Global Macro, Event-Driven-*Distressed*, and Long-Short Equity. The best hedge-fund styles on a risk-adjusted basis (Sharpe ratio) were Equity Market Neutral, E.D.-*Distressed*, and Multi-Strategy (combination).
7. The worst hedge-fund strategies on a risk-adjusted return basis (1994-2005) were Emerging Markets, Managed Futures, and Dedicated Short Bias.

The rest of our hedge-fund survey proceeds as follows: We first look at hedge-fund domiciles and manager locations, according to comprehensive data provided from the Alternative Asset Center (AAC). We then analyze hedge-fund performance, based on the Credit Suisse/Tremont HFI and hedge-fund styles. Fund performance is measured in absolute terms and relative to a Capital Market Line (CML) analysis of portfolio returns and risk. Following that, we conclude.

HEDGE-FUND DEMOGRAPHICS

In this section, we look at hedge-fund demographics in the context of (a) hedge-fund domiciles and (b) location of hedge-fund managers according to comprehensive data collected by the Alternative Asset Center. A breakdown of hedge-fund domicile, with a particular emphasis on U.S. versus non-U.S domiciled hedge funds is first provided, followed by a global-based breakdown of hedge-fund managers by location, particularly, U.S. stateside locations.[2]

Hedge-fund Domiciles

Exhibit 3 provides a breakdown of hedge-fund domiciles for U.S. versus non-U.S.-based hedge funds according to data provided by AAC. Of the 1410 hedge funds covered in this database as of January 31, 2006, 764 (or 54%) of these funds were headquartered "Offshore", including the Cayman Islands, British Virgin Islands, Bahamas, and Bermuda, while 312 hedge funds (or 22%) were domiciled in the United States. The exhibit also shows that 43 funds were domiciled in Ireland, with a balance of 291 funds (or 21%) domiciled in a category labeled "Other", consisting primarily of hedge funds domiciled in Western Europe, particularly France, Germany, and the United Kingdom.

Exhibit 4 provides a closer look at the breakdown of hedge-fund domicile by U.S. versus non-U.S.-domiciled funds. The exhibit shows that of the 764 hedge funds classified as "Offshore", some 530 (or 38% of all funds) were domiciled in the Cayman Islands. In turn, a large number of offshore funds were domiciled as follows: British Virgin Islands (107 funds, 8% of the total), Bermuda (91 funds, 6% of the total), and the Bahamas (36 funds, 2% of the total). As before, the exhibit shows that Ireland made up 3% of reporting funds while Western Europe consists of some 20% of overall hedge funds covered by the Alternative Asset Center.

In turn, Exhibit 5 provides a state-wide breakdown of the overall number of U.S. domiciled hedge funds. Not surprisingly, we see that Delaware accounts for 235 (or 75%) of 312 domiciled U.S. hedge funds as listed in the AAC database. Following that, we see that no other U.S. state accounts for more than 5% of the total number of U.S. domiciled hedge funds. Notably, the exhibit shows that only 15 of the AAC reporting funds were domiciled in California (at 5%), 12 funds (at 4% each) were domiciled in Florida and New York, 11 funds were domiciled in Illinois, and 8 funds were domiciled in Connecticut. Moreover, the Alternative

Asset Center reports that only 4 hedge funds were domiciled in Texas, 3 funds in Massachusetts, and 1 hedge-fund domiciled in New Jersey.

Hedge-fund Manager Location

A contrasting look at hedge-fund domicile versus geographic location of hedge-fund managers leads to some interesting observations. Unlike the breakdown of hedge funds by domicile (Exhibits 3-5), Exhibit 6 reveals that hedge-fund management is evenly split between U.S. domiciled managers and non-U.S. domiciled managers. Particularly, of the 1410 hedge funds reported by the Alternative Asset Center, some 730 of the funds (or 52%) were managed in the U.S., while 680 funds had fund managers located outside the U.S.

Most hedge-fund managers are domiciled in New York, with some 334 managers or 46% of total U.S. hedge-fund reporting managers in the AAC database. The second in line is California, which accounts for 106 (or 15%) of U.S. domiciled hedge-fund managers. All other states in AAC database account for less than 10% of U.S. domiciled fund managers. Exhibit 7 provides a look at hedge-fund manager domicile with a listing of the top 10 U.S. states by hedge-fund manager location. The exhibit shows that New York and California take up the first two U.S. manager domiciled positions, followed by Illinois, Connecticut, and Florida in positions three to five, with about 40-50 hedge funds with U.S. domiciled managers (or about 6% each). Massachusetts is listed as number "six", with 32 reported U.S. domiciled hedge-fund managers (or about 4% of total) followed by Texas, New Jersey, Pennsylvania, and Minnesota, in positions seven to 10 respectively, each with less than 3% of AAC reporting managers.

Exhibit 7 also reveals that the top five U.S. states account for some 79% of hedge-fund manager domiciles, while the top 10 U.S. states account for about 90% of hedge-fund manager

domiciles. Taken together (Exhibits 3-7), the hedge-fund demographics collected by the Alternative Asset Center reveal that (a) most hedge funds are domiciled outside the United States, particularly in the Cayman Islands, and (b) to the extent that hedge funds are domiciled in the U.S., they are largely domiciled in Delaware. A sharply different picture emerges from the ACC database when ranking hedge funds by manager location. Notably, about one-half of reporting funds are managed in the United States, particularly New York, followed by California, Illinois, Connecticut and Florida.

HEDGE-FUND PERFORMANCE AND RISK

In this section we look at hedge-fund performance, with an eye toward assessing risk-adjusted return performance. First, we analyze the overall performance of hedge funds versus traditional assets such as equities. We then examine the performance of hedge funds in the context of a Capital Market Line (CML) assessment of performance versus risk. Our hedge-fund performance is based on the Credit Suisse/Tremont HFI.[3]

Following that, we look at a breakdown of the risk-adjusted performance of 10 hedge-fund "styles" as represented by Credit Suisse/Tremont Hedge-fund Indices. The specific names of the 10 hedge-fund styles covered by Credit Suisse/Tremont include Convertible Arbitrage, Fixed Income Arbitrage, Event-Driven (including, E.D.-*Distressed*, E.D.-*Risk Arbitrage*, and *E.D. Multi-Strategy*), Global Macro, Long-Short Equity, Equity Market Neutral, Dedicated Short Bias, Managed Futures, Emerging Markets, and Multi-Strategy (combination). In our style-based performance assessment, we look at annualized returns, standard deviation of return (total risk), and risk-adjusted performance, measured by the Sharpe ratio. The Sharpe ratio is the annualized

fund premium (return over risk-free rate) divided by the standard deviation of asset or portfolio return.

HFI: Absolute and Risk-Adjusted Returns

We first assess the performance of the Credit Suisse/Tremont HFI versus traditional assets including the S&P 500, the MSCI World Index, and U.S. Treasury Bills (a risk-free asset). In this context, Exhibit 8 shows the annualized returns over the 1994 to 2005 period (twelve years since inception) on the Credit Suisse/Tremont HFI versus three well-known assets. Based on annualized returns alone, hedge funds as an alternative asset class provided a return which, at about 10.5%, is competitive with that earned on U.S. equities. Moreover, the twelve-year HFI performance is considerably better than that observed on the MSCI World index and (not-surprisingly) U.S. Treasury Bills, with annualized returns of 8.4% and 3.84% respectively.

Exhibit 9 shows the performance of the Credit Suisse/Tremont HFI relative to a Capital Market Line. While Exhibit 8 reveals that the annualized return to hedge-fund investing is competitive with that of equity indexing (to the S&P500), Exhibit 9 highlights the benefit of hedge funds from a risk management perspective. Specifically, the latter exhibit shows that the annualized standard deviation on the Credit Suisse/Tremont HFI over the 1994 to 2005 period is about 8% (actually, 7.88%), while the comparable risk measure for the S&P500 was considerably higher, at 15% (14.77%). Moreover, Exhibit 9 shows that a CML-based strategy that combines the Credit Suisse/Tremont HFI with the risk-free asset provides better returns on a risk-adjusted basis than that observed on a two-asset portfolio consisting of the market index (S&P 500) and the risk free asset. In other words, the Sharpe ratio (slope of the CML) for the

Credit Suisse/Tremont HFI is considerably higher than that observed on the S&P500, at 0.87 and 0.45, respectively.

Style-Based Performance and Risk

We now assess the performance of hedge funds by fixed income and equity "styles". Exhibit 10 shows the annualized returns of the 10 hedge-fund-style classifications within the Credit Suisse/Tremont HFI. Again, we will illustrate hedge-fund performance over the twelve years (1994-2005) since inception of the Credit Suisse/Tremont hedge-fund indices. In this context, we see that the three highest performing hedge-fund styles, with absolute returns exceeding the 10.5% annualized return on the Credit Suisse/Tremont HFI and S&P500, were Global Macro, at 13.53%, Event Driven-*Distressed*, at 13.44%, and Long-Short Equity, at 11.90%. In turn, Exhibit 10 shows that the three hedge-fund styles with low-to-negative absolute returns were Managed Futures, at 6.36%, Fixed Income Arbitrage, at 6.28%, and Dedicated Short Bias, at -2.03%. As seen shortly, Managed Futures and Dedicated Short Bias styles were troubling because those strategies involve a high level of portfolio risk.

Exhibit 11 shows the performance of hedge-fund styles measured relative to the CML. In this exhibit, we see that the three best-performing hedge-fund styles as measured by absolute return, namely Global Macro, E.D.-*Distressed*, and Long-Short Equity, also provided attractive risk-adjusted returns. In each case, the annualized standard deviations, at about 11%, 6.5%, and 10%, respectively, were lower than that observed on the S&P 500 and MSCI World indexes, with volatility estimates near 15% and 14% respectively. Also, the Sharpe ratio for the high absolute performing hedge-fund styles, 0.87, 1.49, and 0.79, respectively, were considerably

higher than corresponding reward-to-risk ratio for the reference equity indexes, S&P 500 and MSCI World, at 0.45 and 0.33.

A closer look at Exhibit 11 reveals that most of the hedge-fund styles outperformed the market on a risk-adjusted return basis. This is measured by a predominance of hedge-fund styles-including three high absolute return styles along with the low risk hedge-fund styles such as Equity Market Neutral, E.D.-*Risk Arbitrage*, Fixed Income Arbitrage, Convertible Arbitrage, and Multi Strategy (combination)-that plot above the CML. The three highest Sharpe ratios were observed on Equity Market Neutral, E.D.-*Distressed* (within Event-Driven), and Multi-Strategy, at 2.08, 1.49, and 1.28 respectively. In contrast, the worst performing hedge-fund styles on a risk-adjusted basis were Emerging Markets, Managed Futures, and (worst yet) Dedicated Short Bias, with Sharpe ratios of 0.28, 0.21, and -0.34.

Hedge Funds During Bull and Bear Markets

We also looked at hedge-fund performance during both “bull” and “bear” markets (not shown graphically). Here, we find that hedge funds as an asset class underperformed the stock market (S&P 500) during the six-year, “bull market” run-up to 1999, while on average they outperformed the market during the six-year “bear market” through 2005. As we noted before, hedge funds (overall) provided higher risk-adjusted returns for the 12 years since inception of the Credit Suisse/Tremont HFI, with the primary benefit coming from portfolio risk management (via risk reduction). Moreover, we observe a noticeable decrease in the risk of several hedge-fund styles, notably Global Macro and Long-Short Equity, when comparing risk-adjusted returns during the first half of the sample period, 1994-1999, with performance and risk considerations during the second half, 2000-2005.

CONCLUSION

In this survey we examine hedge-fund demographics and hedge-fund performance. We observe that while individual investors still make up more than half of all hedge-fund shareholders, foundations, pension funds, and university endowments are increasing their stake in alternatives. While hedge funds are mostly domiciled "offshore", hedge-fund managers are primarily located in the United States, particularly New York, California, Illinois, Connecticut, and Florida.

We find that the overall performance of hedge funds (measured by Credit Suisse/Tremont HFI, 1994-2005) as an asset class is about the same as that of U.S. equities (S&P 500). On an absolute-returns basis, hedge funds underperformed the stock market (S&P 500) during the six-year, "bull market" run-up to 1999, while on average they outperformed the stock market during the six-year "bear market" (or lull period) through 2005. Overall, we find that the benefit of hedge funds as an asset class lies in risk management. This finding is in sharp contrast to the often negative publicity that alternative investments receive because of their perceived lack of regulation, transparency and disclosure.

We also find that during 1994-2005 most hedge-fund "styles" provided solid absolute and risk-adjusted returns. The best absolute-return-performing styles were Global Macro, Event Driven-*Distressed*, and Long-Short Equity, each with returns exceeding the 10.5% annualized return on the S&P 500 and Credit Suisse/Tremont HFI benchmarks over the comparable period. The best performing hedge-fund styles on a risk-adjusted basis (Sharpe ratio) were Equity Market Neutral, E.D.-*Distressed*, and Multi-Strategy (combination). In turn, the worst performing hedge-fund strategies on a risk-adjusted returns basis (1994-2005) were Emerging

Markets, Managed Futures, and Dedicated Short Bias (which was worst of all, with negative annualized return and high risk). On balance, we find that hedge funds have been a worthwhile investment for both hedge-fund indexers and active investors, since hedge-fund indices and (most) hedge-fund styles outperformed the market on a risk-adjusted returns basis. We suggest that given the return and risk-management benefits of hedge funds, investors (particularly institutional investors) will likely continue increasing their stake in these “just in time” alternatives.

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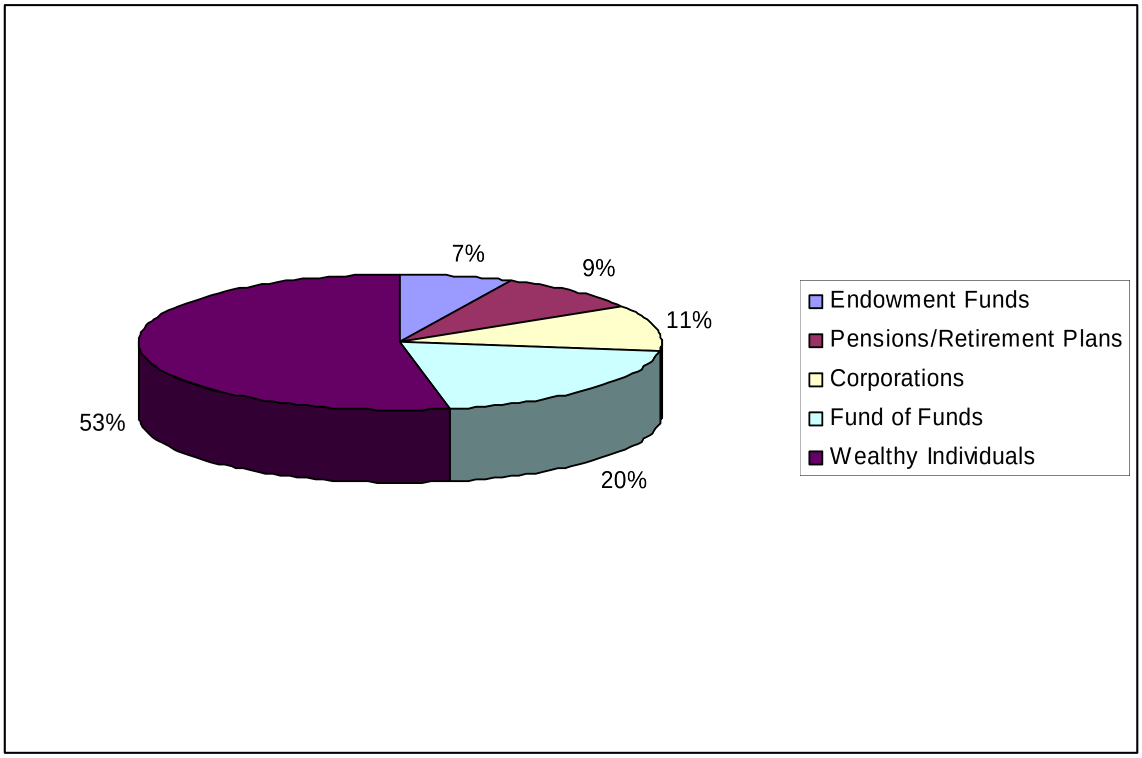
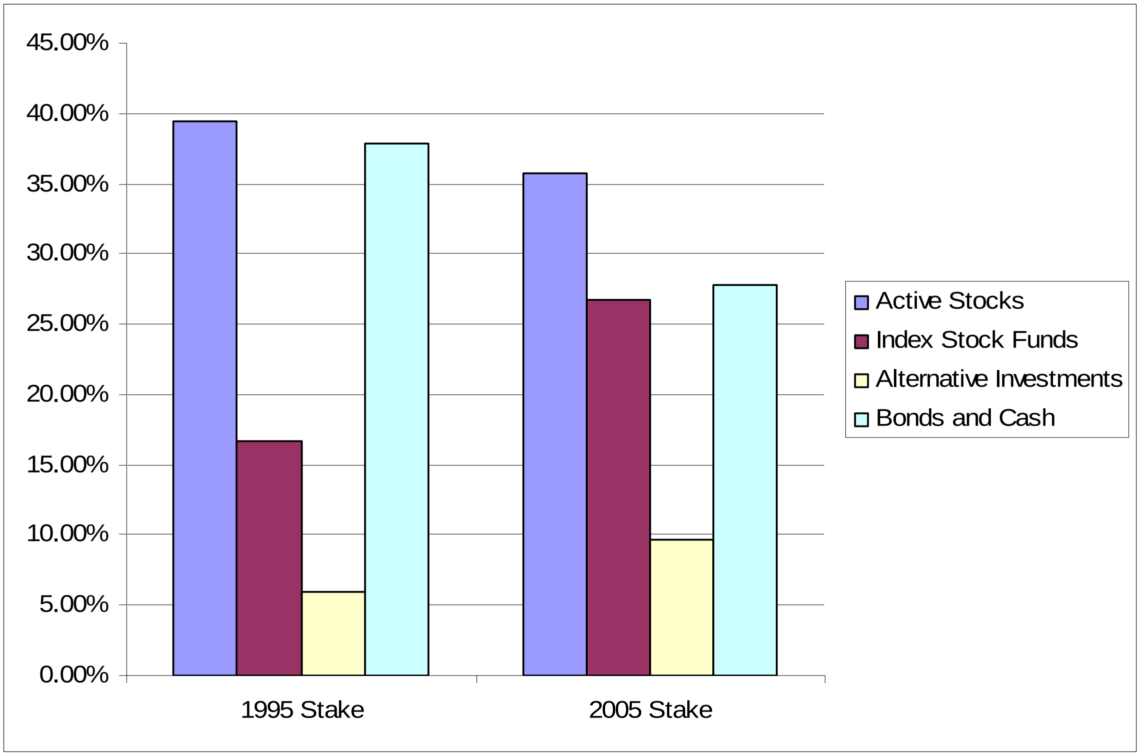
Exhibit 1: Hedge-fund Investors



Source: Hennessee Group

Exhibit 2: Investment by Asset Class of the 200 Largest Pension Plans



Adapted from *The Wall Street Journal* (February 8, 2006). Source: Pensions and Investments

Exhibit 3
Hedge Fund Domicile
Source: Alternative Asset Center

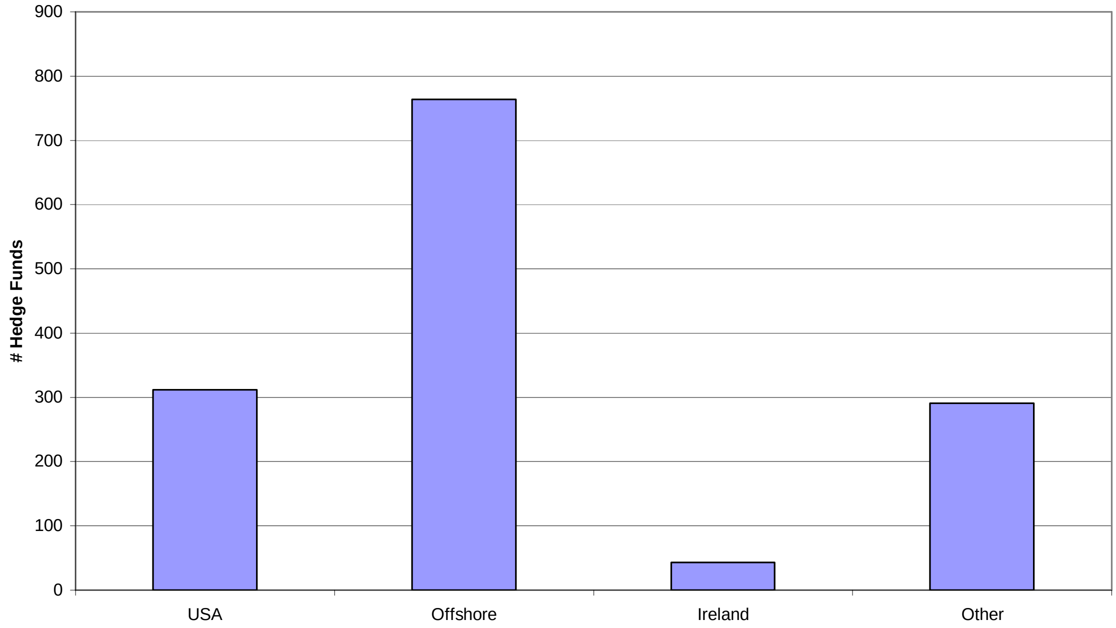


Exhibit 4
Hedge Funds by Selected Domicile
Source: Alternative Asset Center

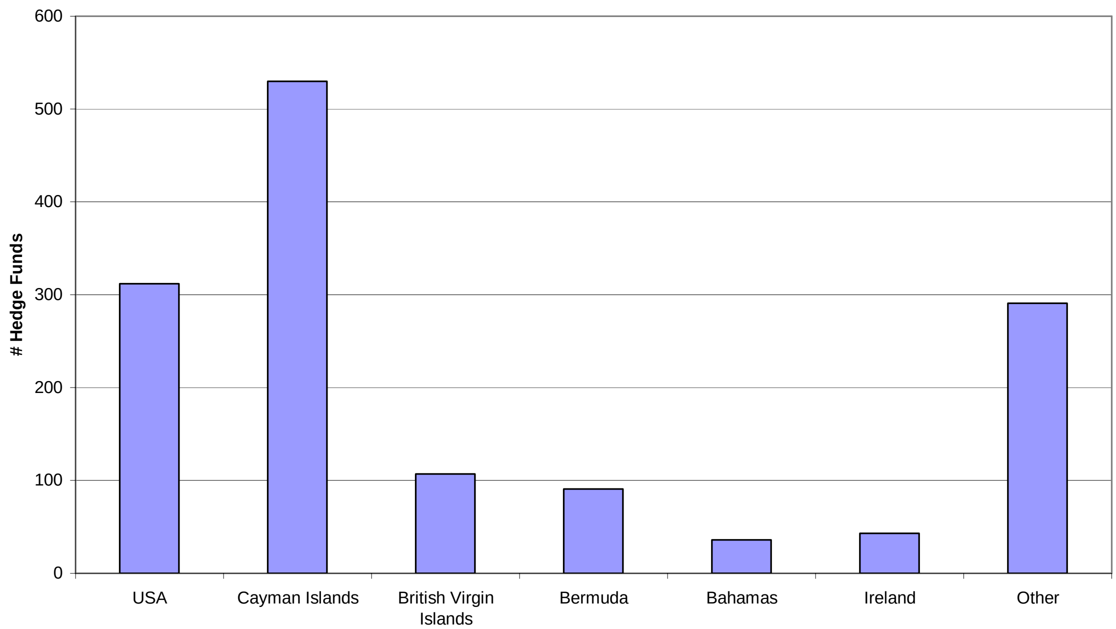


Exhibit 5
US Hedge Fund Domicile by States
Source: Alternative Asset Center

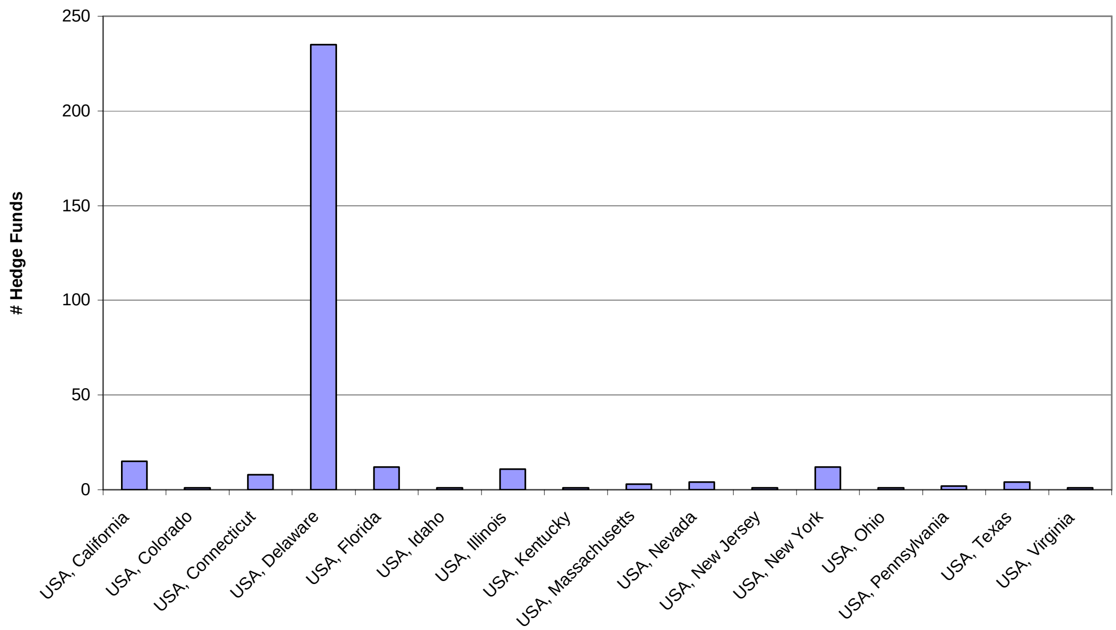


Exhibit 6
Hedge Fund Managers: US Domiciled vs. Non-US Domiciled
Source: Alternative Asset Center

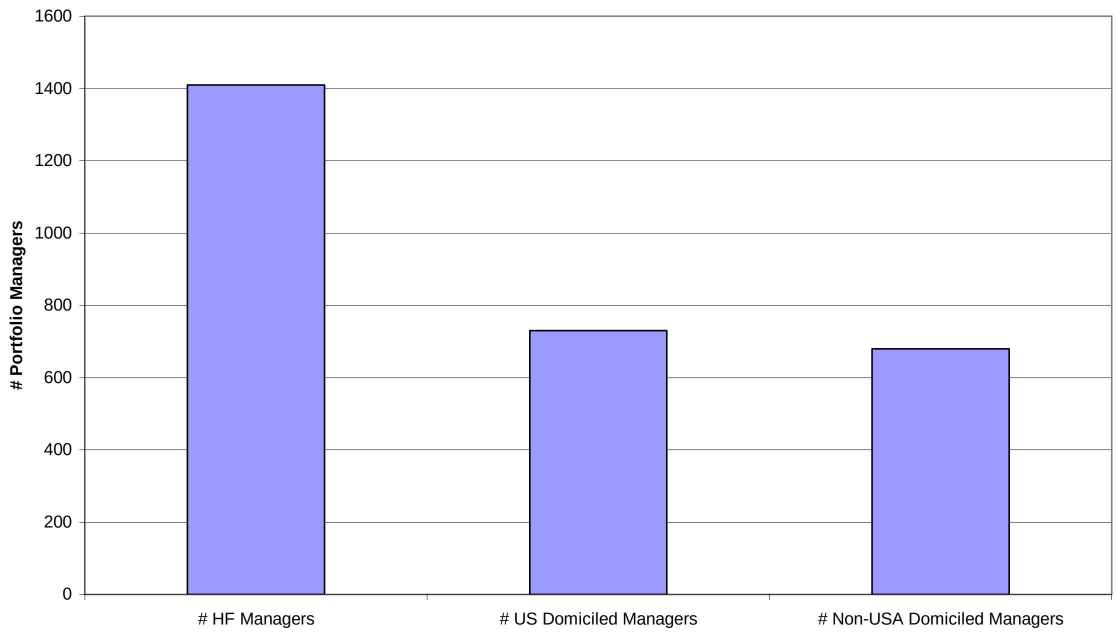


Exhibit 7
Domicile of US Hedge Fund Managers: Top 10 States
Source: Alternative Asset Center

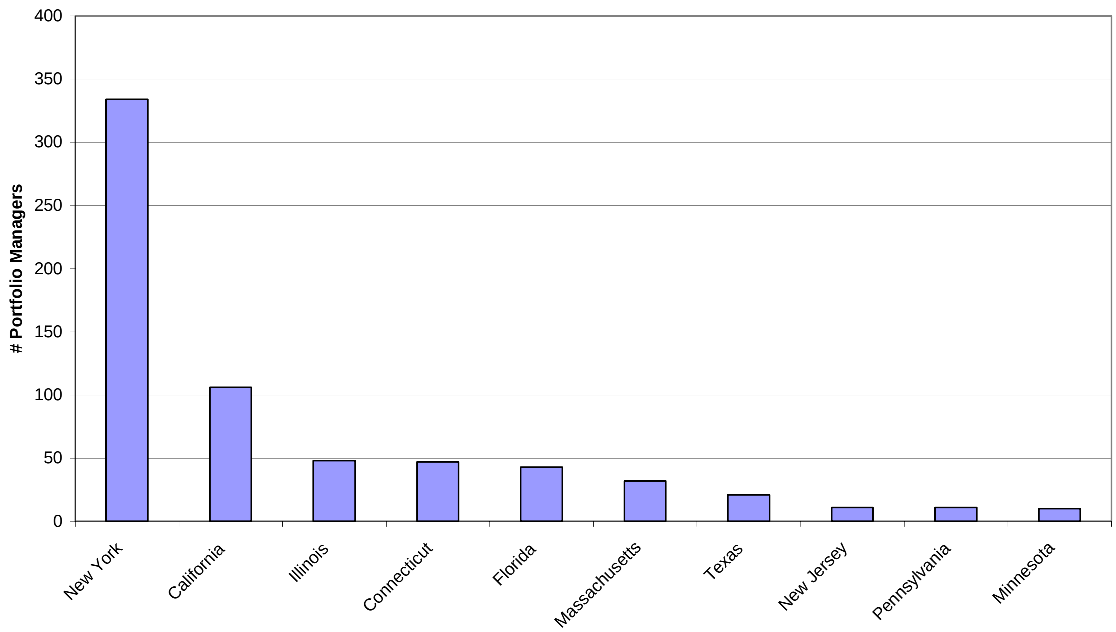


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Exhibit 8
Hedge Funds vs. Traditional Benchmarks
1994-2005

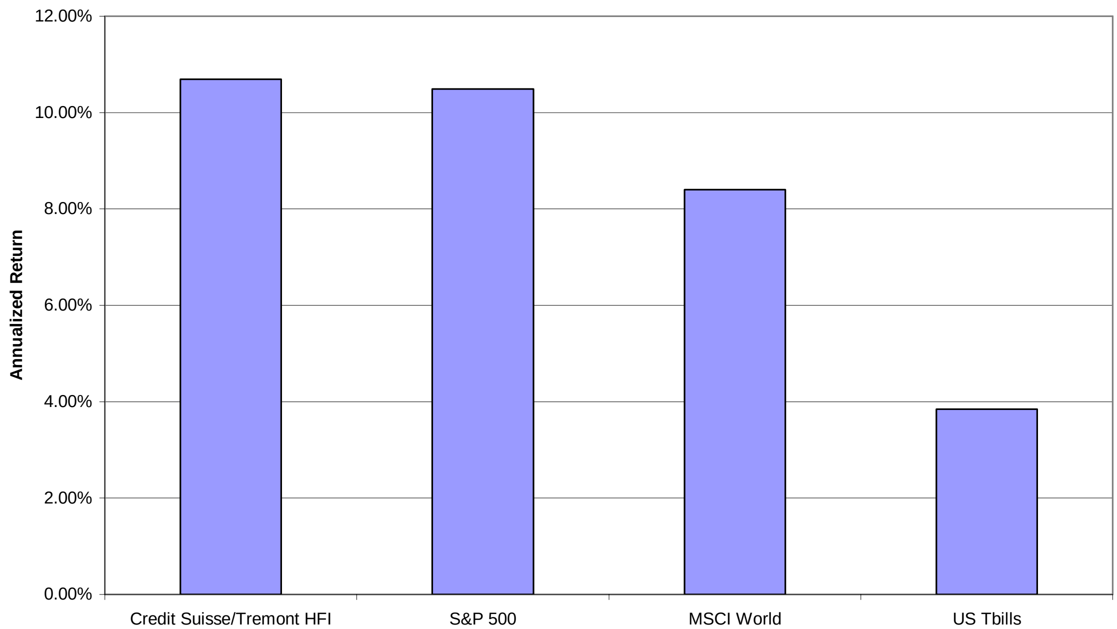

Exhibit 9
Capital Market Line (CML)
Credit Suisse/Tremont Hedge Fund Index vs. Market

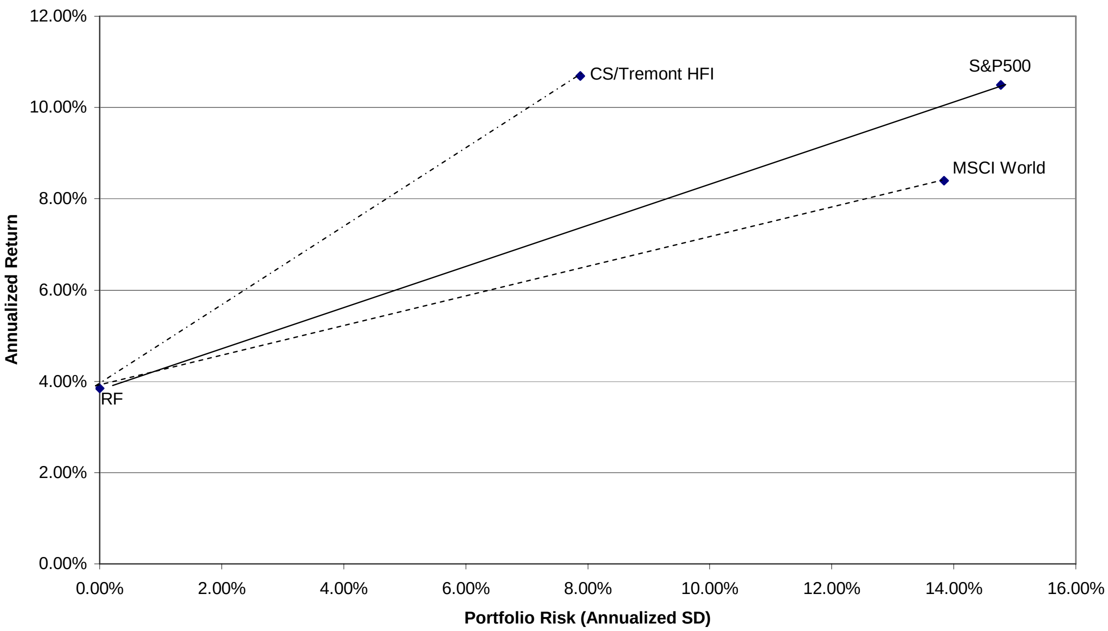

Exhibit 10
Performance of Hedge Fund Strategies: 1994-2005

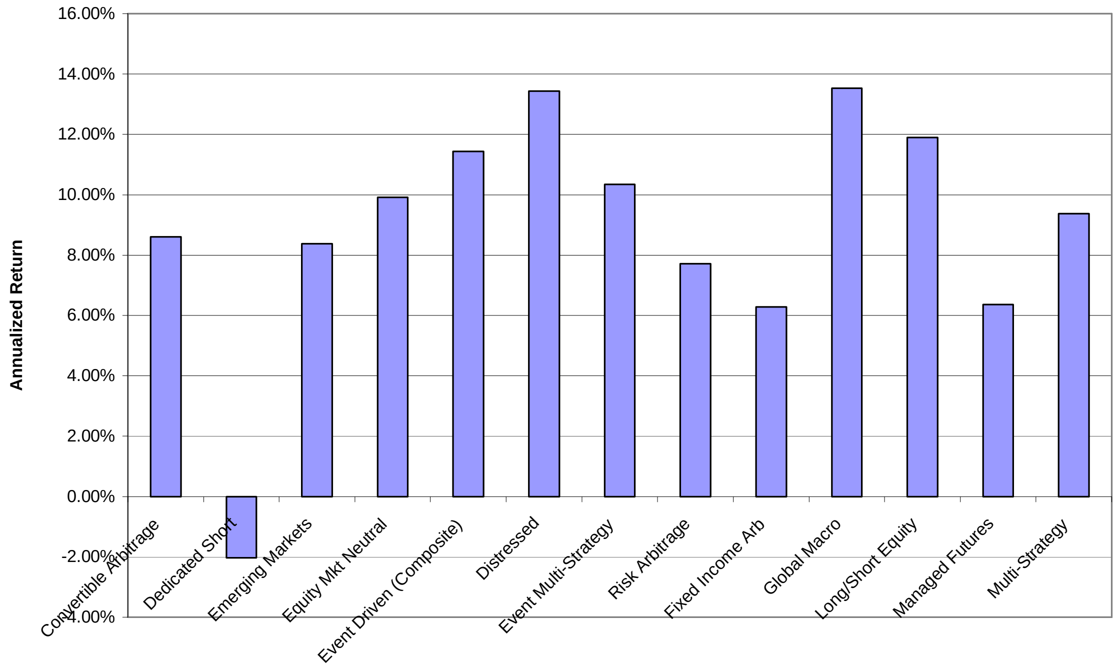

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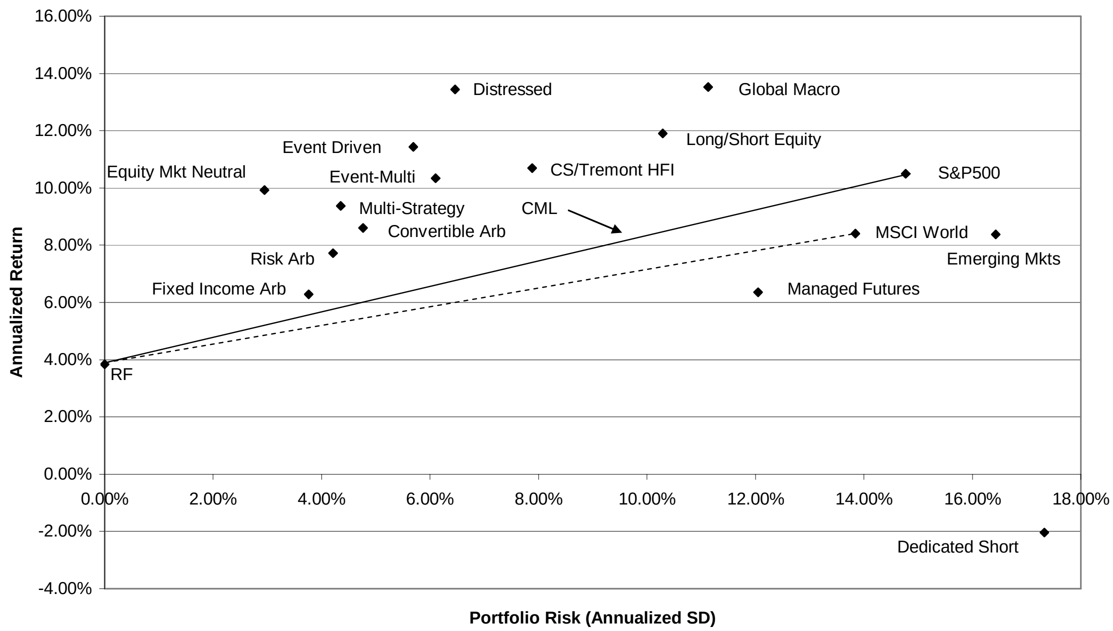
Exhibit 11
Hedge Fund MPT Analysis
(Performance vs. Risk)



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ENDNOTES:

* A prior version of this paper was presented at the Financial Services Forum Conference on Hedge Funds (June 7, 2006) at the College of Management, University of Massachusetts-Boston. We have benefited from helpful discussions with James Abate, Atreya Chakraborty, Ed D'Alelio, William Koehler, and Lawrence Franko on the subject of hedge funds as alternative investments. Mohit Aggarwal provided research assistance. We are grateful to the Financial Services Forum at the College of Management, UMASS-Boston for providing financial support. Remaining errors are all ours.

[1] "Accredited investors" have a net worth of at least $1 million and either an income of at least $200,000 individually in each of the past two years, or a joint spousal income of in excess of $300,000 in each of the past two years.

[2] We realize that other databases might produce different results regarding hedge fund domicile, manager location, and (in a later section) performance.

[3] The Credit Suisse/Tremont Hedge Fund Index (HFI) is an "assets-weighted" index. The HFI universe is defined as funds with (a) a minimum of $50 million in assets under management (AUM), (b) a minimum one-year track record, and (c) current audited financial statements. Funds are separated into 10 primary sub indices based on their investment "style". The Index in all cases represents at least 85% of AUM in each sub category. To minimize survivorship bias, funds are not removed from the HFI until they are fully liquidated or they fail to meet the financial reporting requirements. For complete details, see www.hedgeindex.com