
Alternative Investments: Risks & Returns

THE FAMILY ALTERNATIVE INVESTMENT CONFERENCE
February 2007, Monaco

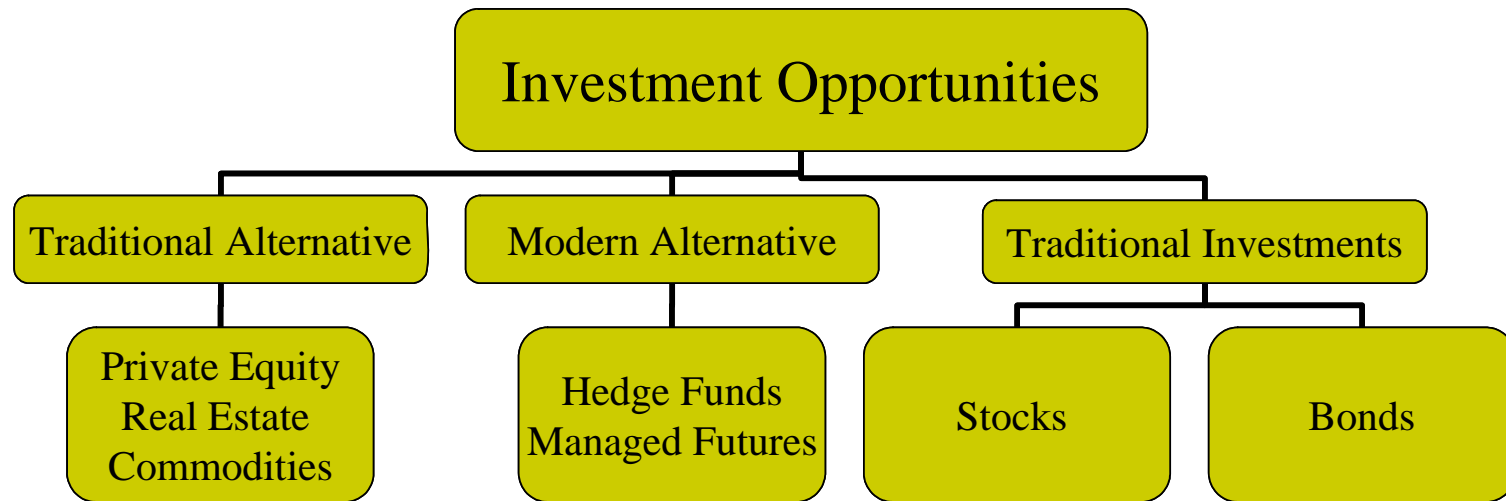
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Outline

- Alternative Investment Universe.
- Historical & Recent Performance.
- Risk-Return Characteristics of Hedge Funds.
- Alternative Investments in Diversified Portfolios.
- Performance under Various Conditions: Selected Review of 2006 & Preview of 2007.
- “Alternative Betas” and “Alternative Alphas”.
- Hedge Fund Managers: Persistence & Diversity.
- Funds of Funds and Investible Indices.
- Conclusion.



Alternative Investment Universe

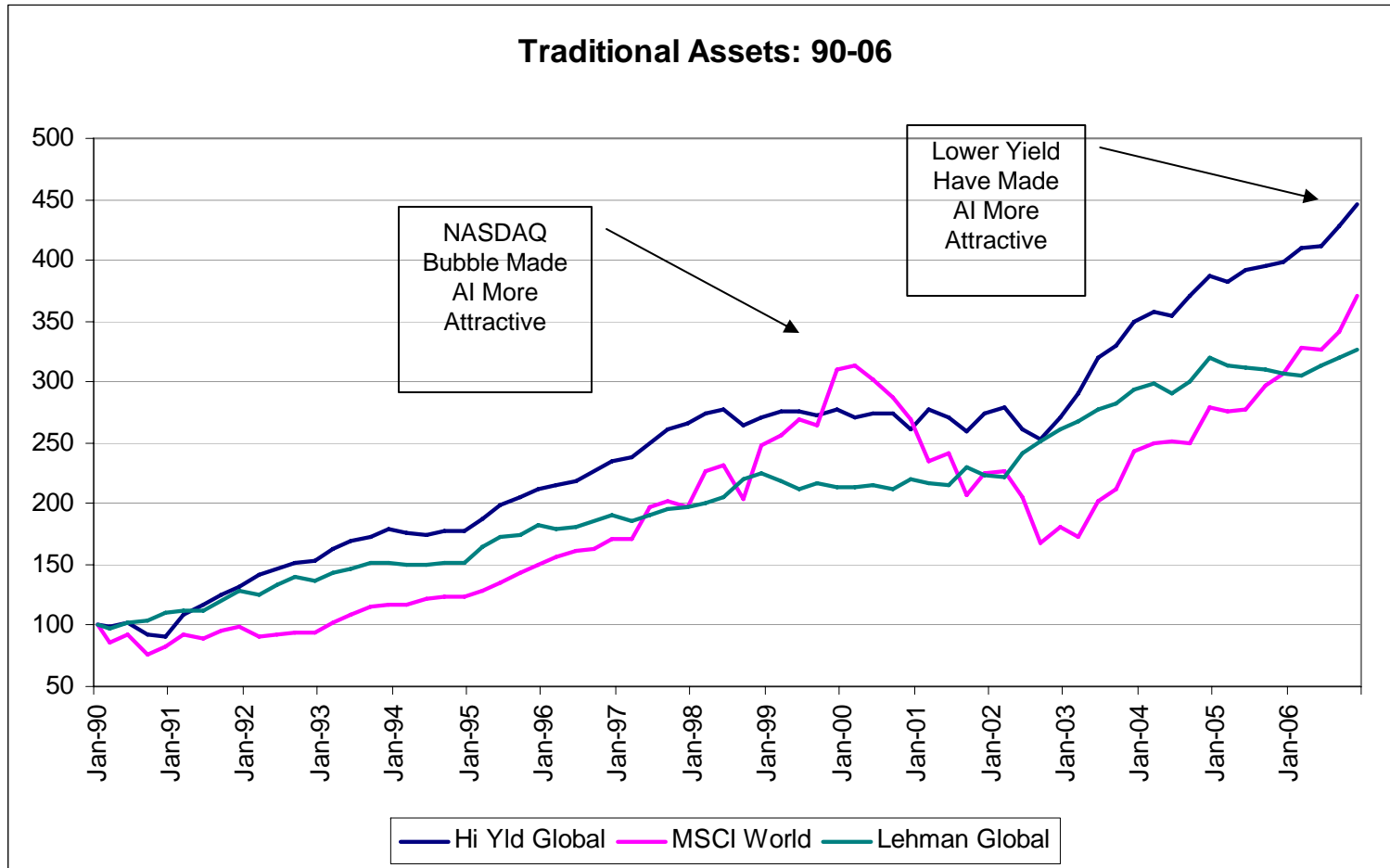


Why Alternatives?

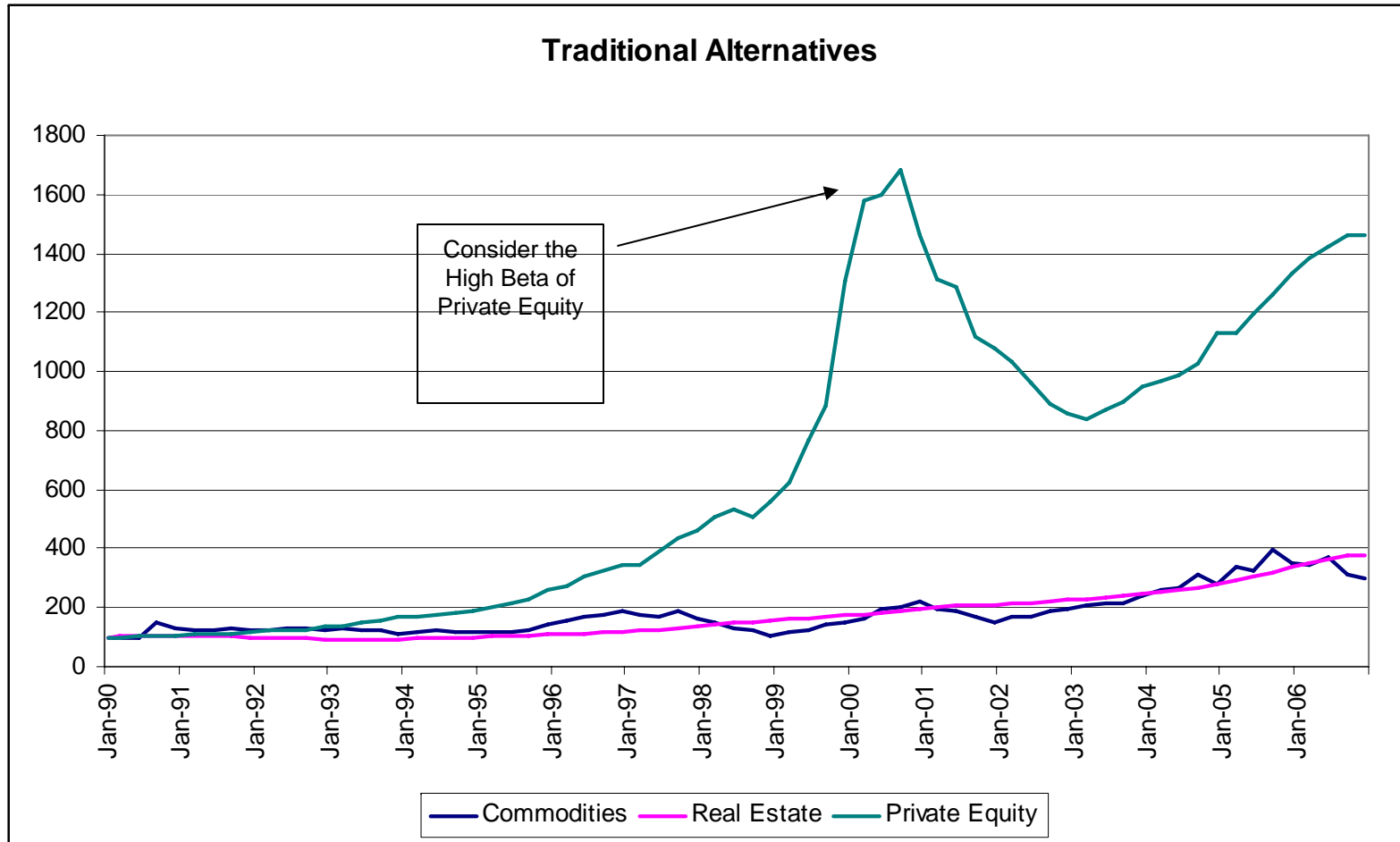
- **Alternative Sources of Return**
 - Access to broader set of asset classes (e.g., private equity, real estate, commodities).
 - Access to broader set of trading strategies (hedge funds, CTAs).
- **Diversifying risk of portfolios dominated by traditional assets.**
- **Enhancing the performance of portfolios dominated by traditional assets.**



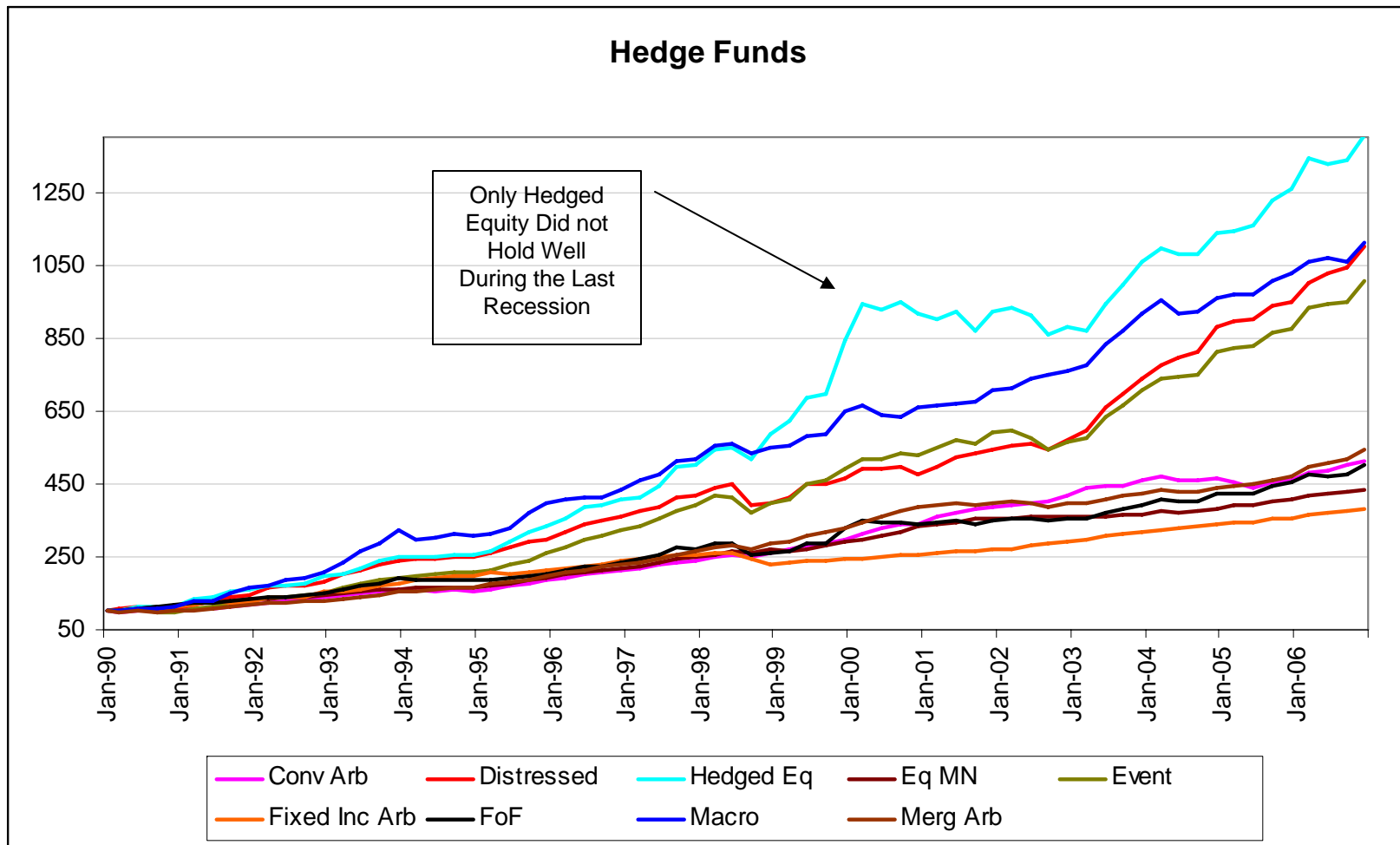
Performance Charts: Traditional Assets



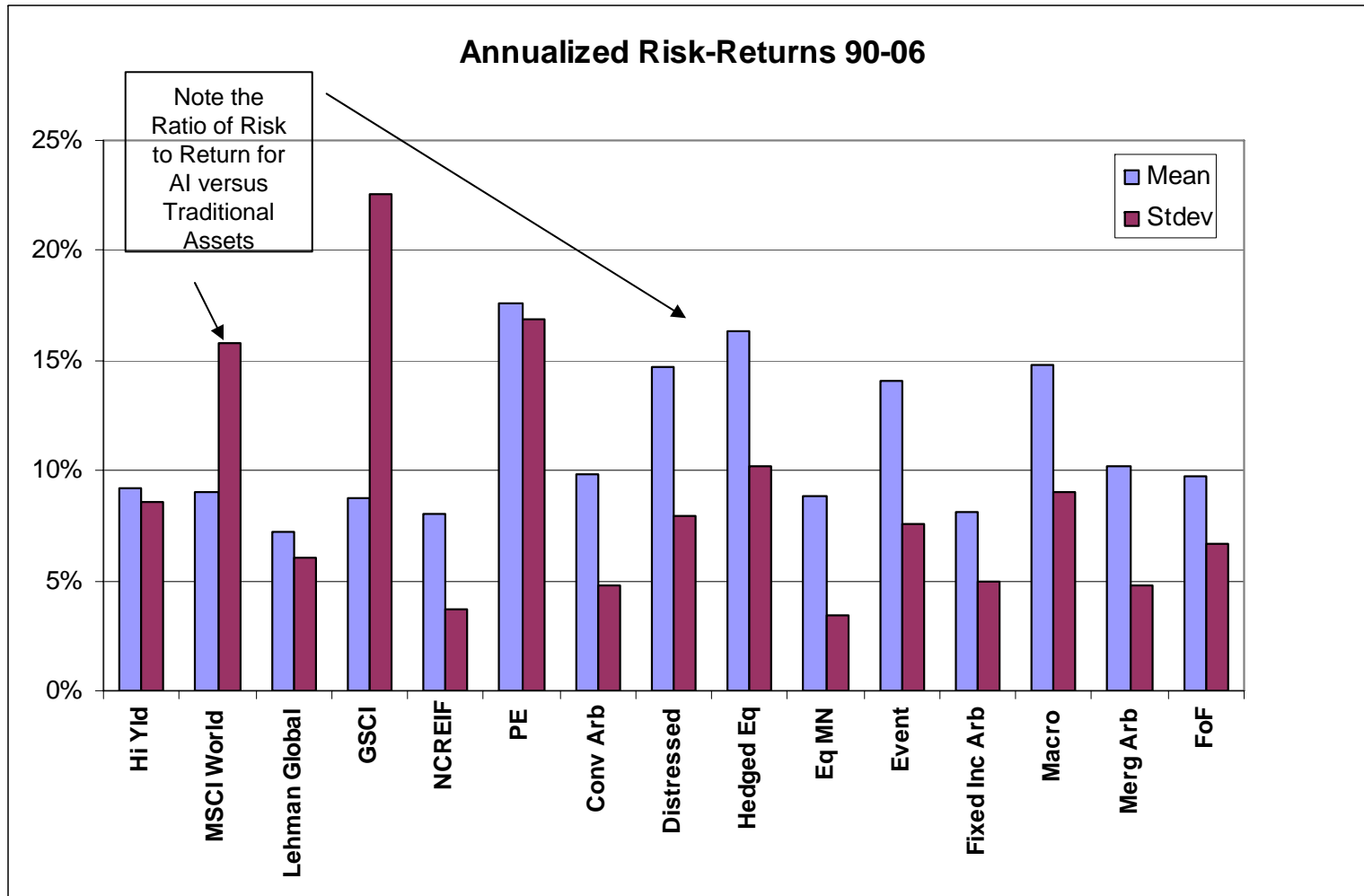
Performance Charts: Traditional Alternatives



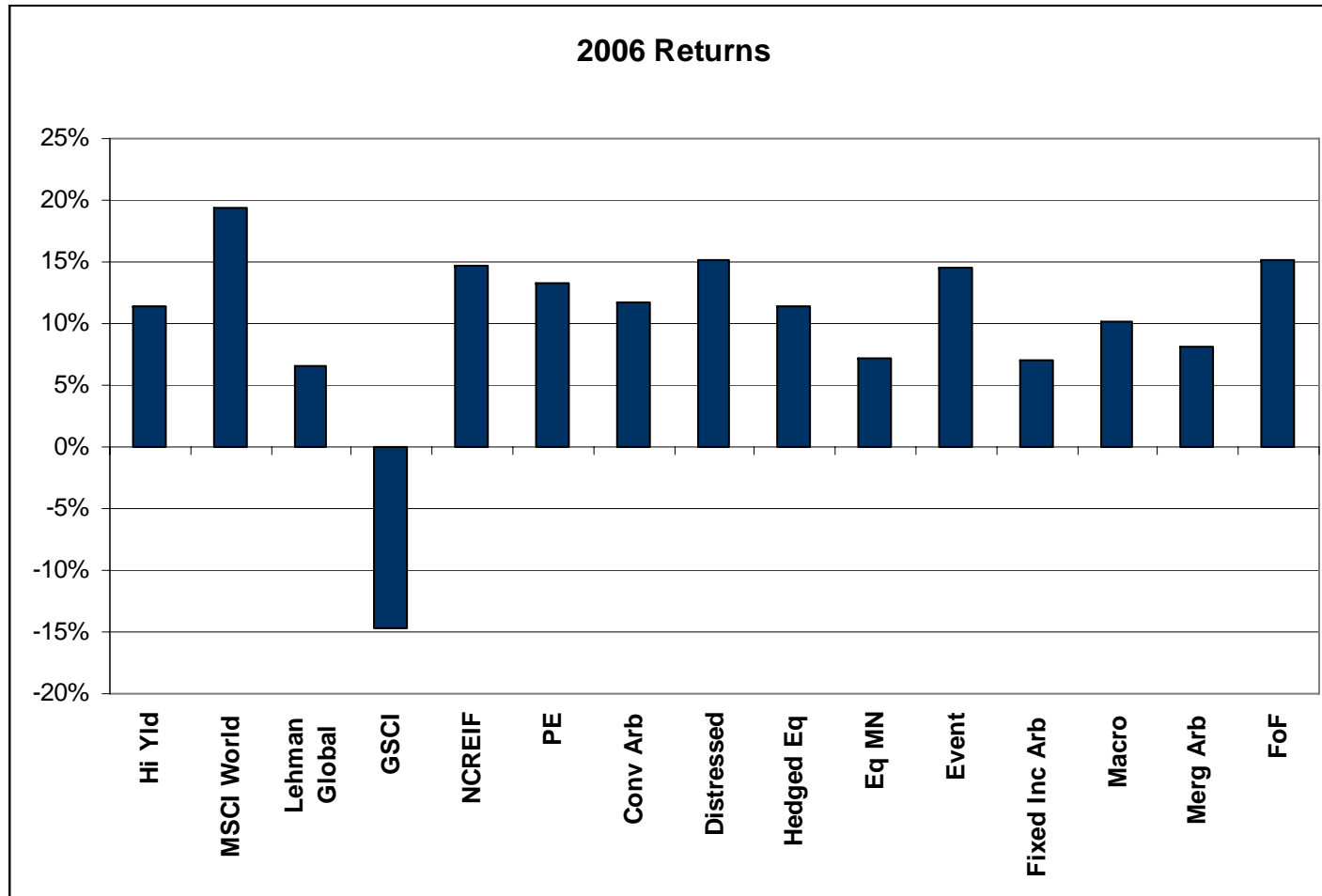
Performance Charts: Hedge Funds



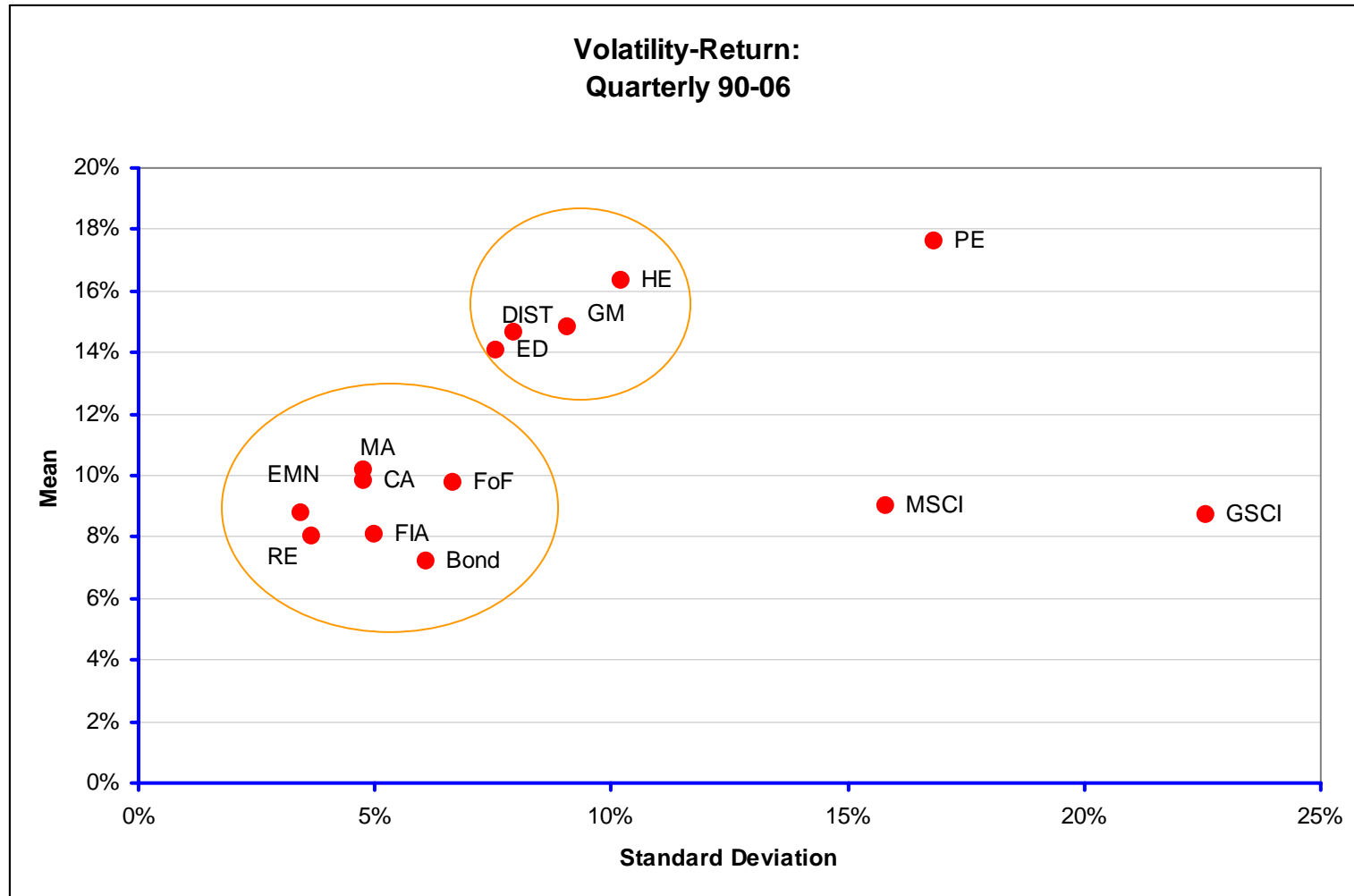
Risk-Return Chart: 1990-2006



Return Chart: 2006



Volatility-Return: 1990-2006



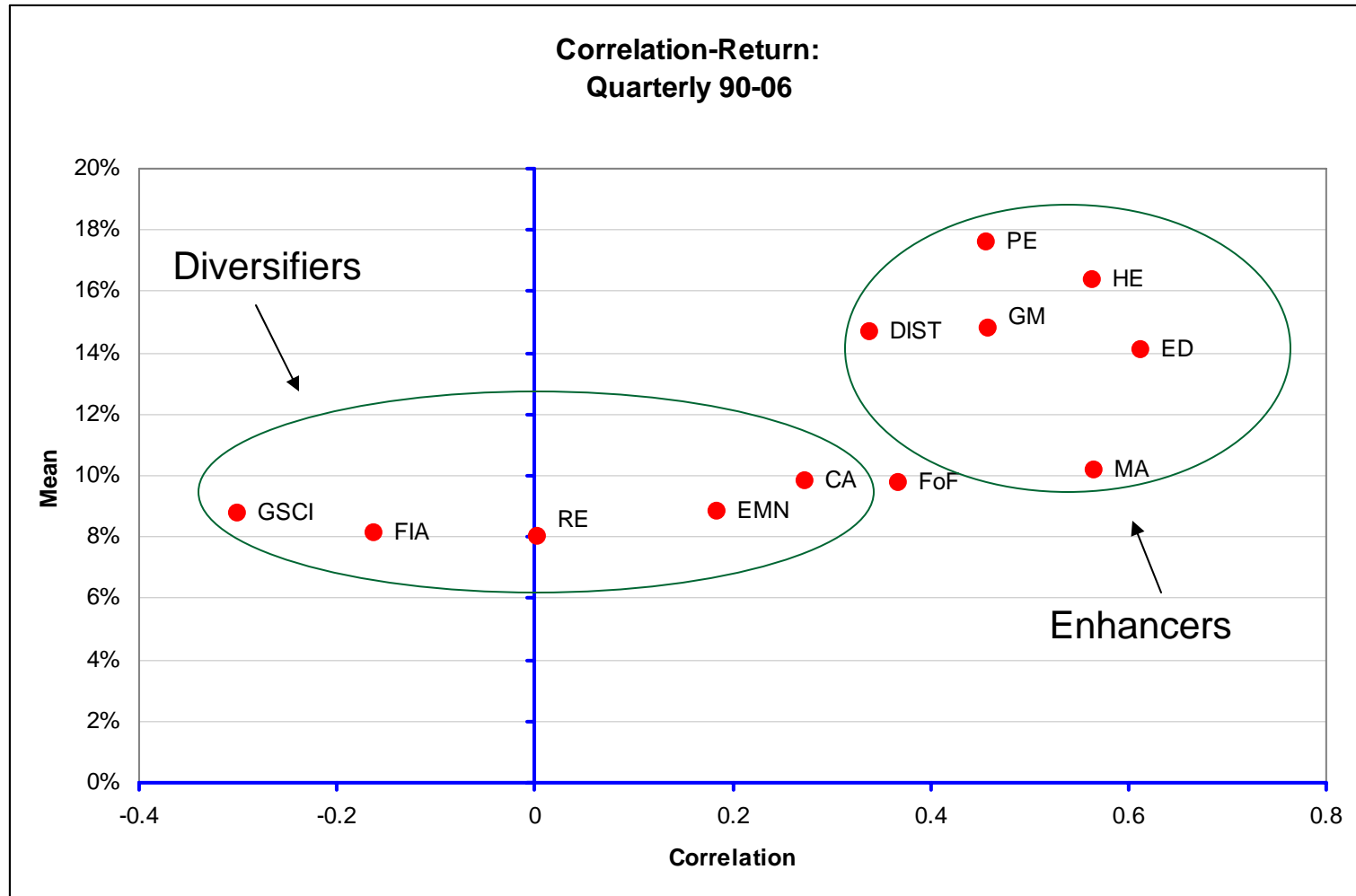
Risks & Returns of Alternatives

- Alternative investments could be used as
 - Risk diversifiers
 - Return enhancers
 - Both
- Their role depends on which asset class “dominates” the investor’s portfolio

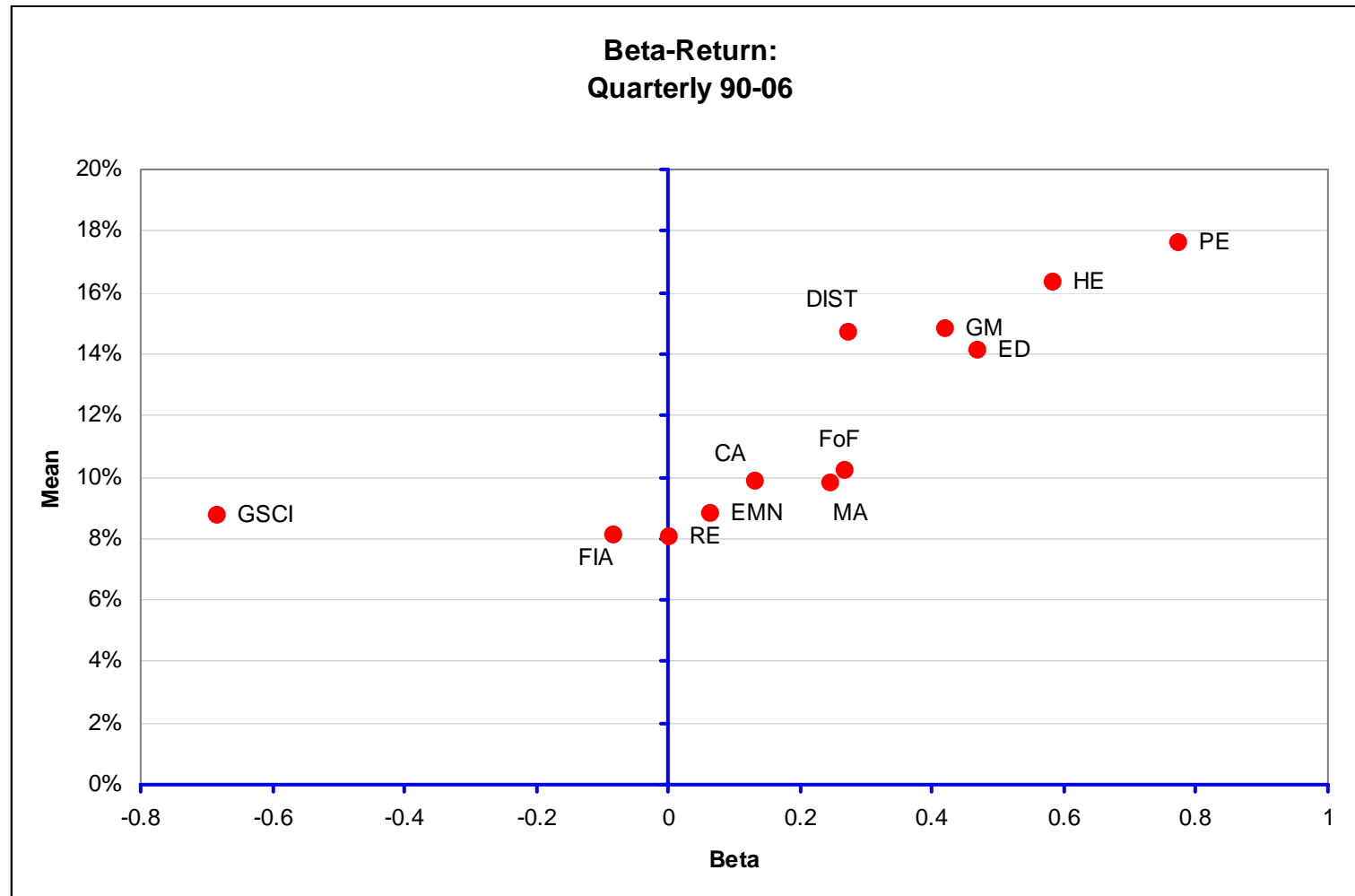
Portfolio Risk and Return Contribution			
Hedge Fund Strategy	Stock Portfolio	High Grade Bond Portfolio	High Yield Bond Portfolio
Event Driven	Return Enhancer	Risk Diversifier	Return Enhancer
Equity Hedge	Return Enhancer	Risk Diversifier	Return Enhancer
Equity Market Neutral	Risk Diversifier	Return Enhancer	Risk Diversifier
Merger/Risk Arbitrage	Return Enhancer	Risk Diversifier	Return Enhancer
Distressed	Return Enhancer	Risk Diversifier	Return Enhancer
Fixed Income Arbitrage	Risk Diversifier	Risk Diversifier	Return Enhancer
Convertible Arbitrage	Risk Diversifier	Risk Diversifier	Return Enhancer
Global Macro	Return Enhancer	Return Enhancer	Return Enhancer



Diversifiers and Enhancers: A 60/40 Portfolio of MSCI World & Lehman Global



Diversifiers and Enhancers: A 60/40 Portfolio of MSCI World & Lehman Global



Model Portfolios

- We examine several model portfolios.
- These highlight the benefits of alternative investments
- How they fit into a diversified portfolio?

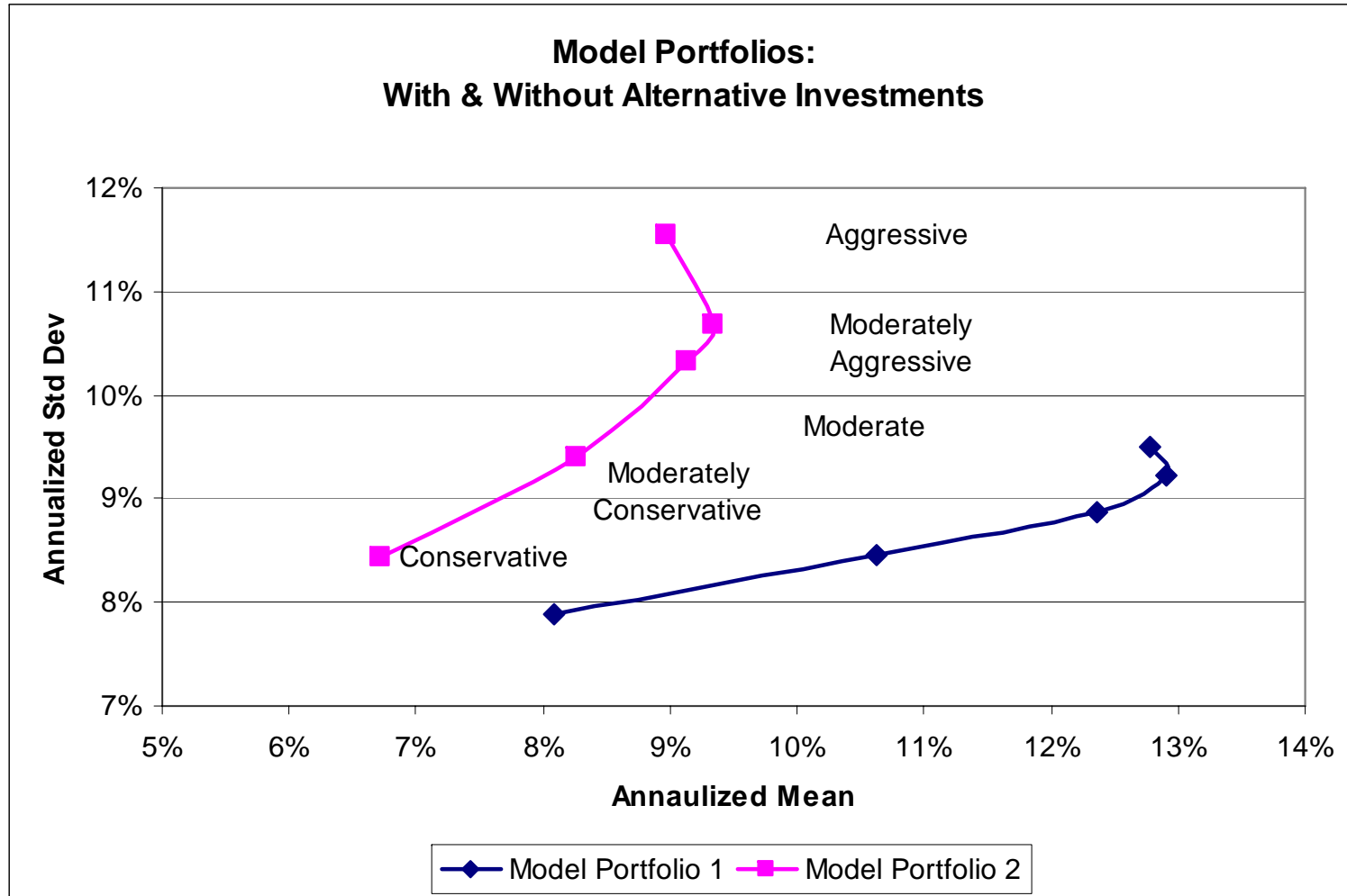


Model Portfolios

		MSCI World	MSCI Emerging	Lehman Agg	Lehman HiYld	Direction HF	Arbitrage HF	PE Portfolio	GSCI	Annualized Return	Annualized Standard Deviation	Sharpe Ratio
Type of Portfolio		Allocation Percentage										
Model Portfolio 1	Aggressive	50.00	20.00	15.00	15.00					9.51%	12.78%	0.35
	Moderately Agg.	60.00	15.00	15.00	10.00					9.23%	12.90%	0.33
	Moderate	65.00	10.00	20.00	5.00					8.87%	12.36%	0.31
	Moderately Cons.	60.00	5.00	30.00	5.00					8.47%	10.62%	0.33
	Conservative	50.00		50.00						7.88%	8.08%	0.36
Model Portfolio 2	Aggressive	25.00	10.00	10.00	5.00	10.00	10.00	20.00	10.00	11.55%	8.98%	0.73
	Moderately Agg.	35.00	10.00	15.00	5.00	5.00	5.00	15.00	10.00	10.68%	9.34%	0.61
	Moderate	40.00	5.00	20.00	5.00	5.00	5.00	15.00	5.00	10.33%	9.13%	0.58
	Moderately Cons.	40.00	5.00	30.00	5.00		5.00	10.00	5.00	9.40%	8.26%	0.53
	Conservative	40.00		45.00			5.00	5.00	5.00	8.44%	6.72%	0.51
Annualized Mean		9.13%	14.45%	7.04%	9.22%	15.17%	9.13%	17.31%	8.39%			
Annualized Std		15.71%	26.74%	4.18%	8.54%	7.64%	3.02%	16.61%	22.47%			



Model Portfolios



AI and Economic Conditions

- Here we look at performance of AI under various economic conditions. Economic conditions are “measured” by various indicators (yield curve, volatility, etc.)
- We look both at contemporaneous and leading indicators of AI performance.
- This leads us to have a selected review of 2006 and a preview of 2007.
- More charts are available upon request.



S&P500's Performance

S&P500 Index Return	Low		Medium		High		All Dates	
	Min	Max	Min	Max	Min	Max	Mean	Stdev
	Relative		Relative		Relative			
Mean	Stdev	Mean	Stdev	Mean	Stdev	Mean	Stdev	
Equity Hedge Index	-16.3%	-3.4%	2.8%	-3.3%	13.6%	0.1%	16.4%	10.2%
Distressed Securities Index	-8.3%	2.3%	2.7%	-3.5%	5.7%	-1.6%	14.7%	8.0%
Macro Index	-11.1%	-1.5%	4.0%	0.4%	7.3%	-1.4%	14.8%	9.1%
Fund of Funds Index	-8.8%	0.4%	3.1%	-1.9%	5.8%	-1.0%	9.8%	6.7%
Equity Market Neutral Index	-1.3%	-0.2%	-1.1%	0.1%	2.3%	0.0%	8.8%	3.4%
Convertible Arbitrage Index	-5.5%	0.9%	1.7%	-1.2%	3.9%	-1.2%	9.8%	4.8%
Fixed Income: Arbitrage Index	0.8%	0.7%	0.4%	-0.7%	-1.3%	0.1%	8.1%	5.0%
CA Private Equity Index	-14.8%	-0.4%	6.4%	-3.0%	9.0%	-1.7%	14.6%	9.3%
CA Venture Capital Index	-23.5%	-7.2%	3.0%	-12.8%	20.8%	9.8%	20.6%	27.2%
CA Private Equity Portfolio	-19.2%	-3.5%	4.7%	-7.5%	14.9%	4.0%	17.6%	16.8%
GSCI TR	18.5%	5.0%	-5.2%	-4.7%	-13.6%	-4.2%	8.7%	22.6%
DJ-AIGCI	9.7%	2.6%	-0.6%	-1.9%	-9.1%	-2.3%	8.9%	14.2%



Slope of Yield Curve:

Slope of Yield Curve	Low		Medium		High		All Dates	
	Min	Max	Min	Max	Min	Max	Mean	Stdev
	Relative		Relative		Relative			
Mean	Stdev	Mean	Stdev	Mean	Stdev	Mean	Stdev	
Equity Hedge Index	2.6%	1.9%	1.2%	0.0%	-3.7%	-2.2%	16.4%	10.2%
Distressed Securities Index	-4.4%	0.3%	1.2%	-0.3%	3.2%	-0.2%	14.7%	8.0%
Macro Index	-4.4%	-2.3%	0.7%	0.5%	3.7%	1.3%	14.8%	9.1%
Fund of Funds Index	-0.6%	2.2%	1.0%	-1.3%	-0.3%	-1.2%	9.8%	6.7%
Equity Market Neutral Index	0.5%	-0.3%	2.9%	-0.1%	-3.3%	-0.2%	8.8%	3.4%
Convertible Arbitrage Index	2.5%	0.2%	-1.6%	0.1%	-1.0%	-0.4%	9.8%	4.8%
Fixed Income: Arbitrage Index	-4.2%	0.5%	0.5%	-1.1%	3.8%	-0.3%	8.1%	5.0%
CA Private Equity Index	2.7%	2.2%	0.9%	-0.4%	-3.4%	-2.1%	14.6%	9.3%
CA Venture Capital Index	18.9%	13.7%	1.3%	-9.1%	-19.3%	-16.1%	20.6%	27.2%
CA Private Equity Portfolio	10.8%	7.6%	1.1%	-4.6%	-11.4%	-8.3%	17.6%	16.8%
GSCI TR	-8.0%	-0.6%	6.2%	6.7%	2.1%	-7.7%	8.7%	22.6%
DJ-AIGCI	-5.6%	0.1%	3.2%	2.7%	2.5%	-3.1%	8.9%	14.2%



Change in Credit Risk Premium:

Change in Credit Risk	Low		Medium		High		All Dates	
	Min	Max	Min	Max	Min	Max	Mean	Stdev
	-0.28%	-0.05%	-0.04%	0.01%	0.03%	0.34%		
Relative	Relative	Relative	Relative	Relative	Relative	Mean	Stdev	
	Mean	Stdev	Mean	Stdev	Mean	Stdev		
Equity Hedge Index	3.9%	2.0%	-1.3%	-2.4%	-2.7%	-0.1%	16.4%	10.2%
Distressed Securities Index	7.4%	0.1%	-0.6%	-3.1%	-6.8%	0.9%	14.7%	8.0%
Macro Index	2.0%	1.5%	-3.1%	-2.6%	1.0%	0.7%	14.8%	9.1%
Fund of Funds Index	1.9%	0.5%	0.3%	-1.3%	-2.2%	0.7%	9.8%	6.7%
Equity Market Neutral Index	-0.6%	-0.2%	0.0%	0.1%	0.7%	0.2%	8.8%	3.4%
Convertible Arbitrage Index	1.6%	-0.6%	-0.6%	0.3%	-1.0%	0.4%	9.8%	4.8%
Fixed Income: Arbitrage Index	2.3%	0.2%	0.5%	-2.0%	-2.8%	1.1%	8.1%	5.0%
CA Private Equity Index	1.5%	0.2%	2.3%	-1.7%	-3.6%	1.3%	14.6%	9.3%
CA Venture Capital Index	12.9%	11.0%	2.5%	-7.6%	-15.1%	-9.7%	20.6%	27.2%
CA Private Equity Portfolio	7.2%	5.4%	2.4%	-4.4%	-9.3%	-3.5%	17.6%	16.8%
GSCI TR	3.9%	-11.0%	-2.3%	-3.8%	-1.7%	10.2%	8.7%	22.6%
DJ-AIGCI	3.3%	-5.1%	-0.9%	-2.2%	-2.5%	5.5%	8.9%	14.2%



Change in Implied Volatility:

Change In VIX	Low		Medium		High		All Dates	
	Min	Max	Min	Max	Min	Max	Mean	Stdev
	Relative		Relative		Relative			
Mean	Stdev	Mean	Stdev	Mean	Stdev	Mean	Stdev	
Equity Hedge Index	4.7%	-2.4%	3.5%	0.9%	-8.0%	0.4%	16.4%	10.2%
Distressed Securities Index	6.7%	-1.1%	3.5%	-1.8%	-10.1%	0.3%	14.7%	8.0%
Macro Index	1.9%	-1.6%	4.4%	1.5%	-6.2%	-0.5%	14.8%	9.1%
Fund of Funds Index	1.7%	-2.8%	2.9%	0.0%	-4.4%	1.7%	9.8%	6.7%
Equity Market Neutral Index	-1.8%	0.0%	1.1%	-0.1%	0.7%	0.1%	8.8%	3.4%
Convertible Arbitrage Index	1.9%	-1.1%	2.7%	-0.6%	-4.5%	0.8%	9.8%	4.8%
Fixed Income: Arbitrage Index	1.3%	-1.6%	-0.5%	1.2%	-0.9%	0.2%	8.1%	5.0%
CA Private Equity Index	2.3%	-1.7%	1.6%	-1.3%	-3.7%	2.4%	14.6%	9.3%
CA Venture Capital Index	1.2%	-6.2%	10.5%	10.0%	-11.2%	-6.7%	20.6%	27.2%
CA Private Equity Portfolio	1.8%	-4.5%	6.1%	4.7%	-7.5%	-1.5%	17.6%	16.8%
GSCI TR	5.4%	-4.2%	-9.9%	-4.9%	4.1%	7.1%	8.7%	22.6%
DJ-AIGCI	6.3%	-2.0%	-8.9%	-2.6%	2.2%	3.2%	8.9%	14.2%



Short-Term Rates

T-Bill	Low		Medium		High		All Dates	
	Min	Max	Min	Max	Min	Max	Mean	Stdev
	0.93%	3.34%	3.48%	5.15%	5.16%	8.03%		
Relative		Relative		Relative				
	Mean	Stdev	Mean	Stdev	Mean	Stdev		
Equity Hedge Index	-5.2%	-1.5%	-2.4%	-2.0%	7.5%	2.2%	16.4%	10.2%
Distressed Securities Index	1.7%	-1.6%	-2.1%	1.7%	0.3%	-0.1%	14.7%	8.0%
Macro Index	0.5%	1.0%	-3.9%	-2.6%	3.2%	1.1%	14.8%	9.1%
Fund of Funds Index	-1.3%	-1.0%	-1.7%	0.3%	2.9%	0.7%	9.8%	6.7%
Equity Market Neutral Index	-3.2%	-0.4%	-1.3%	-0.1%	4.5%	-0.7%	8.8%	3.4%
Convertible Arbitrage Index	-3.0%	-0.2%	1.3%	-0.2%	1.7%	0.2%	9.8%	4.8%
Fixed Income: Arbitrage Index	1.6%	-1.2%	-2.5%	1.5%	0.8%	-0.7%	8.1%	5.0%
CA Private Equity Index	-2.2%	1.0%	1.1%	-1.3%	1.2%	0.4%	14.6%	9.3%
CA Venture Capital Index	-23.0%	-14.0%	5.8%	-4.9%	17.7%	9.8%	20.6%	27.2%
CA Private Equity Portfolio	-12.6%	-5.6%	3.5%	-2.9%	9.4%	5.1%	17.6%	16.8%
GSCI TR	0.4%	-4.3%	-9.0%	-1.6%	8.3%	5.0%	8.7%	22.6%
DJ-AIGCI	-0.2%	-2.1%	-4.6%	1.1%	4.5%	1.1%	8.9%	14.2%



Change in Implied Volatility (Lagged)

Prior Quarter Change In VIX	Low		Medium		High		All Dates	
	Min	Max	Min	Max	Min	Max	Mean	Stdev
	Relative		Relative		Relative			
Mean	Stdev	Mean	Stdev	Mean	Stdev			
HFRI Equity Hedge Index	-0.9%	1.4%	-0.1%	-0.4%	1.0%	-0.7%	16.3%	10.3%
HFRI Distressed Securities Index	-2.3%	-1.0%	0.1%	0.6%	2.2%	0.5%	14.6%	8.0%
HFRI Macro Index	1.3%	-0.2%	1.5%	1.5%	-2.9%	-1.3%	14.9%	9.1%
HFRI Fund of Funds Index	1.1%	0.7%	0.4%	1.3%	-1.5%	-2.4%	9.7%	6.7%
HFRI Equity Market Neutral Index	0.2%	-0.5%	-1.5%	0.4%	1.4%	0.0%	8.8%	3.5%
HFRI Convertible Arbitrage Index	-1.8%	0.4%	-0.3%	0.0%	2.1%	-0.5%	10.1%	4.7%
HFRI Fixed Income: Arbitrage Index	-1.5%	-0.7%	0.0%	-0.6%	1.6%	1.2%	8.0%	5.0%
CA Private Equity Index	-0.6%	1.3%	2.7%	0.3%	-2.1%	-1.5%	14.8%	9.3%
CA Venture Capital Index	4.3%	14.5%	1.4%	-10.2%	-5.7%	-11.4%	20.9%	27.4%
CA Private Equity Portfolio	1.9%	7.8%	2.1%	-4.6%	-3.9%	-6.0%	17.8%	16.9%
GSCI TR	8.7%	5.5%	3.4%	-6.1%	-12.3%	-1.0%	8.9%	22.7%
DJ-AIGCI	5.8%	3.2%	0.9%	-4.9%	-6.8%	0.6%	9.0%	14.3%



Review of 2006: Three Short-Term Trends

- Year started well:
 - Equity oriented funds performed well. Yield curve play hurt global macro and fixed income arbitrage.
 - Shake up in convertible arbitrage was over and the strategy started to recover.
 - Event driven and global macro managers started to perform well in March & April
- Not so merry May:
 - Negative and volatile equity and bond markets
 - Worst month in two years for many managers
 - Many shifted into defensive positions
- Tipping point
 - Investors stopped worrying about inflation, interest rates, and oil
 - Markets quickly turned around, but many managers were slow to react.
 - Performance did not pick up until the end of 4th quarter
- Amaranth: a vanishing act. Impact on multi-strategy funds
- Further push by pension funds



Persistence of Performance: Indices (Last 12 Quarters)

Best

↓

Worst

	Q4-03	Q1-04	Q2-04	Q3-04	Q4-04	Q1-05	Q2-05	Q3-05	Q4-05	Q1-06	Q2-06	Q3-06
	S&P500	GSCI	Private Eq	GSCI	Private Eq	GSCI	Private Eq	GSCI	Private Eq	Equity Hedge	GSCI	S&P500
	GSCI	Distressed	Distressed	VC	PE Portfolio	Eq MN	PE Portfolio	Private Eq	PE Portfolio	Distressed	Private Eq	Private Eq
	Private Eq	Macro	GSCI	PE Portfolio	S&P500	Private Eq	Lehman Agg	Equity Hedge	Equity Hedge	Fund of Funds	Distressed	Lehman Agg
	Distressed	Equity Hedge	S&P500	Lehman Agg	Distressed	Distressed	VC	PE Portfolio	VC	Private Eq	PE Portfolio	PE Portfolio
	Equity Hedge	Private Eq	PE Portfolio	Distressed	VC	Fixed Inc Arb	S&P500	VC	Fund of Funds	Convert Arb	Fixed Inc Arb	Convert Arb
	PE Portfolio	Fund of Funds	Fixed Inc Arb	Private Eq	Equity Hedge	Fund of Funds	Equity Hedge	Fund of Funds	Macro	PE Portfolio	Eq MN	VC
	Macro	Lehman Agg	VC	Fixed Inc Arb	Fund of Funds	Macro	Eq MN	Distressed	S&P500	S&P500	Convert Arb	Distressed
	Fund of Funds	PE Portfolio	Eq MN	Eq MN	Macro	Equity Hedge	Distressed	Macro	Distressed	VC	VC	Fixed Inc Arb
	Convert Arb	Eq MN	Equity Hedge	Convert Arb	Eq MN	PE Portfolio	Fixed Inc Arb	S&P500	Fixed Inc Arb	Macro	Macro	Eq MN
	Fixed Inc Arb	Convert Arb	Fund of Funds	Fund of Funds	Fixed Inc Arb	Lehman Agg	Macro	Convert Arb	Convert Arb	Eq MN	Lehman Agg	Equity Hedge
	VC	S&P500	Convert Arb	Macro	Lehman Agg	VC	Fund of Funds	Eq MN	Eq MN	Fixed Inc Arb	Fund of Funds	Fund of Funds
	Eq MN	Fixed Inc Arb	Lehman Agg	Equity Hedge	Convert Arb	S&P500	Convert Arb	Fixed Inc Arb	Lehman Agg	Lehman Agg	Equity Hedge	Macro
	Lehman Agg	VC	Macro	S&P500	GSCI	Convert Arb	GSCI	Lehman Agg	GSCI	GSCI	S&P500	GSCI



Outlook 2007: What May Lie Ahead

- Continued institutionalizations
 - “Alternative Beta” products.
- Further move toward permanent capital base.
- Can distressed securities strategy finally find the supply?
- Divergence of global monetary policies could benefit global macro
- M&A and other corporate events should continue to benefit event driven strategies.
- No sign of pick up in volatility means no relief for arbitrage strategies.

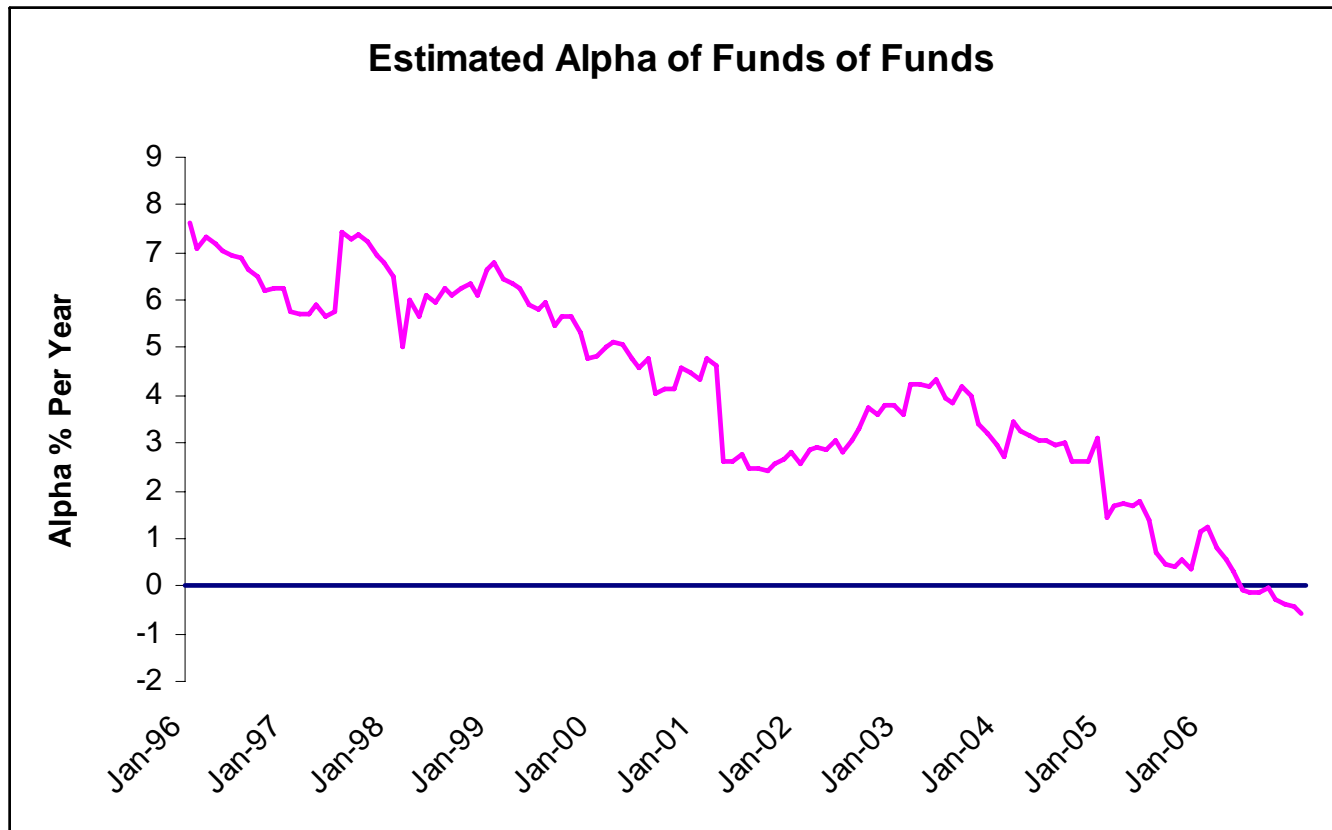


Alternative Betas & Alphas

- Using a single-factor benchmark (e.g., MSCI World), most hedge funds appear to have positive alpha.
- Using a multi-factor model, most hedge fund managers (about 75%) fail to deliver alpha on a consistent basis.
- Sources of returns for most hedge fund managers are from “alternative betas” (e.g., various types of credit, volatility, currency, commodity, illiquidity risks), rather than skill.
- A priori it is difficult to identify which managers will have positive alpha on a consistent basis.
- On average, hedge funds represent an expensive vehicle for accessing alternative sources of risk-return (betas).
- Using a multi-factor model we can see that average alpha of managers has been declining.
- Most top performing managers are closed or lack capacity



Average Alpha Has Declined

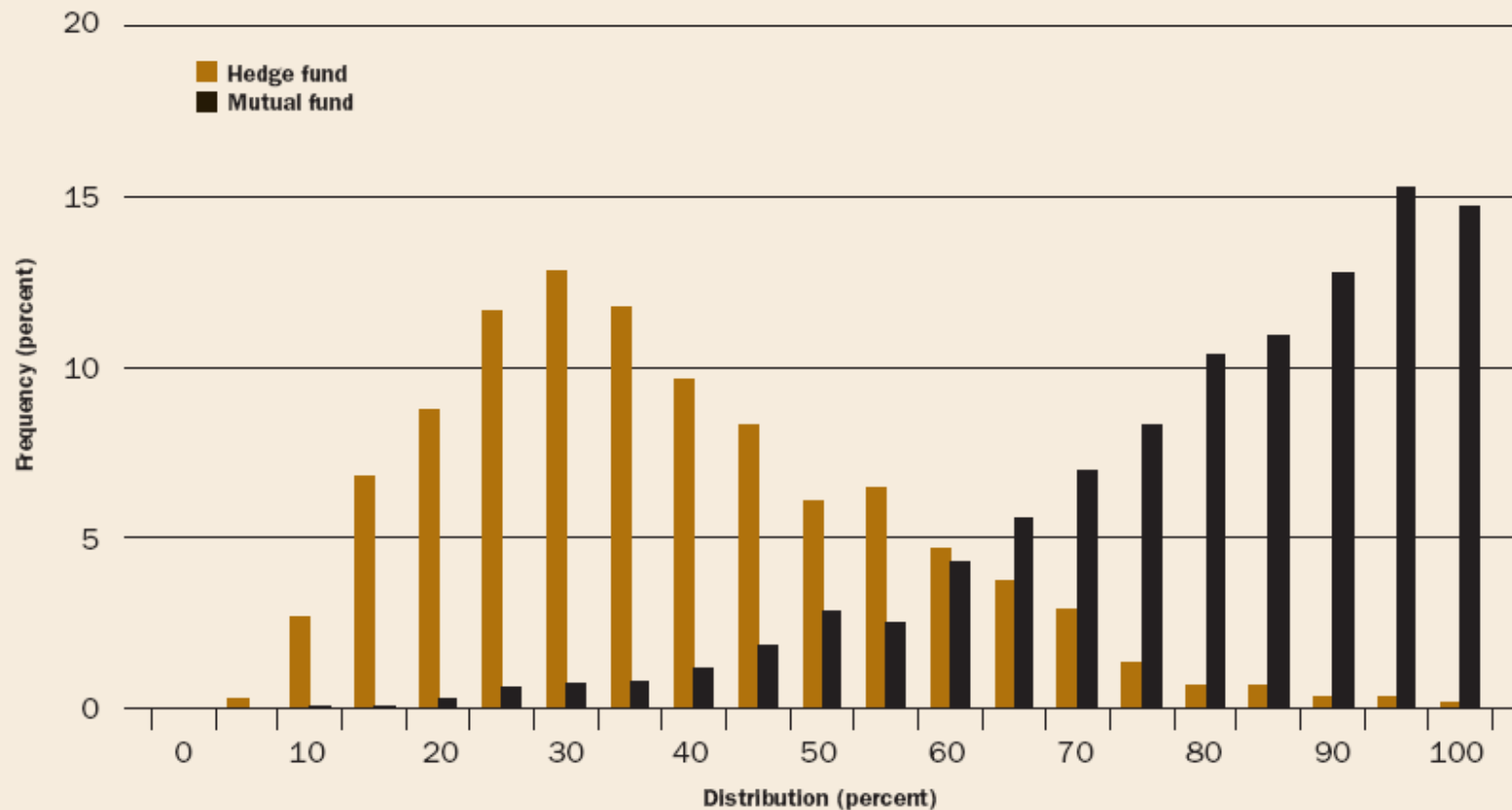


Alternative Betas: Exposures of Various Strategies (90-06)

	Alpha	Equity Premium	Hi Yld Prem	Term Premium	Small Cap Premium	Value Premium	Comm Premium	VIX	Emerging Mkt Prem
Convertible Arbitrage	0.30%	1.74%	18.87%	9.44%	1.64%	0.54%	1.44%	0.03%	0.96%
Distressed Securities	0.59%	3.58%	37.96%	5.19%	4.24%	6.33%	1.58%	-0.27%	5.41%
Equity Hedge	0.74%	30.63%	-0.51%	8.30%	33.59%	-17.06%	5.51%	-0.25%	4.89%
Equity Market Neutral	0.26%	8.26%	-3.31%	15.38%	5.49%	2.57%	2.03%	0.02%	-2.54%
Event-Driven	0.52%	20.85%	26.15%	5.79%	11.54%	4.04%	1.61%	-0.37%	3.16%
Fixed Income: Arbitrage	0.23%	-9.63%	16.01%	25.83%	-0.91%	1.29%	1.89%	-0.22%	5.14%
Macro	0.59%	3.58%	6.27%	-38.57%	13.30%	-5.21%	2.33%	-0.52%	12.79%
Merger Arbitrage	0.29%	13.69%	12.27%	10.99%	3.03%	6.43%	0.80%	-0.17%	0.16%
Fund of Funds Composite	0.30%	2.48%	0.06%	8.28%	11.50%	-8.14%	4.29%	-0.40%	11.55%



Percentage of Returns Explained By These Factors: Mutual Funds vs Hedge Funds



Source: CISDM, HFR, TASS, Morningstar, Datastream



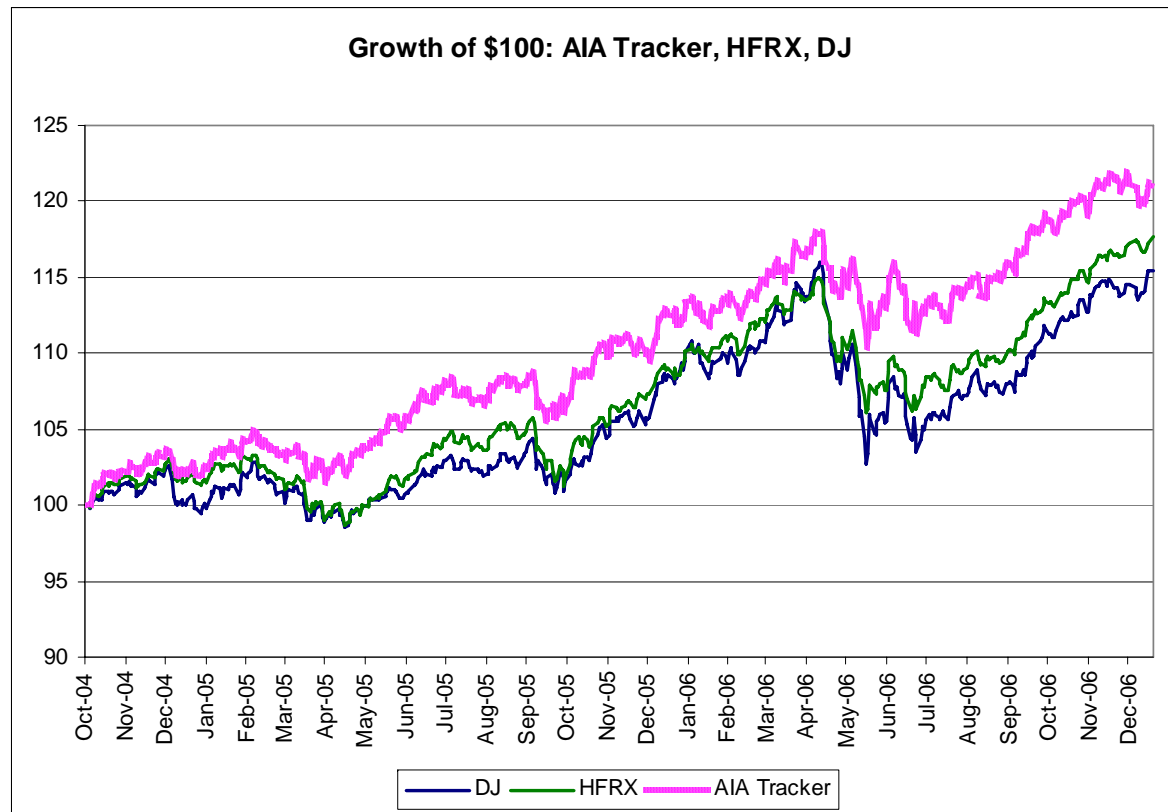
Why Replication Strategies?

- Alphas for most hedge funds have been declining.
- More than 80% of the returns for most hedge funds comes from exposure to “alternative betas”.
- Hedge funds:
 - Lack transparency.
 - Lack liquidity.
 - Lack capacity (the good ones).
 - Expose one to manager risk.
 - Expose one to style drift.
- Can go short replication strategies (Hedging hedge fund exposure!)
- Due diligence cost is very small.
- Investments do not have to be lumpy.
- Replication portfolios are typically well diversified.



Alternative Betas: Replication of Hedge Funds

Nov 04 - Jan 07	AIA Tracker Long-Short Equity			
	Mean	Stdev	Beta Against	
			HFRX	DJ
AIA Tracker	8.9%	6.2%	1.00	0.78
HFR HE	7.6%	5.2%	1.00	0.68
DJ Eq L/S	6.8%	6.8%	1.16	1.00



Replication Strategies: Multi-Factor Approach

- The performance of a benchmark is tracked on monthly/daily basis through investment in a basket of liquid investments (small/large cap, value/growth, high/low quality bonds, vanilla options, etc). The objective to have a small tracking error on a monthly/daily basis.
- What happens if certain risk premiums disappear (value vs growth or small vs large)?
- What happens if a major source of return is not available through liquid traditional assets (e.g., illiquidity, certain credit risks)?
- Replication strategies buy what managers bought last period. Could lead to a situation where replication strategy is buying what managers are selling.
- Multi-factor approach is used by: Merrill Lynch, JP Morgan, Partners Group.
- Example: AIA Tracker



Persistence of Performance: Indices (1994 to 2006)

Best

↓

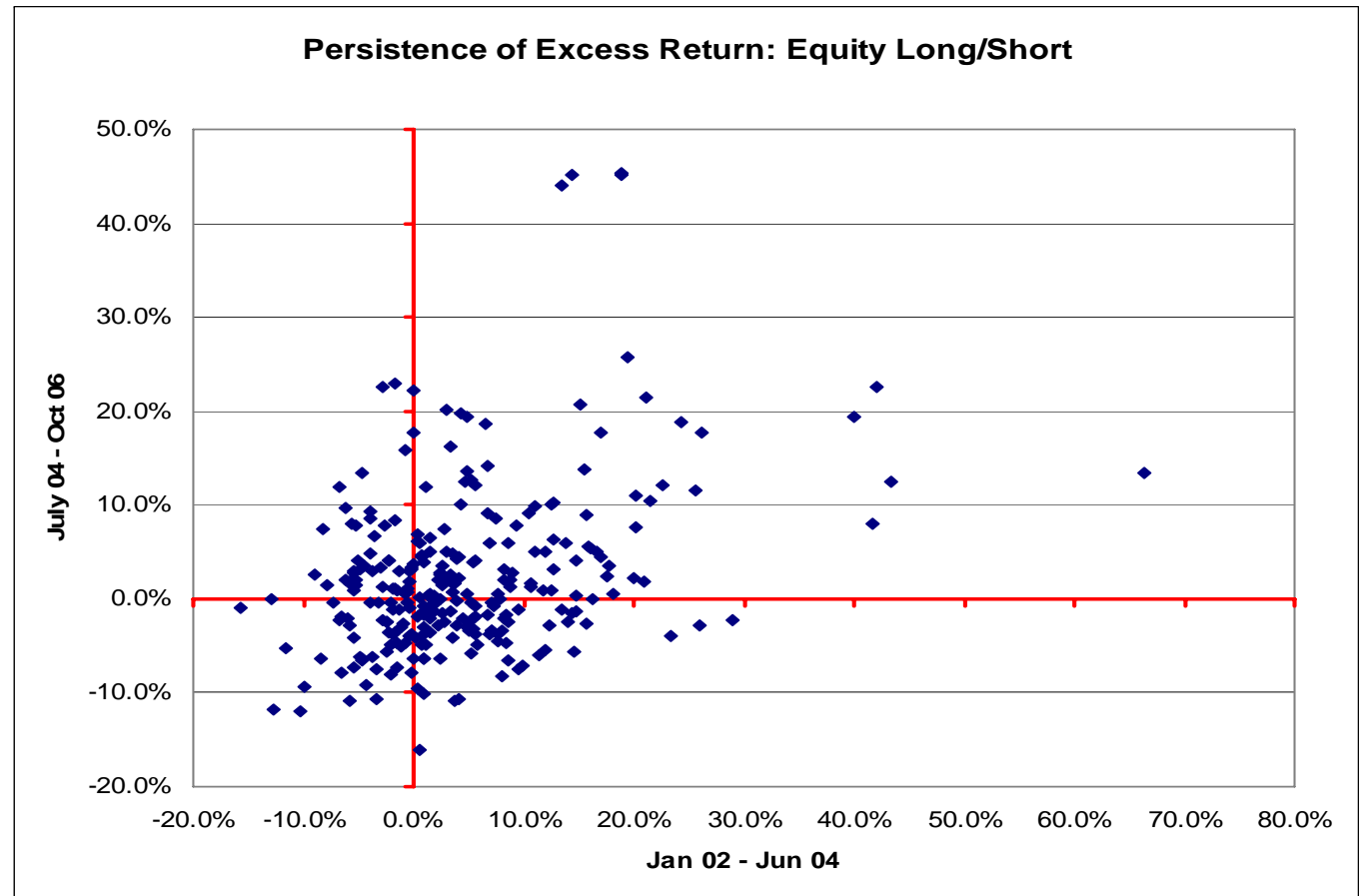
Worst

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	GSCI	GSCI	GSCI	PE Portfolio	MSCI World	PE Portfolio	GSCI	MSCI World	GSCI	GSCI	GSCI	GSCI
	PE Portfolio	PE Portfolio	PE Portfolio	Real Estate	Equity Hedge	GSCI	Global Macro	Equity Hedge	MSCI World	MSCI World	MSCI World	Real Estate
	Real Estate	Global Macro	Global Macro	Equity MN	PE Portfolio	Equity Hedge	Equity MN	Global Macro	Distressed	Distressed	PE Portfolio	PE Portfolio
	Fixed Inc Arb	MSCI World	MSCI World	Convert Arb	Convert Arb	MSCI World	Lehman Global	Fund of Funds	Convert Arb	Equity Hedge	Distressed	MSCI World
	Lehman Global	Equity Hedge	Fund of Funds	Lehman Global	Equity MN	Fund of Funds	Real Estate	Distressed	Lehman Global	PE Portfolio	Lehman Global	Equity Hedge
	Equity MN	Convert Arb	Equity Hedge	Global Macro	Real Estate	Global Macro	Fixed Inc Arb	Fixed Inc Arb	Equity Hedge	Global Macro	Equity Hedge	Fund of Funds
	Equity Hedge	Lehman Global	Convert Arb	Equity Hedge	Global Macro	Equity MN	Convert Arb	Convert Arb	Real Estate	Lehman Global	Fund of Funds	Global Macro
	MSCI World	Equity MN	Equity MN	Distressed	Lehman Global	Distressed	Fund of Funds	Real Estate	Fund of Funds	Fund of Funds	Real Estate	Distressed
	Global Macro	Fund of Funds	Lehman Global	Fixed Inc Arb	Distressed	Real Estate	Equity Hedge	Equity MN	Global Macro	Convert Arb	Global Macro	Fixed Inc Arb
	Distressed	Fixed Inc Arb	Distressed	Fund of Funds	Fund of Funds	Convert Arb	Distressed	Lehman Global	Fixed Inc Arb	Real Estate	Equity MN	Convert Arb
	Convert Arb	Distressed	Fixed Inc Arb	MSCI World	Fixed Inc Arb	Fixed Inc Arb	MSCI World	PE Portfolio	Equity MN	Fixed Inc Arb	Fixed Inc Arb	Equity MN
	Fund of Funds	Real Estate	Real Estate	GSCI	GSCI	Lehman Global	PE Portfolio	GSCI	PE Portfolio	Equity MN	Convert Arb	Lehman Global



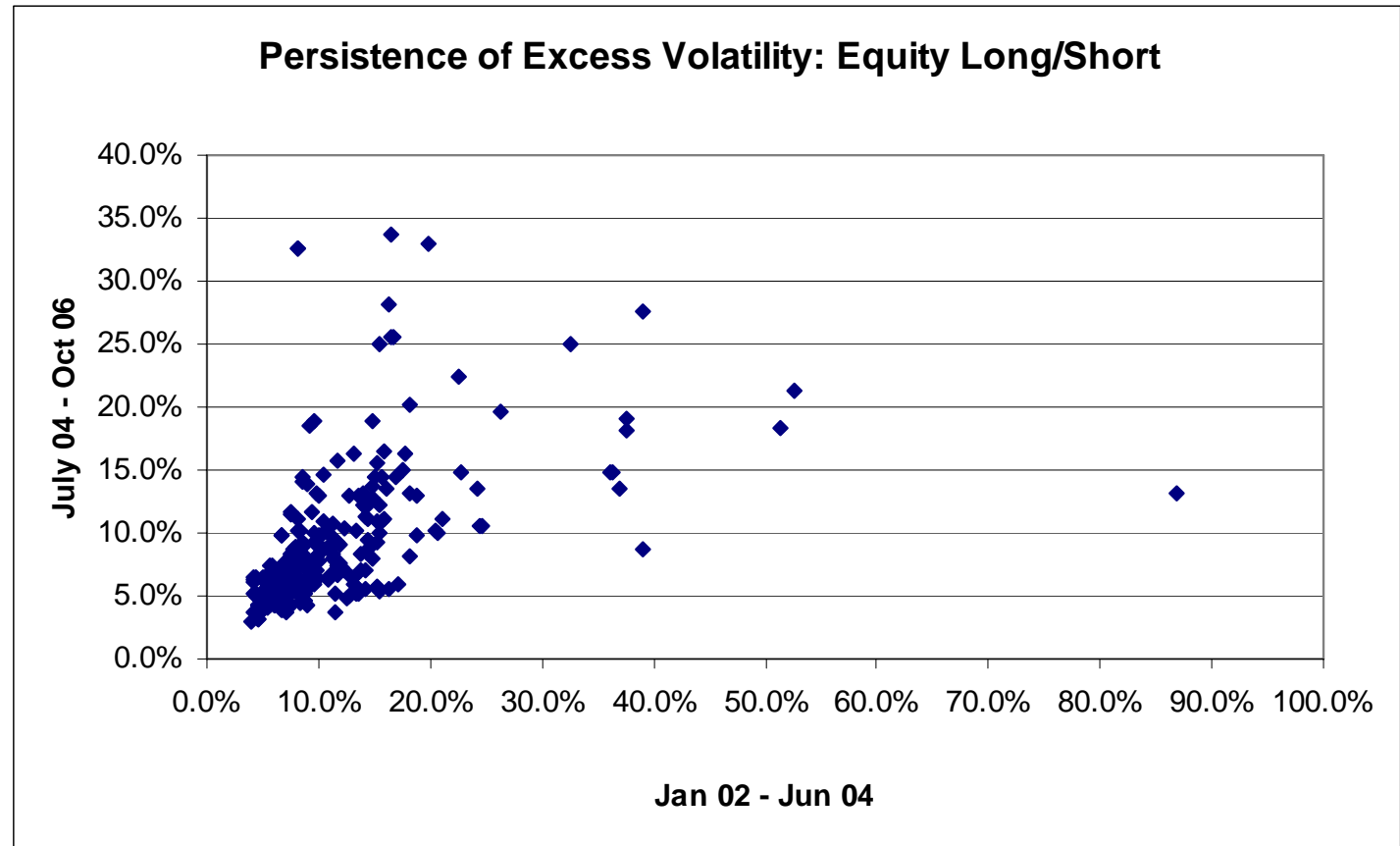
Persistence of Performance: Managers

Persistence of Return is not Common Among Managers



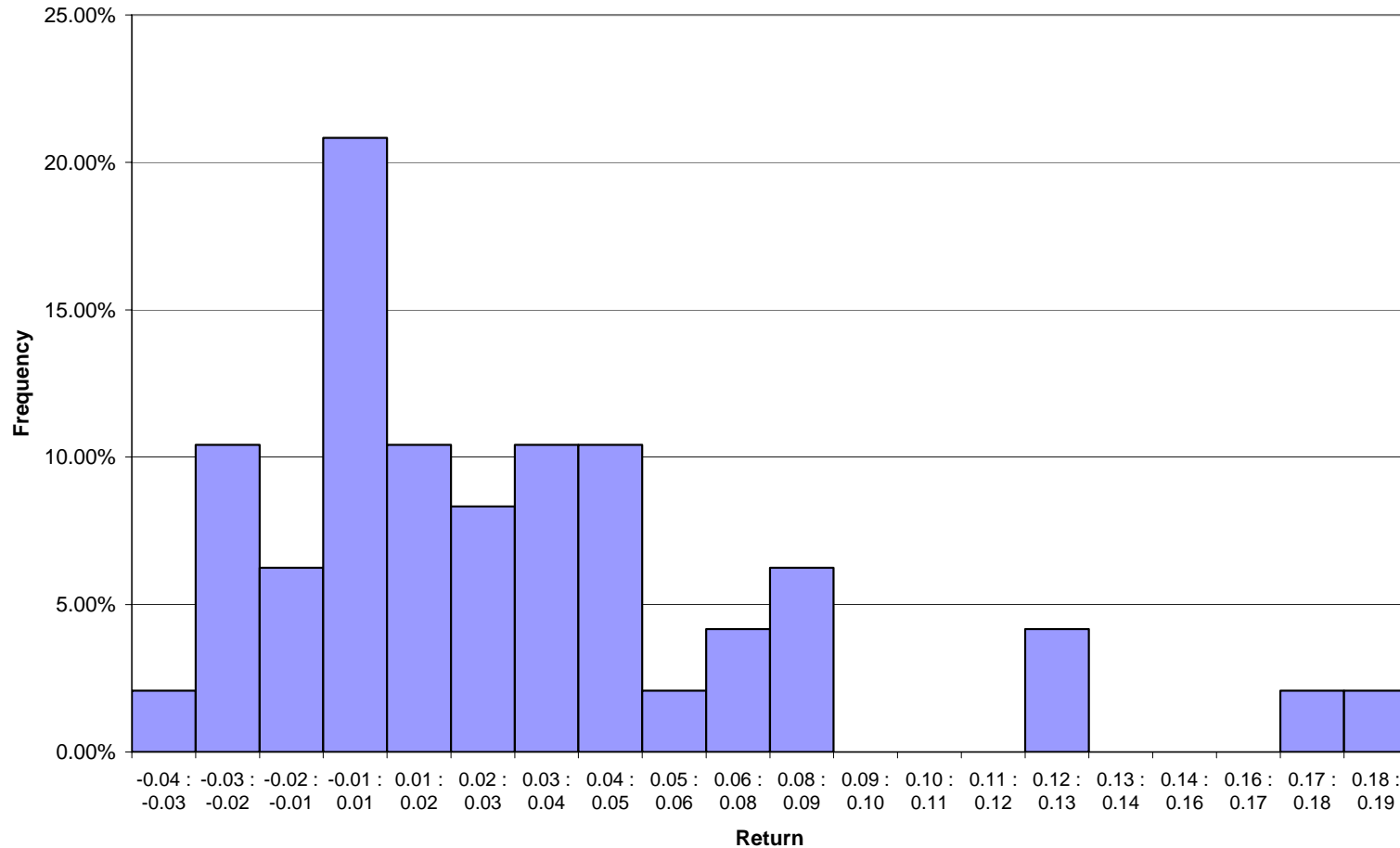
Persistence of Performance: Managers

Persistence of Risk or Exposure is more common



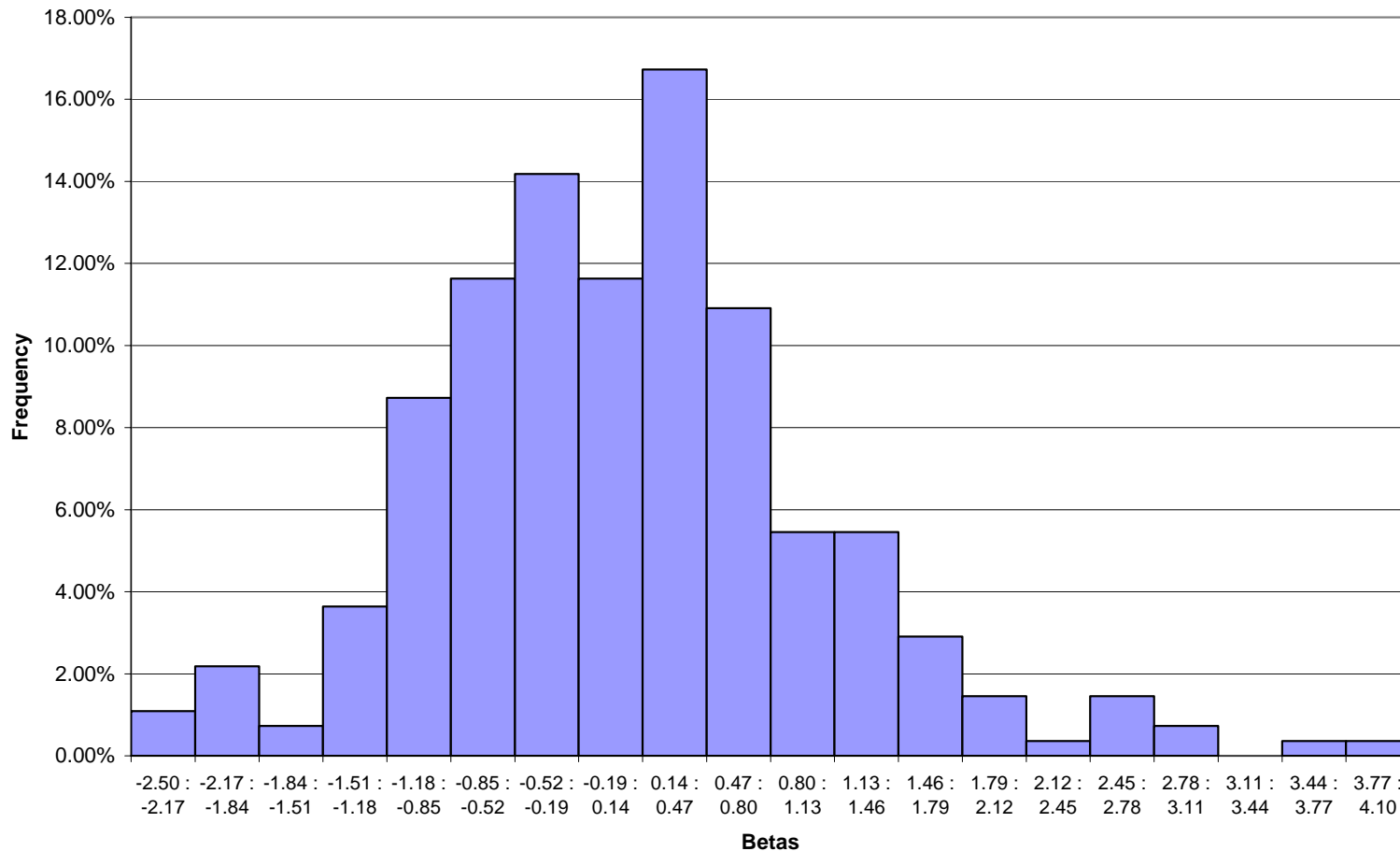
Not All Managers Are Created Equal

Convertible Arb Distribution of Managers Returns: 04-06

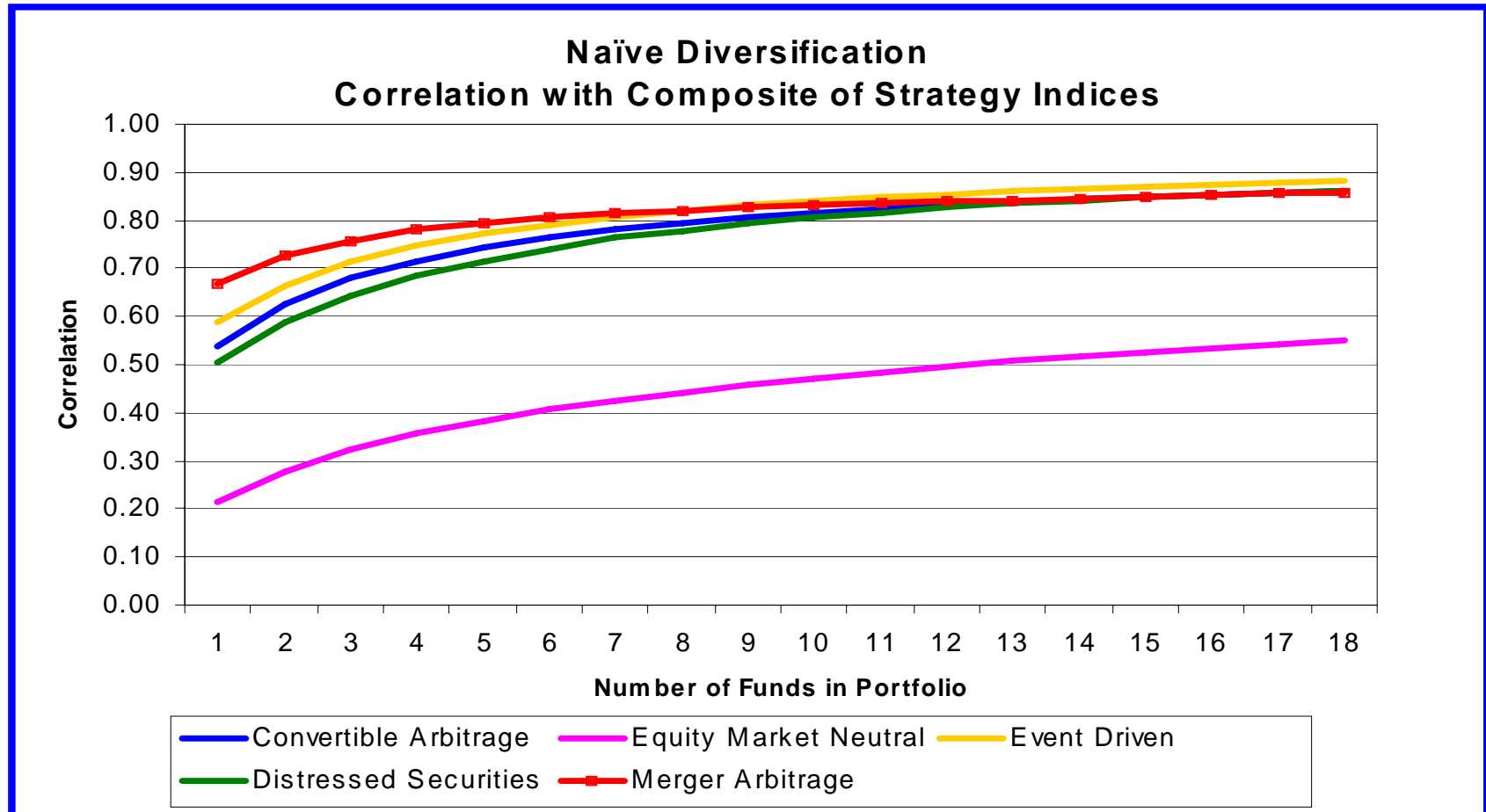


Not All Managers Are Created Equal

Hedge Equity Managers Distribution of Betas: 04 - 06



Portfolio of Managers is Needed to Access Strategies

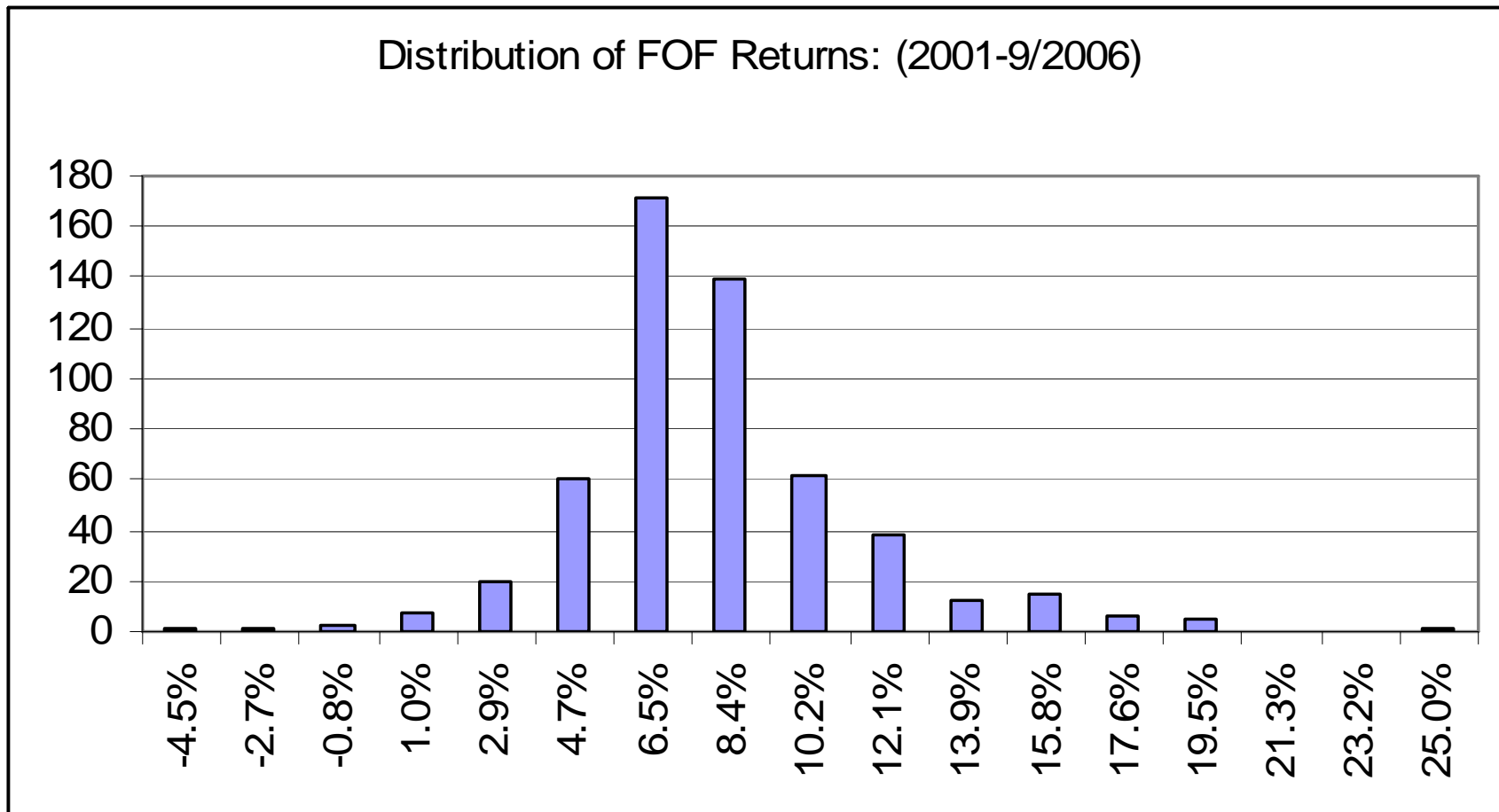


Benefits of Funds of Funds

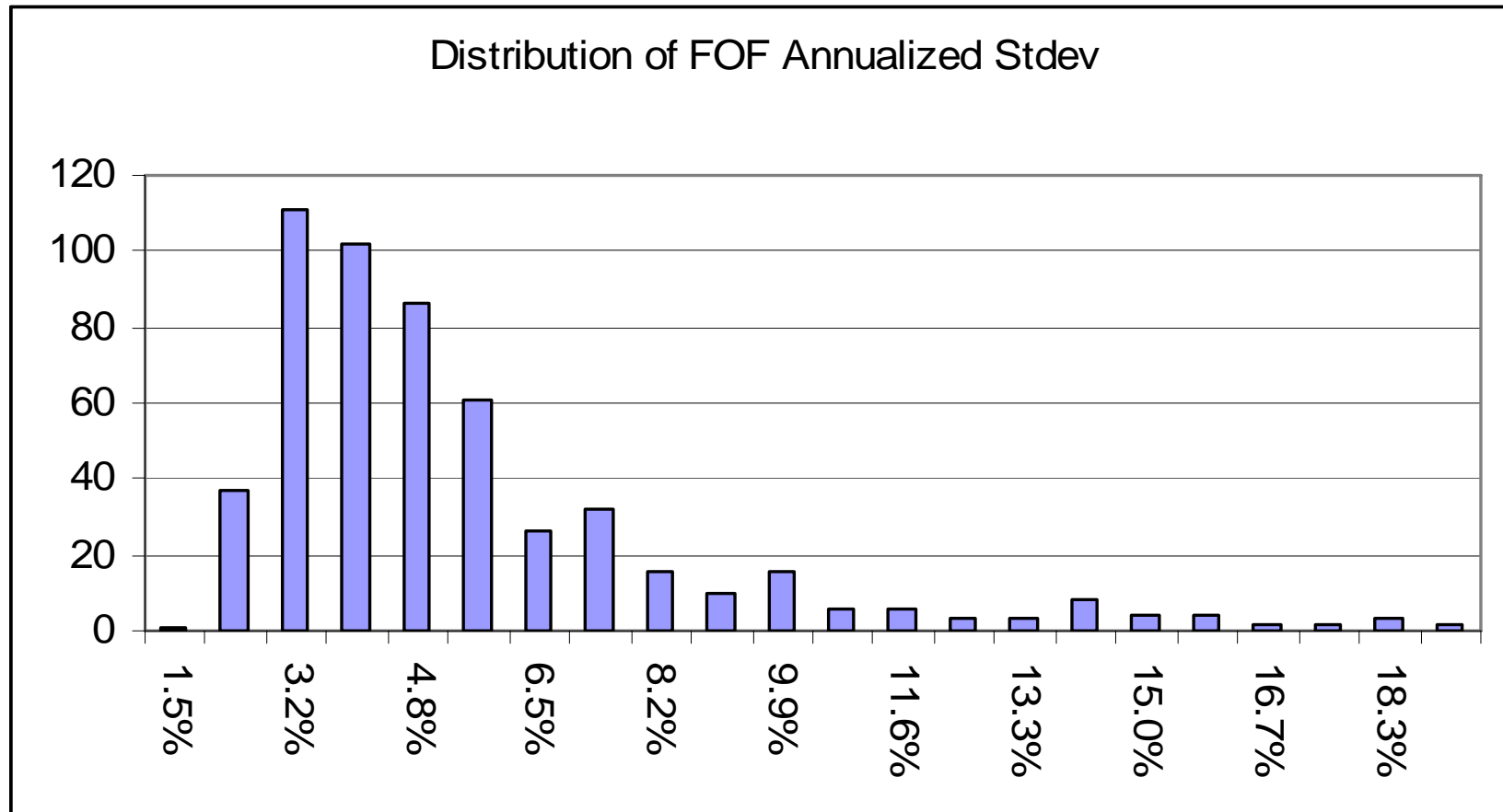
- Reduced due diligence costs.
- Diversification by style: diversification across hedge fund strategies.
- Access to managers that are closed.
- May offer increased liquidity.
- Asset allocation: there is some evidence that hedge fund returns are predictable.
- Diversification by fund family and managers: reduced business risk and diversification of judgment.
- Investible Hedge Fund indices may serve as alternative.



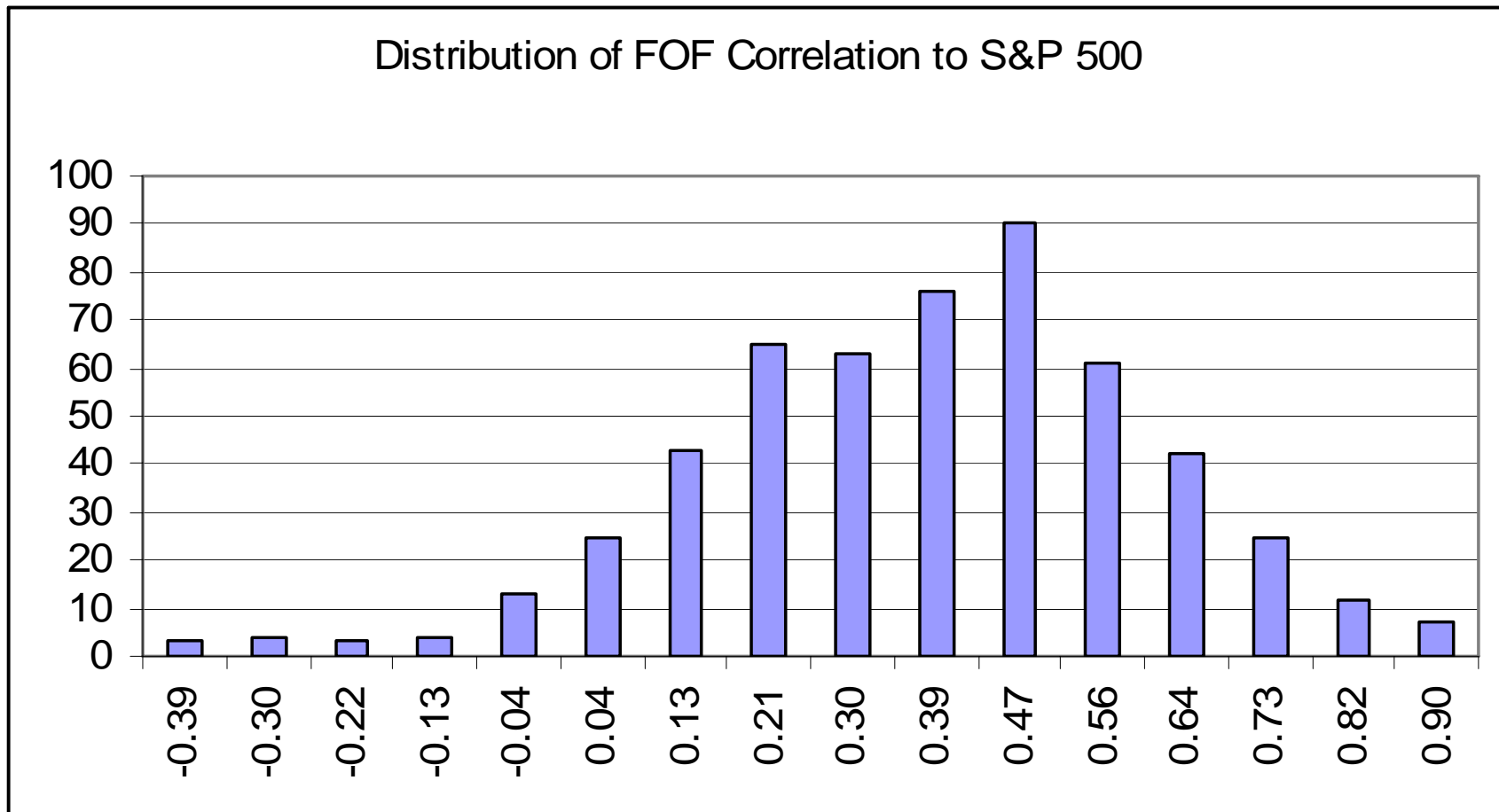
But They Are Not Created Equal



But They Are Not Created Equal



But They Are Not Created Equal



Conclusion: Alternatives, The Next Bubble?

- Commodities (futures based): Investment has grown by 50% last year. Exceeding \$100 billion. GSCI and DJ-AIG are major indices. Recent addition: Bach Commodity Index. Physical investment exceeds \$2 trillion.
- Commercial Real Estate: Liquid investments (REITS) have doubled to \$800 billion. Represents 5% of total global commercial real estate.
- Private Equity: Represented by limited partnerships. Total investment exceeds \$1 trillion. Dominated by pension and endowments. Individuals hold about 15%.
- Hedge Funds: Steady growth reaching \$1 trillion. Becoming increasingly institutionalized.
- Alternatives cover about 8% of the total investment universe (about \$70 trillion)



Is There a Bubble?

- Bubbles: Gains in asset prices far beyond their fundamental values.
- No known definite “test” to determine we are in a bubble.
- Typically, we find out about a bubble when the correction is already underway.
- What are the typical signals:
 - High recent returns (about 5 year).
 - Expensive valuation metrics (yield below cost of carry).
 - Speculative activity measured by volume and flows.
 - Excessive leverage.
- Each group of Alternatives may satisfy some of these tests. But none satisfies all of them. Oil represented the best case last year.



Candidates For the Bubble

- Commercial real estate (REIT):
 - High returns: Yes
 - High valuations: Close
 - Flows & Volume: Close
 - Leverage: No
- Commodities:
 - High returns: Yes in most cases
 - High valuations: No
 - Flows & Volume: Yes (through retail market)
 - Leverage: Normal levels
- Private Equity:
 - High returns: No
 - High valuations: Difficult to detect
 - Flows & Volume: Yes
 - Leverage: Normal
- Hedge Funds:
 - High returns: No
 - High valuations: Difficult to detect
 - Flows and volume: Yes
 - Leverage: Normal (below pre 1998 period).

