



Funds of Hedge Funds



Overview

March 15, 2008

Presented at the TEXPERS Conference

Ft. Worth, Texas

Hedge Funds, what are they?

- “THEY are secretive, clever and often highly lucrative.”¹
- Investment vehicles that are meant to hedge risk
- A culmination of investment strategies that involve the use of derivatives
- Investments that can make a lot of money
- Investment Strategies run by smart people who deserve to get paid more

But the truth is.....

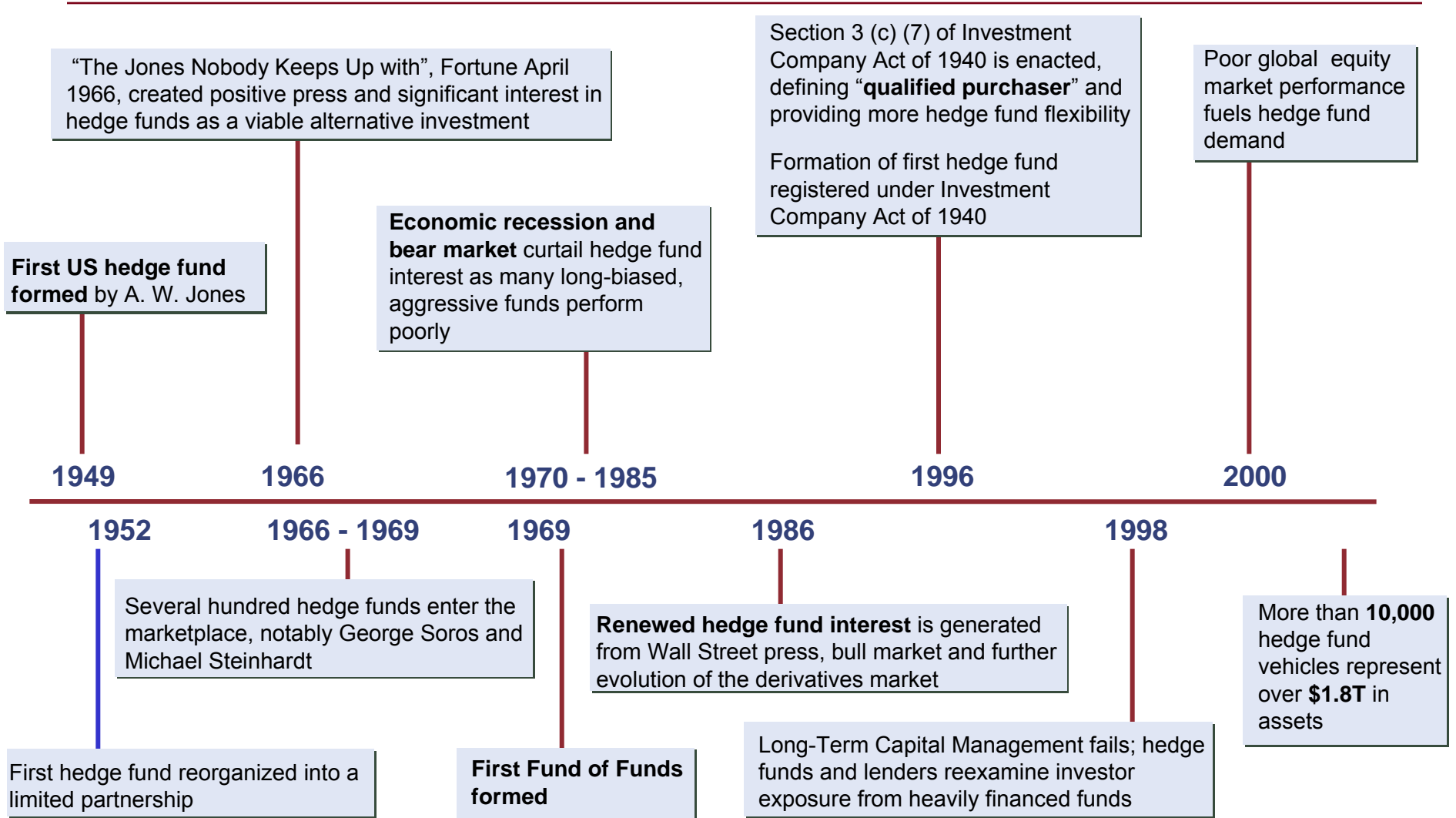
1. The Economist.com. Behind the veil August 16, 2007

Hedge Funds, what are they?

- Consist of a variety of pooled investment vehicles-primarily limited partnerships-loosely regulated and not required to be registered under federal securities laws as public corporations, investment companies or broker-dealers
- Hedge Funds strategies differ in their investment objectives, use of financial instruments and provide exposure to various markets which allows them to offer distinct risk/return patterns over time
- Offer varying degrees of similarity to equity and fixed income investments; however, they utilize unique investment strategies to exploit market inefficiencies.
- Due diligence is important in order to understand each manager's approach and source of alpha

Source: JPMAAM

History in the Making



Adapted from "Hedge Funds," Linderman and Klein, 1998.
Data as of December 31, 2007.
Source: Hedge Fund Research Industry Report – Year End 2007.

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Who are the biggest players?

Largest Hedge Fund Managers		
Assets under management, in billions, as of December 31, 2007		
Manager	Total Assets	% Inst'l (Est.)
Bridgewater Associates	\$36.0	100%
Farallon Capital Management	\$36.0	70%
Och-Ziff Capital Management Group	\$33.1	70%
D.E. Shaw Group	\$33.0	90%
Goldman Sachs Asset Management*	\$32.5	N/A
Renaissance Technologies**	\$31.4	61%
Paulson & Co.	\$29.0	95%
Highbridge Capital Management	\$28.0	75%
Barclays Global Investors	\$20.0	100%
Citadel Investment Group	\$20.0	70%
Total	\$299.0	72%

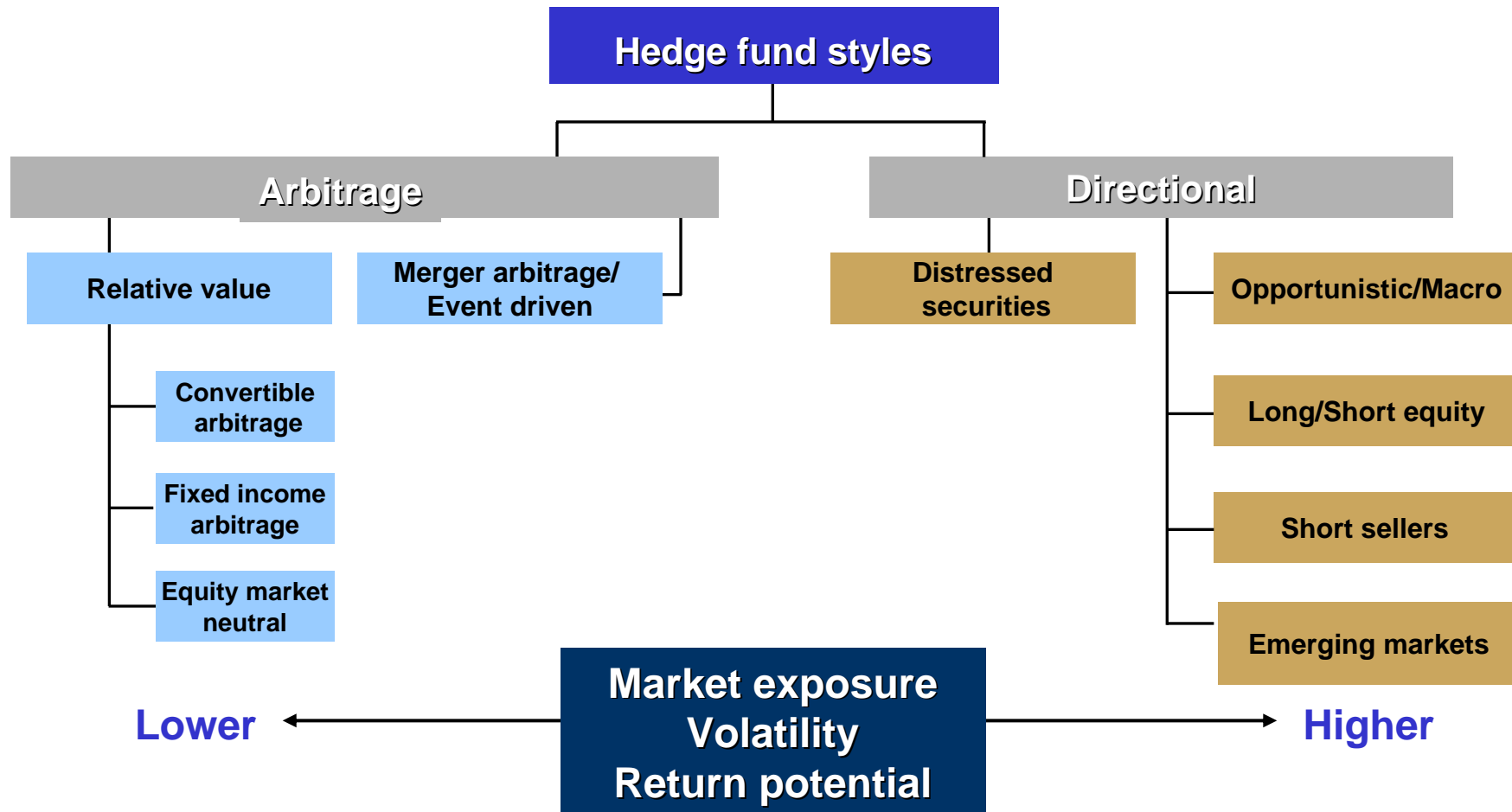
*As of Sept. 28, 2007. **Data not provided on SEC ADV

form. Source: Company information, SEC Investment Advisor

Discloser Forms, press reports.

Source: Pension & Investments February 4, 2008

How many strategies are available?



Source: JPMAAM

Underlying Hedge Fund Strategies

Relative Value

- Managers structure balanced or hedged portfolios with long and short positions that attempt to generate performance results independent of market direction.
- Four styles: long/short equity specialists, convertible hedgers, bond hedgers, and multi-strategy managers that combine different relative value styles.

Event Driven

- Managers focus on corporate transactions and special situations, including deal arbitrage and bankruptcy/distressed debt.
- Three styles: deal arbitrageurs, bankruptcy/distressed debt specialists, and multi-strategy managers that opportunistically combine different event driven styles.

Equity Hedge

- Managers invest in long and short securities with varying degrees of exposure and leverage.
- Three styles: domestic long biased, domestic opportunistic, and global/international managers.

Macro / Global Asset Allocators

- Managers invest opportunistically, long and short, in a variety of US and non-US financial and/or non-financial assets.
- Two styles: systematic traders and discretionary managers.

Short Selling

- Managers short specific US equities based on the fundamental characteristics of a company or current market trends, with the expectation of decline in share price.

Hedge Fund Characteristics

- ◆ **Definition** Private pools of capital usually limited to 100 investors and run by a money manager, who has his own money in the fund
- ◆ **Asset Class** > \$1.5 trillion in AUM across more than 8,000 practitioners
- ◆ **Investment Style** Variety of trading strategies to eliminate market risk
- ◆ **Diversification** Low correlation with traditional asset classes, which focus exclusively on *long* positions in financial assets
- ◆ **Performance** Strong historical risk-adjusted returns
- ◆ **Risk** Exchange market risk for manager and strategy risk
- ◆ **Liquidity** Less liquid than traditional asset classes
- ◆ **Transparency** Hedge funds have been exempt from SEC reporting and disclosure requirements. Many have registered with the SEC, but it remains optional.
- ◆ **Fees** 1% to 2% management fees and 20% of the profits

How do they compare to traditional investments?

	Traditional Stocks and Bonds	Hedge Funds
Investment Mandates	Restrictive	Flexible
Investment Strategies	Market-Based	Skill-Based
Return Target	Market-Correlated	Absolute
Risk Measure	Underperformance vs. Specific Index	Loss of Principal
Performance-Based Compensation	Typically No	Yes
Manager Investment in Funds	Typically No	Yes

Source: JPMAAM

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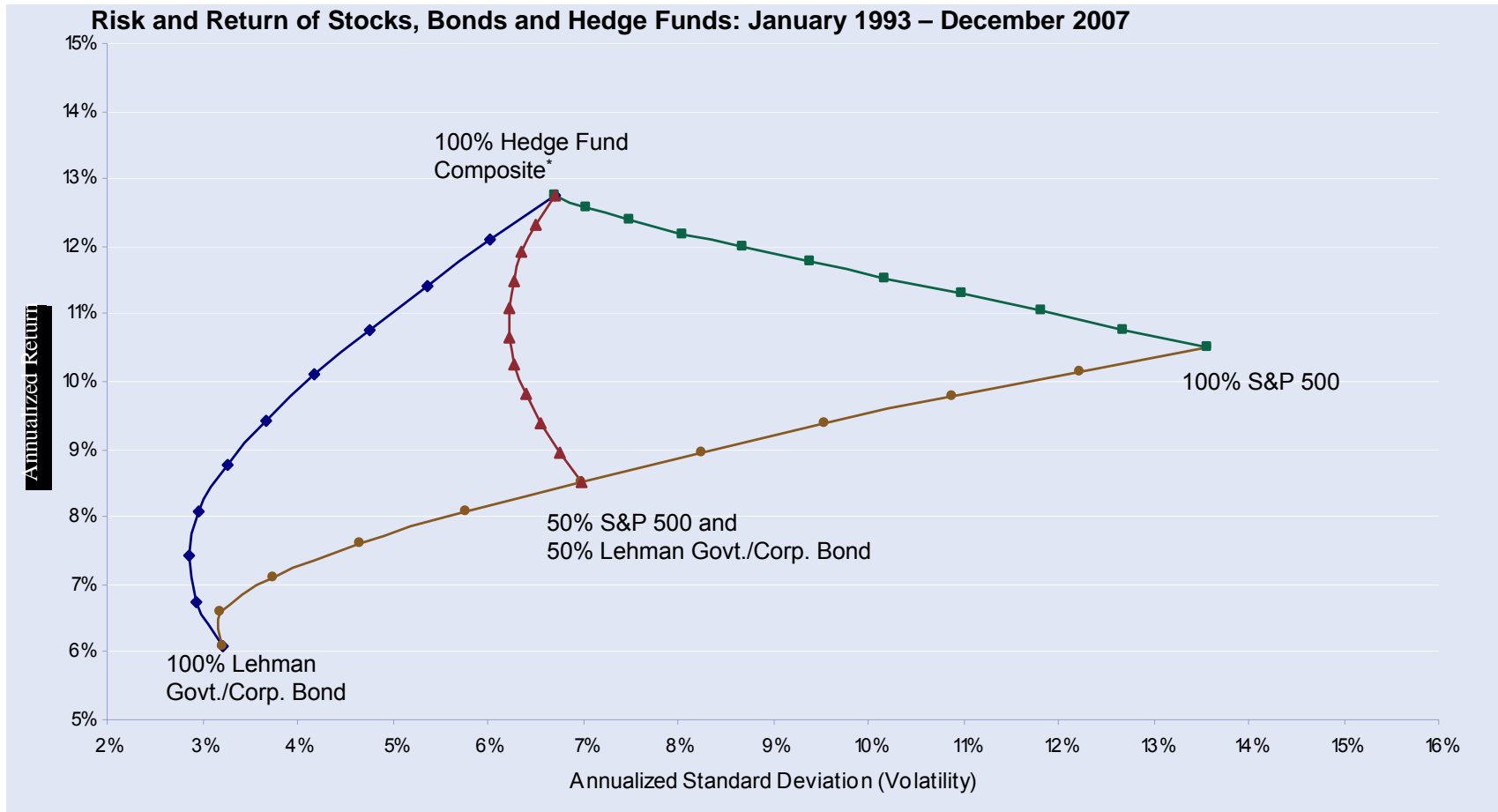
How do they compare to traditional investments?

	Hedge Fund Strategies	Traditional Stock and Bond Managers
Investment Structure	LP, LLC	Mutual Fund, Commingled fund, separate account
Capacity Constraints	99 investor limit, 25% ERISA	Unlimited
Liquidity	Quarterly/annually	Daily
Reporting Frequency	Monthly/quarterly	Daily/monthly
Disclosure	Limited	Unlimited
Management Fees	1% and up	0.25% - 1.5%
Performance Fees	15% or more of profits	Rare
SEC Regulation	Potentially; Currently no	Highly regulated
Loss Provisions	High watermark	None

Why Consider Hedge Funds?

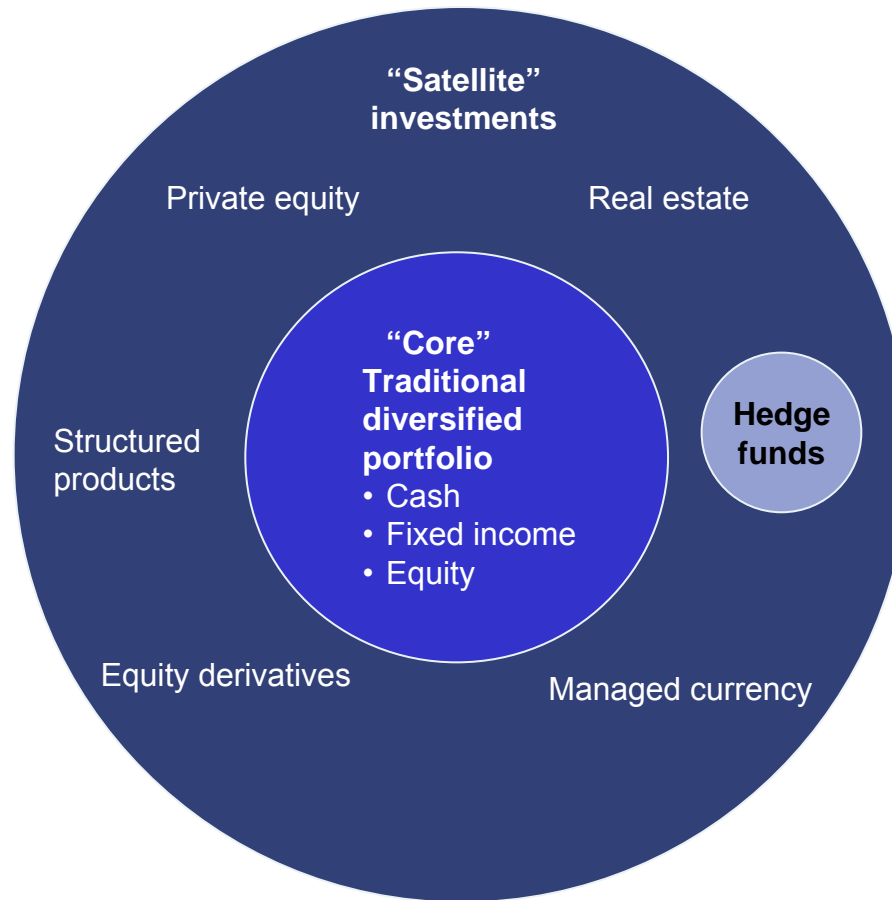
- Hedge funds complement existing traditional portfolios
- Attractive absolute return potential, target returns of T-Bills + 3% to 7% depending on risk tolerance of client, regardless of market direction
- Potential for better or more stable returns – lower volatility than stocks
 - Attractive risk adjusted returns
- Diversification benefits – alternative strategies may use:
 - Short selling techniques, either to hedge risk or to boost return
 - Non-financial assets – long or short positions in oil, gold, and other traditional commodity markets

Why Consider Hedge Funds?



*Hedge Fund Composite represented by HFRI Fund Weighted Composite Index (net of manager fees).
 Financial information as of December 31, 2007. Past performance may not be indicative of future results. Indices are shown for illustrative purposes.
 Indices are not available for investment by the public nor are fees and expenses charged by indices. This is not intended and should not be interpreted as the performance of an actual investment.

How Institutional Investors utilize Hedge Funds?



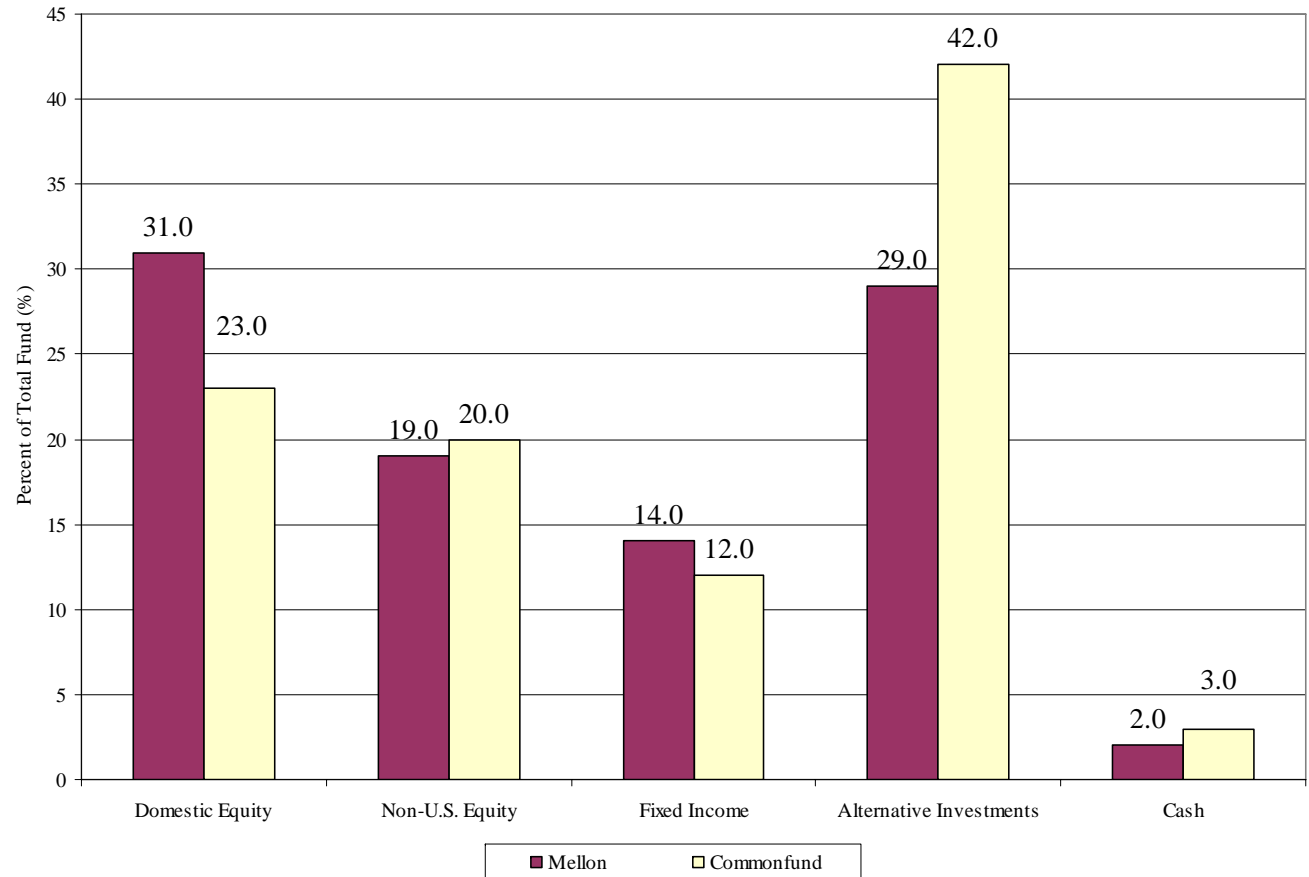
Source: JPMAAM

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How Institutional Investors utilize Hedge Funds?

- Alternative Investments are represented by Private Equity, Real Estate and Hedge Funds, which are a sizable allocation for Foundation and Endowments

Total Fund Allocation



Mellon Analytical Solutions Trust Universe - 134 Foundations and Endowments, December 31, 2007
 Commonfund Benchmarks Study 2008, Total: 767 plans, December 31, 2007

How Institutional Investors utilize Hedge Funds?

Alternatives Allocation

- ◆ Hedge Funds represent the majority of the Alternative allocation

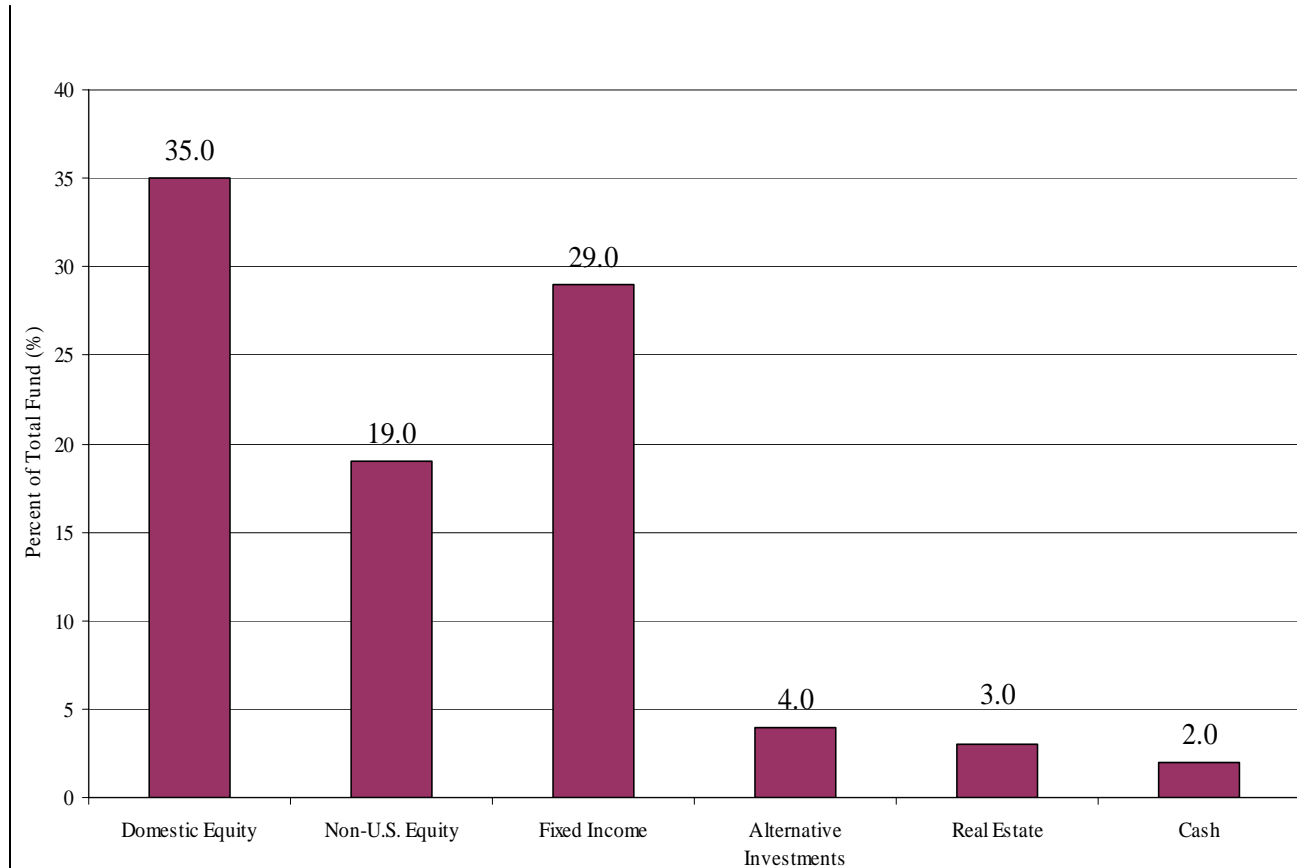
Type of Investment	Total	Over \$1 Billion	\$501-\$1,000 Million	\$101-\$500 Million	\$51-\$100 Million
Private Equity	19%	20%	16%	12%	8%
Hedge Funds	48%	46%	54%	60%	64%
Venture Capital	7%	7%	7%	4%	3%
Private Real Estate	14%	15%	9%	10%	13%
Energy & Natural Resources	10%	10%	10%	12%	10%
Distressed Debt	2%	2%	4%	2%	2%

Commonfund Benchmarks Study 2008 – Foundation and Endowments, 767 institutions - 644 provided alternative strategies allocations

How do some Institutional Investors utilize Hedge Funds?

- ♦ Corporate Defined Benefit plans have much less exposure to the “Alternatives” bucket
- ♦ Alternative Investments represent Private Equity and Hedge Funds

Total Fund Allocation



Mellon Analytical Solutions Trust Universe - 204 Corporate, December 31, 2007

Key risks that must be considered with Hedge Funds?

Judge freezes hedge fund's assets

By: Brandon Glenn June 28, 2007

Bear's Big Loss Arouses SEC Interest

The SEC is inquiring into the near-collapse of its fund, and Bear Stearns CEO James Cayne's reputation may be on the line

By Matthew Goldstein

Economists Caution Investors on Hidden Risks of Hedge Funds

Stanford Graduate School of Business: November 2005



PHOTO: MATTHEW PORTER

Top hedge fund stories of 2005

Fines, proxy fights, rocky returns -- 2005 has proved a tricky year for hedge funds.

December 12, 2005: 12:18 PM EST

By [Amanda Cantrell](#), CNN/Money staff writer

Delusional and Destitute HF Manager Throws Huge Party in His Honor

Posted by Bess Levin February 2, 2008

Key risks that must be considered with Hedge Funds?

Limited/Poor Information

- ◆ Investors are reliant on the manager for the availability, quality and quantity of information.

Liquidity Risk

- ◆ Invested capital is generally less accessible than that of traditional asset classes. For example, most hedge funds have quarterly or annual liquidity.

Leverage Risk

- ◆ Hedge funds often use leverage, sometimes at significant levels, to enhance potential returns.

Event Risk

- ◆ Given their niche specialization, market dislocations can affect some hedge fund strategies more adversely than others.

Headline Risk

- ◆ Negative media publications pertaining to hedge funds.

Manager Risk

- ◆ The performance of hedge funds is more dependent on manager-specific skills, rather than broad exposure to a particular market.

Operational Risk

- ◆ The business that supports the investment activities of the manager — infrastructure, operational controls/systems, accounting, legal structure, documentation, etc. — are equally as important as investment attributes.

Source: JPMAAM

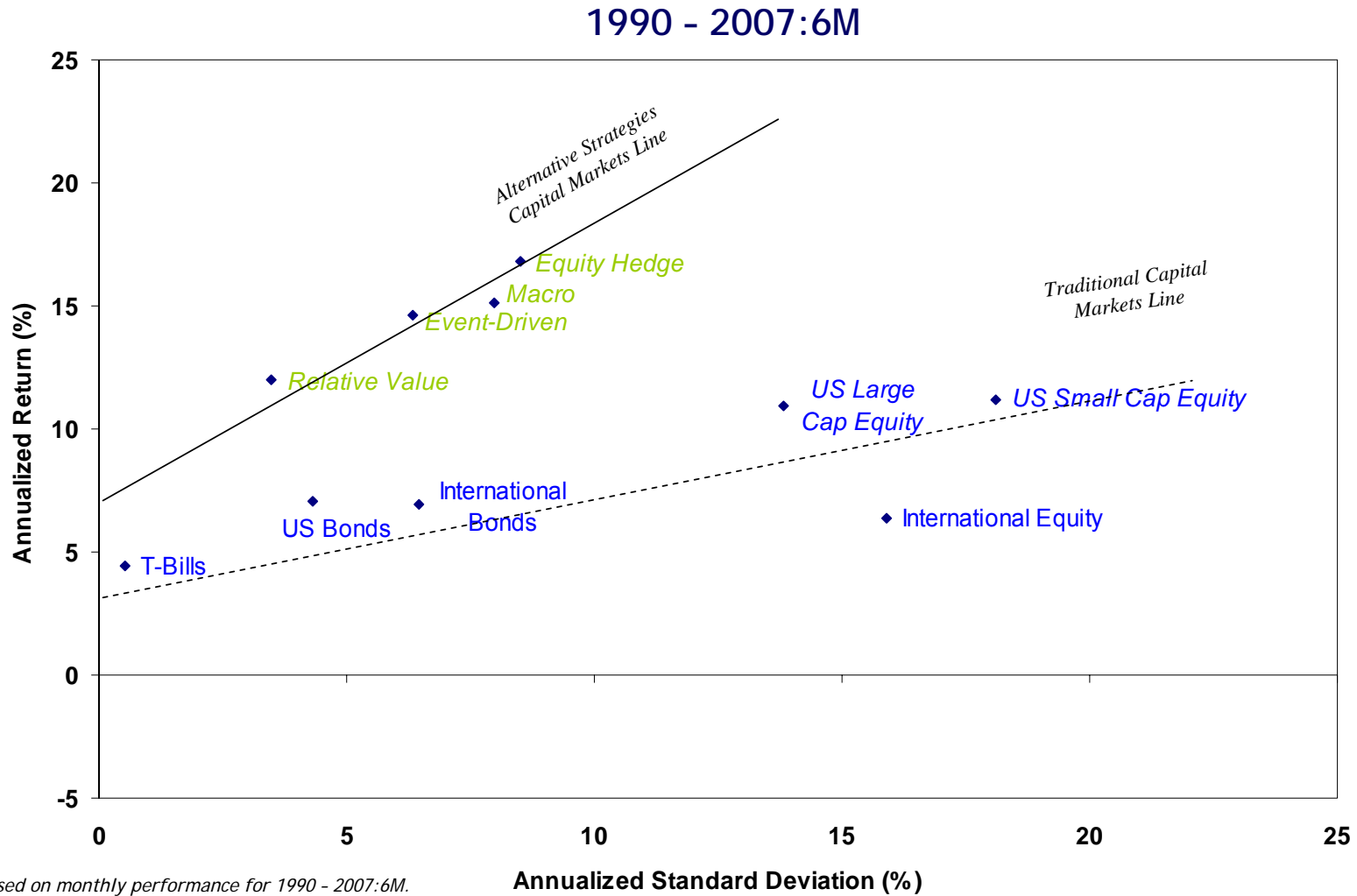
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Hedge Fund Risk Factors

- ◆ Portfolio Factors - General
 - Leverage
 - Concentration
 - Illiquidity
 - Investment Style: cut losses versus average down
- ◆ Portfolio Factors – Market-Related
 - Directional exposure: long, short, neutral, opportunistic
 - Exposure to technical factors: volatility, choppiness
 - Spread exposures
 - Fixed Income: credit and maturity spreads
 - Equity: growth/value, big/small
- ◆ Organizational Factors
 - Assets under management
 - Length of record
 - Portfolio transparency
 - Risk monitoring/management

What about performance?

Historical Risk/Return Characteristics



Sources: S&P 500, Lehman Brothers Government/Credit Index, Citibank World Government Bonds ex-U.S. (US\$), MSCI EAFE Index (US\$). Merrill Lynch U.S. T-Bills and HFRI Indices. The hedge fund strategy risk and return figures are derived from the HFRI Indices.

HFRI Indices: Performance Characteristics

1990 - 2007:6M

	Relative Value	Event Driven	Equity Hedge Fds	Macro	U.S. Equity	U.S. Small Equity	Int'l Equity	U.S. Bonds	Int'l Bonds	U.S. T-Bills
Return	11.98	14.64	16.84	15.12	10.95	11.17	6.39	7.05	6.96	4.45
Risk	3.47	6.33	8.52	7.99	13.82	18.11	15.91	4.32	6.45	0.54
Sharpe Ratio	2.17	1.61	1.45	1.33	0.47	0.37	0.12	0.60	0.39	0.00
Performance in S&P 500 negative months: (S&P 500 was down 45.6% of the months.)										
Gain										
Frequency	76.71	53.42	38.36	53.42	0.00	17.81	28.77	63.01	57.53	100.00
Average Return	0.55	-0.24	-0.58	0.07	-3.29	-3.67	-2.46	0.39	0.62	0.36

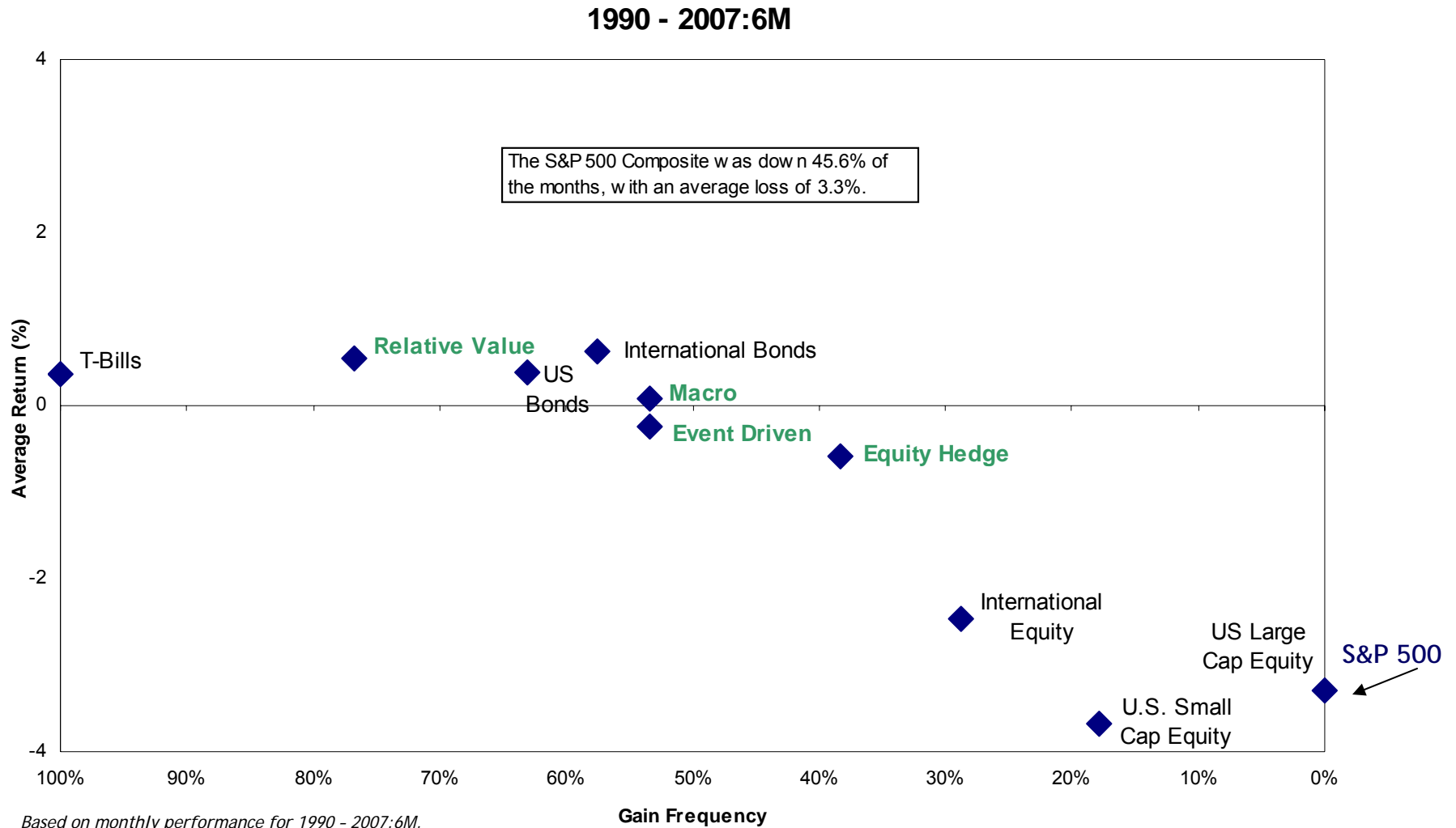
The HFRI Monthly Indices (HFRI) are equally weighted performance indexes that are broken down into 37 different categories by strategy, including the HFRI Fund Weighted Composite, which accounts for over 1800 funds listed on the internal HFR Database. Funds included in the HFRI Monthly Indices must report monthly returns, report Net of All Fees Returns and report assets in USD. There is no required asset-size minimum for fund inclusion in the HFRI, nor is there a required length of time a fund must be actively trading before inclusion in the HFRI. If a fund liquidates/closes, that fund's performance will be included in the HFRI as of that fund's last reported performance update.

Past performance is not necessarily indicative of future results. This material is intended for informational purposes only, and does not constitute an offer, solicitation or endorsement with respect to any investment strategy or vehicle.

Based on monthly performance for 1990 - 2007:6M.

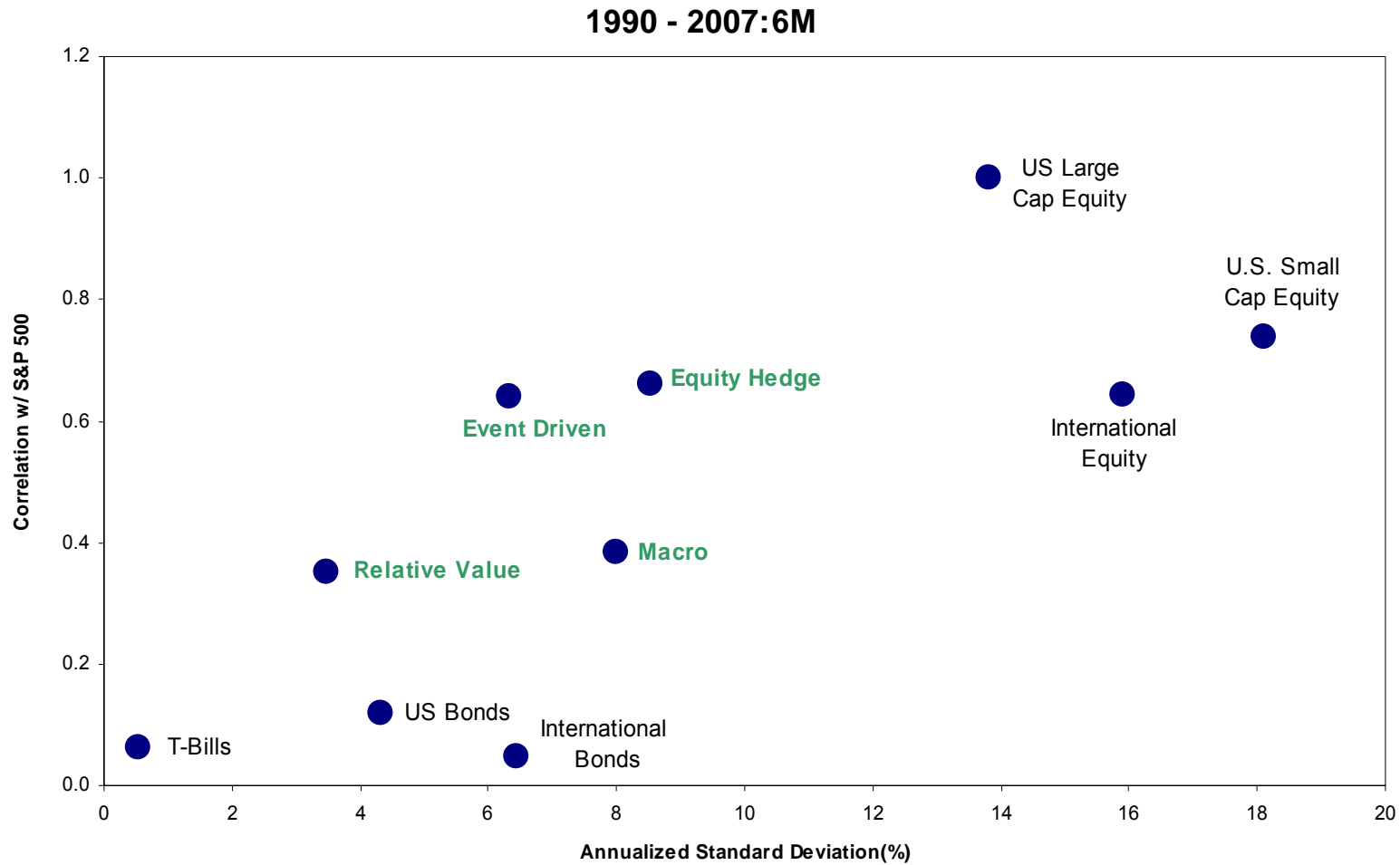
Sources: Standard & Poor's, Lehman Brothers, Citigroup, Morgan Stanley Capital International, Merrill Lynch and HFRI Indices. The hedge fund strategy risk and return figures are derived from the HFRI Indices.

Performance in S&P 500 Negative Months



Sources: Standard & Poor's, Lehman Brothers, Citigroup, Morgan Stanley Capital International, Merrill Lynch and HFRI Indices. The hedge fund strategy risk and return figures are derived from the HFRI Indices.

Market-Related Risk vs. Strategy-Specific Risk



Based on monthly performance for 1990 - 2007:6M.

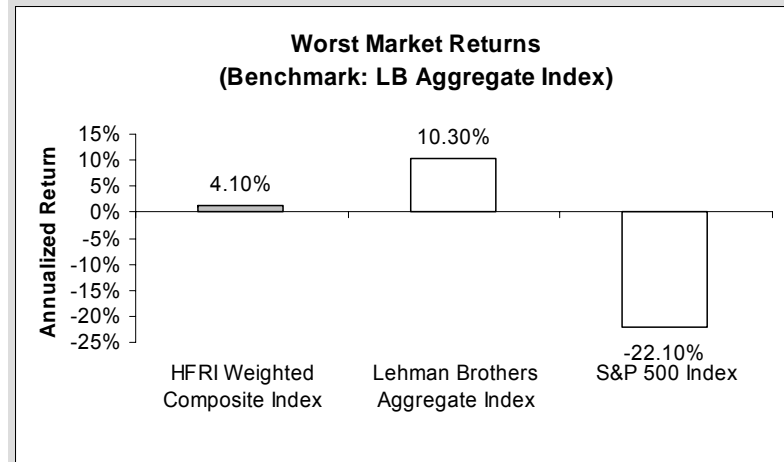
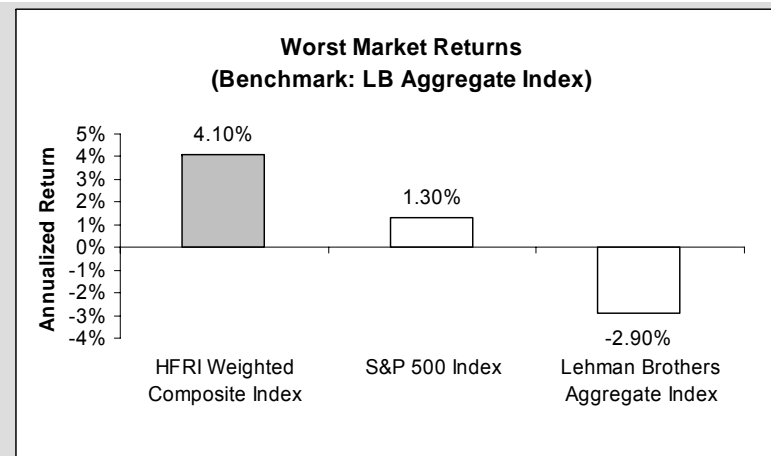
Sources: S&P 500, Lehman Brothers Government/Credit Index, Citibank World Government Bonds ex-U.S. (US\$), MSCI EAFE Index (US\$). Merrill Lynch U.S. T-Bills and HFRI Indices. The hedge fund strategy risk and return figures are derived from the HFRI Indices.

Returns During Stressed Environments

Hedge funds outperformed both U.S. equities and U.S. bonds when the U.S. bond market faced its worst performance in 1994

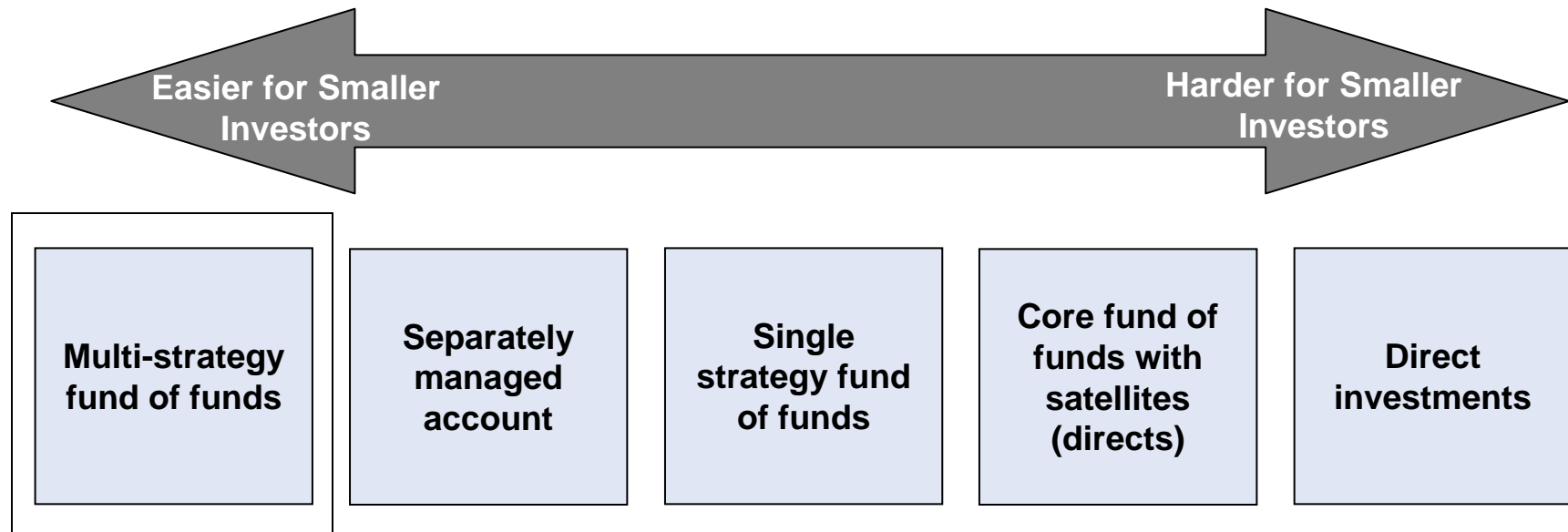
Hedge funds provided a modest cushion during the worst performance of U.S. equities in 2002

Sources: HFRI Indices, Bloomberg Professional



Pause for Questions?

What are ways Institutional Investors access Hedge Funds?



- The rest of our presentation will focus on HFOF.*
- ◆ Manager sourcing/due diligence: initial/ongoing
 - ◆ Portfolio/risk management
 - ◆ Legal structuring and documentation
 - ◆ Regulatory
 - ◆ Administrative
 - ◆ Global considerations — not just U.S.

Source: JPMAAM

Investing Options: Fund of Funds (FOFs)

- ◆ The primary and, in our opinion, most prudent strategy for decreasing this significant manager-specific risk in order to attempt to capture the potential benefits of this asset class is to participate through investments in funds-of-funds.
- ◆ We recommend clients primarily consider hedge fund-of-funds.

Advantages

Access

Diversification

Specialized Expertise

Administrative Efficiency

Scale

Disadvantages

Additional layer of fees

Commingled structure

Lack of transparency

Lack of knowledge transfer

Hedge FOF Expectations

- ◆ **Return** Attractive absolute return potential, targeting returns between T-Bills + 3 - 7% (net) depending on risk tolerance and strategy employed, regardless of market direction
- ◆ **Risk** Extensive use of leverage, short-selling and derivatives increases magnitude of potential surprises
- ◆ **Investment Style** Ability to sell short, use commodities and/or derivatives to hedge risk or boost return
- ◆ **Diversification** Little dependence on direction of the capital markets
- ◆ **Allocation** Need to allocate minimum of 5% of overall assets in order to have meaningful impact on Total Fund
- ◆ **Liquidity** Need to maintain long-term horizon
- ◆ **Transparency** Need to be comfortable with lack of disclosure; potential for SEC reporting and disclosure requirements

Advantages of Using HFOFs

➔ *Value-Added Investment Process*

- *Fundamental knowledge of the many different investment strategies*
- *Network of industry relationships necessary to filter manager universe*
- *Staffing resources and expertise necessary for manager due diligence and monitoring*
- *Understanding of qualitative and quantitative portfolio construction issues*
- *Dynamic process that requires constant attention*

➔ *Operational Efficiency*

- *Legal due diligence and document negotiation*
- *Consolidated accounting, performance and financial reporting*
- *Cash flow management*

➔ *Diversification and Access*

- *Immediate diversification across well-diversified portfolio with modest capital investment*
- *Access to certain managers who might otherwise be closed for investment*

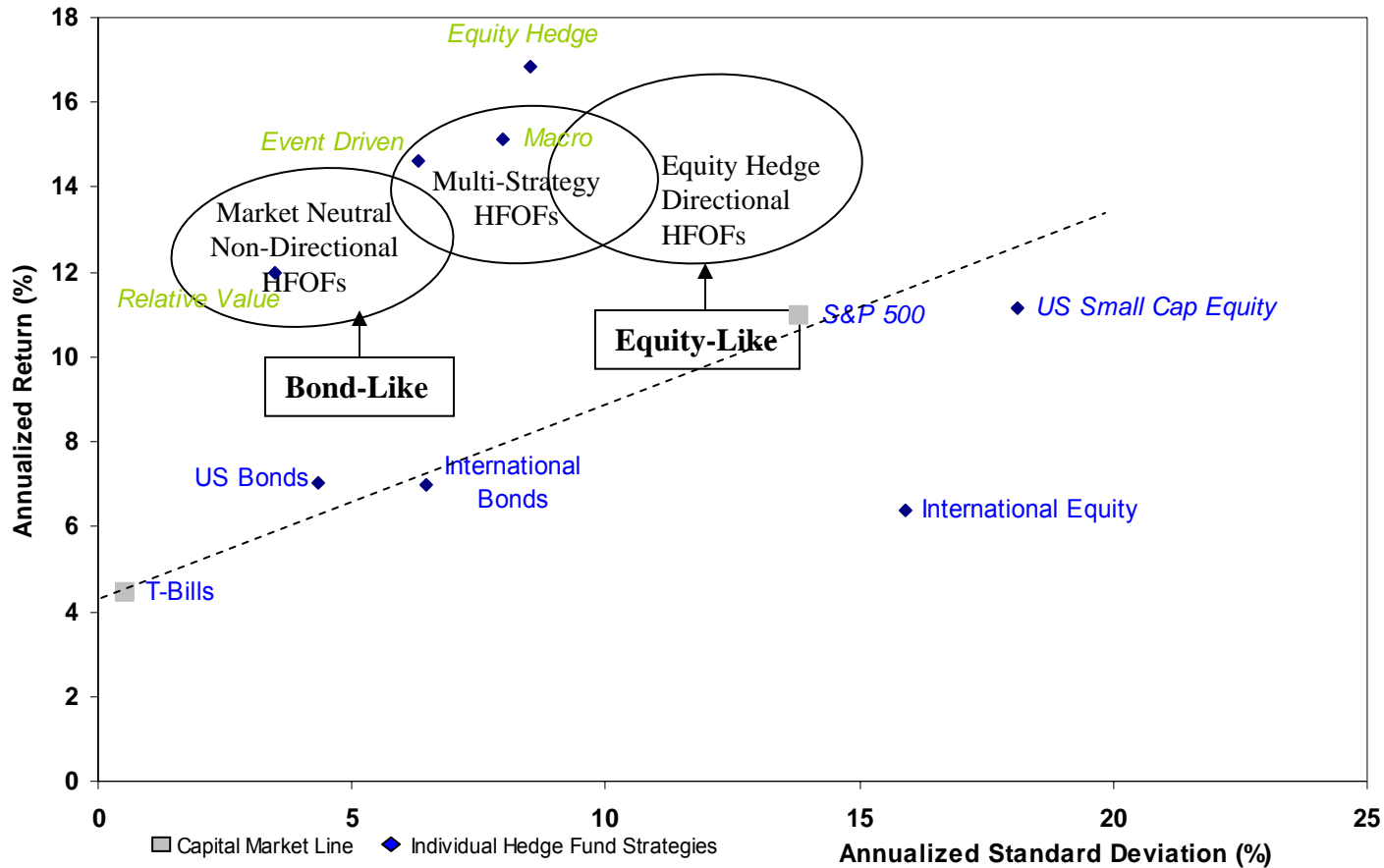
Role of Hedge FOF Manager

- ◆ Identify, Select, Monitor, and Terminate Managers
 - Long-standing industry knowledge is key
 - Knowing the people, their prior experience, their motivations
 - Checking with prior associates and competitors
 - Being able to discriminate among new funds to be efficient with time
 - Appropriate resources for due diligence
 - Understanding the strategies
 - Understanding the security and portfolio risk controls
 - Back office/operations due diligence is key
 - Monitoring status of individual fund results
 - Frequent discussions about results and portfolio holdings
 - Managers meeting or missing expected returns given market environment
 - Reviewing largest holdings, risk statistics
 - Managing fund turnover
 - Long/short equity hedge FOF turnover is in the 15% to 100% range annually
 - Reasons
 - FOFs may gain allocations to better funds
 - Hedge funds do decide to go out of business when very successful or unsuccessful
 - Hedge funds may close to new assets so new funds are required to absorb new cash flow into FOF

HFOFs Styles

HFOFs comprise many strategies within broad style groupings

Below is the HFOF groupings and the broad style groupings of underlying fund strategies



Based on returns from 1/1/90 to 6/30/07. Individual hedge fund strategies from HFRI Indices. Hedge fund of funds shown schematically.

Range of HFOF Styles



Relative Value/Market Neutral – Small number of HFOFs

- The focus is on investing with long/short market neutral equity specialists, convertible hedgers, bond hedgers, and multi-strategy managers that combine different relative value styles.

Multi-Strategy Event Driven – Quite a few HFOFs

- The focus is on investing with deal arbitrageurs, bankruptcy/distressed debt specialists, and multi-strategy managers that opportunistically combine different event driven styles, including convertible arbitrage.

Multi-Strategy Broadly Diversified – Bulk of HFOFs in this category

- The focus is on investing with specialists in relative value, event driven, and equity directional long/short funds.

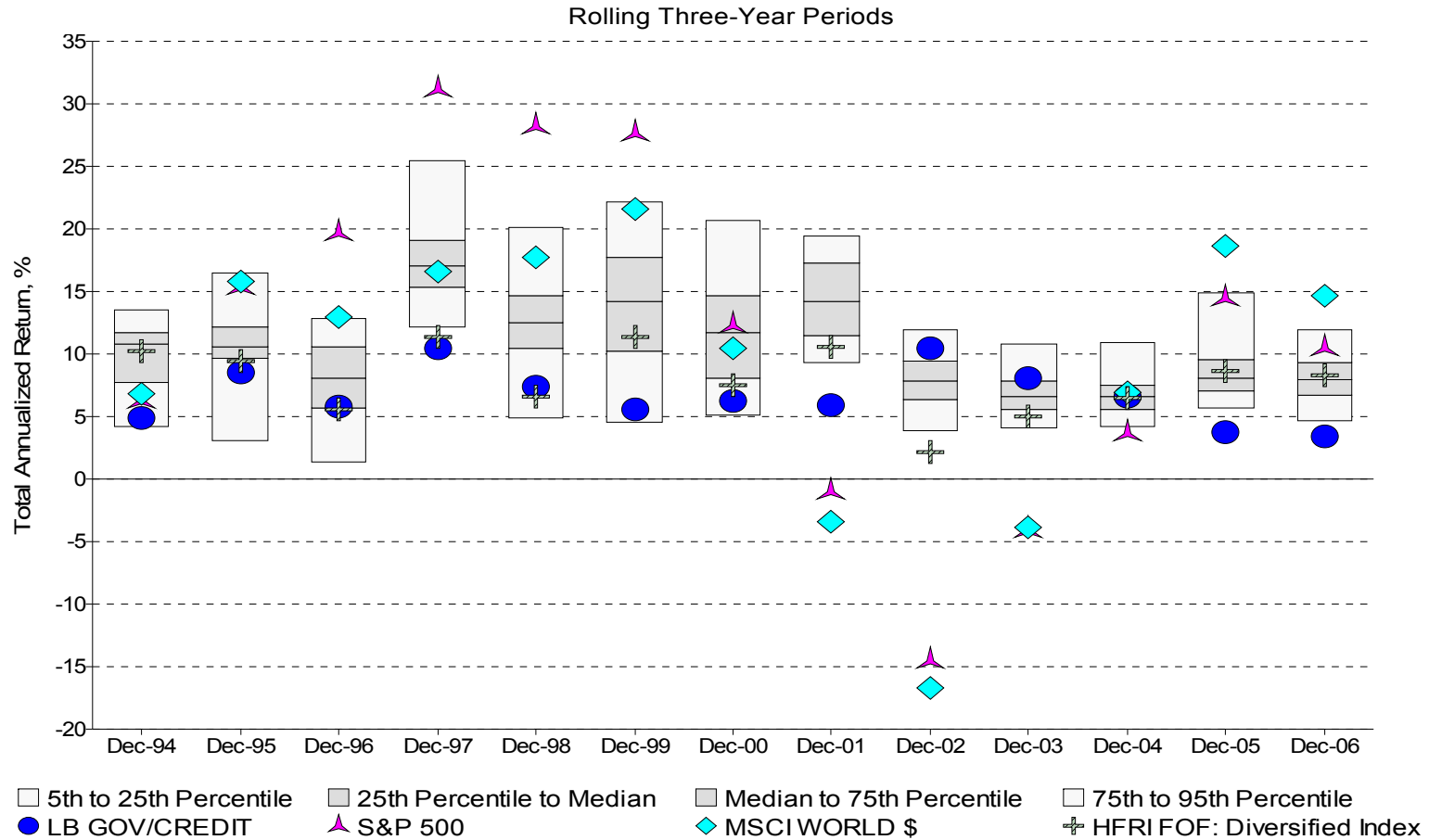
Long/Short Equity Hedge – Quite a few HFOFs

- The focus is on investing primarily with domestic opportunistic managers and sector specialists. Some exposure to international/global funds and long-biased funds may be included. The remaining assets are invested in low volatility strategies, primarily relative value and event driven strategies, although some fixed income trading may be included for diversification and return purposes.

Absolute, Stable Annual Returns

Hedge fund of funds have performed with greater stability while generating absolute returns

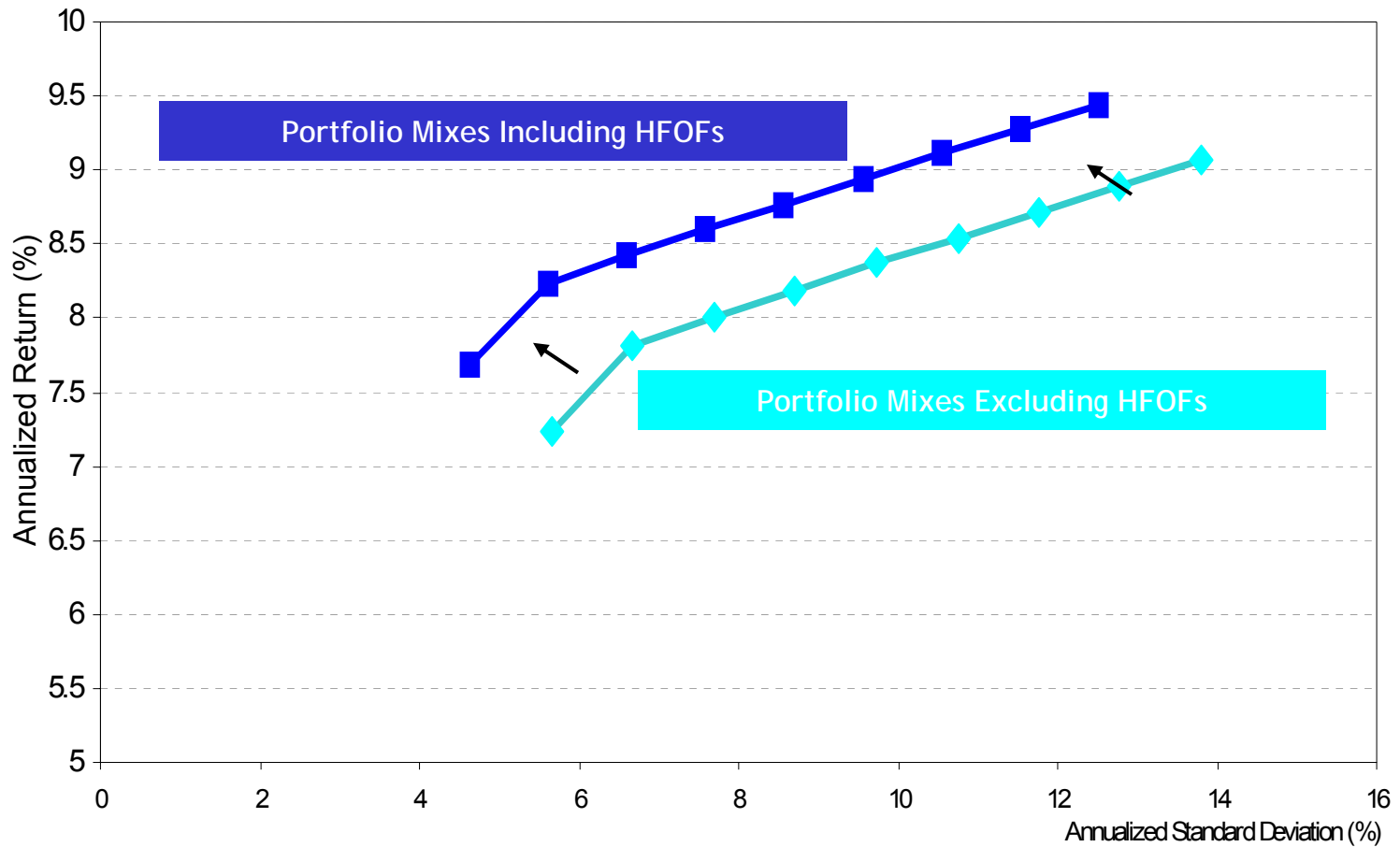
Versus Evaluation Associates Multi-Strategy HFOF Universe



Sources: HFRI Indices, Bloomberg Professional, EAI HFOFs Multi-Strategy Universe

Asset Allocation with HFOFs Strategy

An allocation of HFOFs increases return while reducing risk for all nine portfolio mixes



For illustration purpose only

How do the Fees compare to traditional investments?

Traditional asset class fees:

Summary of Expense Ratios Averages of Mstar Categories	
Asset Class	(%)
U.S. Large Cap Blend	1.24
U.S. Large Cap Blend-Instl Share Class	0.74
U.S. Small Cap Blend	1.53
U.S. Small Cap Blend-Instl Share Class	0.96
Intl Equity-Multi-Cap Blend	1.62
Intl Equity-Multi-Cap Blend Instl Share Class	1.10

Source: Morningstar

Hedge Fund of Funds Fees:

EA HFOF Universe	Management Fee	Performance Fee	Typical Hurdle
Low Volatility Strategies	1.06%	6.00%	T-bills or Libor
Multi-Strategy	1.13%	8.00%	Hurdle 1/2 the time
Higher Volatility Strategies	1.18%	6.10%	Not typical

Is there a link between Hedge Funds and Private Equity?

Alternative Strategies: Return & Risk Parameters

Asset Driven

Non-marketable investments

Examples: venture capital, buyouts

Requires long-term lock up capital

Appraisal-based valuation

Target returns: investors should demand premium return over traditional strategies, in exchange for illiquidity

Correlation: private equity is private *equity*. Recent strong returns driven by strong public markets

Strategy Driven

Marketable instruments, combined into portfolios uncorrelated with traditional markets

Example: hedge funds

Access to capital at regular intervals

Market-based valuation

Target returns: 8% - 12%, depending on volatility

Correlation: managers have the ability to reduce correlation by short selling and other hedging strategies

Is there a link between Hedge Funds and Private Equity?

- According to AltAssets there is a convergence trend occurring between hedge funds and private equity
- The consensus among private equity and hedge fund professionals is that there is significant overlap in strategies and it will continue to grow
 - Larger hedge funds are finding new ways to deploy capital
 - A way to increase return potential
 - A need to diversify risk
 - Creates more options for investors
 - Attracts more capital
 - With more capital in hedge funds comes more fees and higher salaries for hedge fund managers.

Source: www.altassets.com/features/arc/2006/nz9942.php

Although strategies overlap, investment approaches differ?

- One common approach hedge funds utilize is the purchase of deeply discounted company debt
 - The intent is to convert this debt into equity (“loan to own”) and cashing out the gains through a recapitalization, refinancing, sale, merger or disposition in a short time period
 - Private equity firms foster this type of transaction by becoming involved with management and providing strategic direction on improving the firm and finding an appropriate exit strategy 5 to 7 years later
- Another approach a hedge fund might take is to purchase the assets of a target company and simultaneously enter into company or industry hedging strategies
 - This strategy results in hedge funds exiting investments frequently

Thank You