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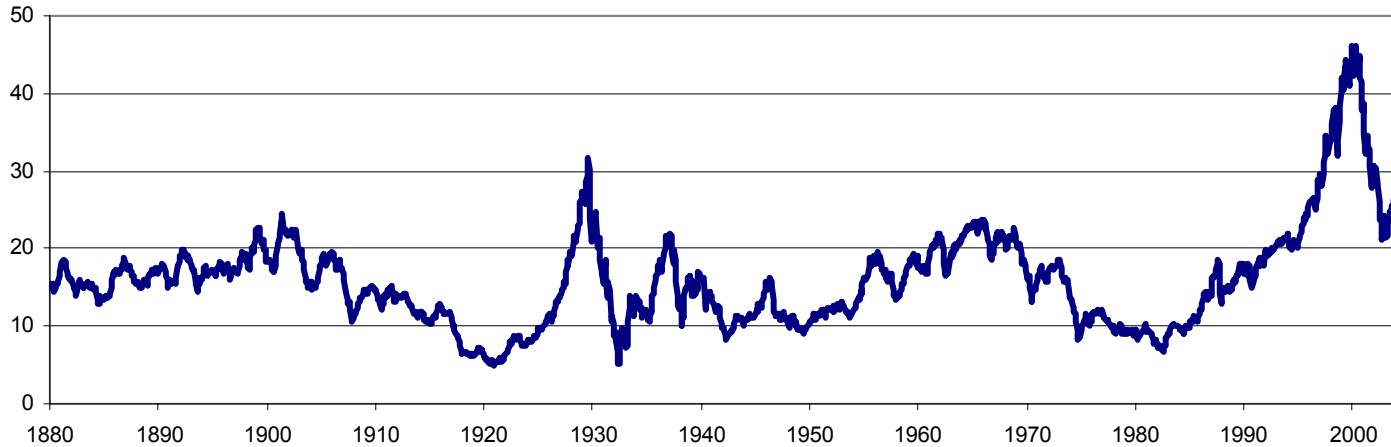
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What Are Investors Looking For in Hedge Funds?

- How to define hedge funds beyond just saying they are unconstrained unregulated (for now) managers who charge a lot and won't give you your money back except after a year and with 30 days notice?
- What are investors looking for in hedge funds?, some combination of,
 - 1) Positive expected returns (make money)
 - 2) Low to zero correlation to traditional assets (diversification)
- The effect of adding such an asset to one's opportunity set can be a large increase in risk-adjusted return (i.e., improving the efficient frontier).
 - 1) More expected return with same or less risk, and/or
 - 2) Less risk with same or more expected return
- In particular, given stock and bond market valuations, risk-adjusted returns can use some help going forward...

Motivation For At Least Considering Hedge Funds

S&P 500 P/E (price divided by 10-year real earnings)



P/E Range			Real Stock Market Return in the Next 10 Years	
Low		High	Median (Annual)	Worst (Total)
5.2	to	10.1	10.9%	46.1%
10.1	to	11.9	10.7%	32.0%
11.9	to	14.6	10.0%	4.0%
14.6	to	17.2	7.6%	-20.9%
17.2	to	19.9	5.3%	-32.0%
19.9	to	31.7	-0.1%	-35.5%
31.7	to	46.1Here Be Dragons.....	

* P/E's are for the S&P 500 and are based on current price divided by the average of the last 10-years earnings adjusted for inflation. Table covers 1/1927-2/2004.

How Do Hedge Funds Make Their Money?

- We think of hedge funds as falling into two broad categories of strategies that try to provide diversifying positive expected return
 - Investment “skill” turned into an investable diversifying asset.
 - A set of definable non-traditional “arbitrage” strategies that provide liquidity, or take a risk for which they are paid a premium.
- Of course, every combination of “skill”, exposure to known arbitrage strategies, and passive stock, bond, and credit market exposure is possible in a given hedge fund.

Hedge Funds Can Turn “Skill” Into An Investable Diversifying Asset

Example of a skill-based strategy: An “equity market neutral” hedge fund

- Traditional active management can be defined (as a tautology) as:
 - $\text{Active} = \text{Index} + [\text{Active} - \text{Index}]$
- One simple “hedge fund” is:
 - $\text{Hedge fund} = \text{Cash} + [\text{Active} - \text{Index}]$
- Now, a hedge fund manager could lever (or de-lever) the difference:
 - $\text{Hedge fund} = \text{Cash} + L * [\text{Active} - \text{Index}]$
- If skill exists and is identifiable (a big “if”), and L is > 1 , the hedge fund should charge fees larger than the corresponding active manager.
- Our construct of $[\text{Active} - \text{Index}]$ imposes an arbitrary constraint on shorting which if lifted, can improve things further (if there is skill)

Arbitrage Strategies

- The word “arbitrage” in its technically accurate form is very overused
- An arbitrage strategy, in a looser sense, probably fits some/all of the following:
 - It goes long and short similar securities hedging out unwanted risks.
 - The believed mis-pricings or risk premia are economically significant.
 - Often it gets paid in the status quo (positive carry); this does not make it riskless!
 - Often it has an “insurance” characteristic where it assumes one large or many small risks unwanted by others, sometimes these risks are non-linear.
 - “Flows” may cause it to become a common risk factor even if it is usually idiosyncratic.

Examples of Both Kinds of Hedge Fund Strategies

	What You Do	Potential Systematic Profit Source	Potential Manager Alpha
Convertible “Arb”	<ul style="list-style-type: none"> • Long embedded option from convertibles hedged with stock 	<ul style="list-style-type: none"> • The market systematically pays you for taking on the unfamiliar/uncomfortable convertible 	<ul style="list-style-type: none"> • Better models of rich/cheap and hedge ratios
Merger “Arb”	<ul style="list-style-type: none"> • Long a target and short an acquirer where spread is not fully closed yet 	<ul style="list-style-type: none"> • The market systematical pays you to provide insurance that deals close; i.e., the average spread overcomes the failures 	<ul style="list-style-type: none"> • More accurate underwriting by better deal selection, better risk management, systematic deal selection
Statistical “Arb”	<ul style="list-style-type: none"> • Long and short a hedged stock portfolio based on short-term supply / demand anomalies 	<ul style="list-style-type: none"> • The market systematically pays you for providing short-term insurance and liquidity, perhaps against large information trades 	<ul style="list-style-type: none"> • Low cost trading, better risk systems for removing unintended bets, other short-term factors
Equity Market-Neutral	<ul style="list-style-type: none"> • Long/short under/over priced stocks over intermediate term. Tends to be more quant. 	<ul style="list-style-type: none"> • Expected returns on cheap stocks exceed those on expensive stocks. 	<ul style="list-style-type: none"> • Momentum and other factors to attempt to improve timing aspect of value strategy.
Long-short Equity	<ul style="list-style-type: none"> • Long/short stocks based on valuation, catalysts, forensic accounting, etc. Tends to be more fundamental than quant. 	<ul style="list-style-type: none"> • Does not have a non-traditional systematic profit source. Often has stock market beta (unfortunately). 	<ul style="list-style-type: none"> • Manager expertise, acumen, and effort.

A Big Issue in Hedge Funds Nowadays - Institutionalization

- “Hedge funds are lightly regulated investment vehicles, catering to the wealthy, that make relatively short-term bets on the direction of stocks.”

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- “Hedge funds are lightly regulated investment vehicles, catering to the wealthy, that make relatively short-term bets on the direction of stocks.”
- *institutionalize*: To place (a person) in the care of an institution, often in the context of treating mental illness.
- What is institutionalization?
 - a. A needed professionalism that must happen if hedge funds are going to fit into modern portfolios with enough capacity to matter,

or
 - b. A creativity-draining bureaucracy-loving individualism-hating life-sucking beast that drains hedge funds and hedge fund managers of all they were meant to be.
- Although some of b. might be true, I’m going to argue mostly for a.

Institutionalizing Hedge Funds

- What are some key features of institutionalization?
 - Benchmarking
 - Transparency
 - Fee rationalization

Benchmarking: Choosing A Benchmark for a Hedge Fund Program

- Some candidate benchmarks for an alternatives program or manager
 - 10% (or any absolute number)
 - TBILLS + 6%
 - $\frac{1}{2}$ TBILLS + 3% + $\frac{1}{2}$ S&P 500
 - Other hedge fund strategies
- Major issue is one of time horizon
 - 10% makes no short-term sense when inflation is low (or high), or when events/flows dominate, but over the *very* long-term might be a worthy goal
 - Adding in an inflation or T-bill component matches the short-term better as what we all earn is T-bills plus/minus something
 - Adding a stock market exposure matches the short-term even better
 - Comparing to other funds (or strategies) matches the short-term best, but long-term does little to benchmark the program against your goals
- Use multiple benchmark types at very different time horizons

Transparency

- Why do managers (sometimes) not want to provide full transparency?
 - Revealing proprietary strategies
 - Revealing proprietary positions where there is vulnerability
 - Logistics
 - The general frustration that comes from feeling it goes into a black hole
 - Revealing the basic simplicity and lack of magic behind what we do :)
- Other kinds of transparency (not full) are sometimes more reasonable
 - Summary risk-reports
 - Some process transparency

Fee Rationalization

- “Institutions are coming so fees must fall” is backwards for now.
- Institutionalization may not drive hedge fund fees down, but they could/should drive them to be more rational.
 - Pay a lot for true “unavailable anywhere else” alpha like idiosyncratic skill.
 - Pay less for “systematic” exposure to known non-traditional strategies, but more than regular old stock market beta (i.e., index fund fees) as skills are rarer.
 - Don’t pay hedge fund fees for stock market index fund exposure (more on this later).
 - Don’t pay for realized non-repeatable noise.

Some Particular Risks in Hedge Fund Investing

- Stock market beta risk, and the lags in marking that can understate it
- Leverage
- Blow-ups
- Fire vs. Ice risk now

How Much of Hedge Fund Returns Come from Market Risk?

➤ Why Do You Care?

- Risk and Diversification (we want uncorrelated outperformance)
- Fees

➤ How Do You Test It?

$$\text{Excess Hedge Fund Return}_t = \alpha + \beta (\text{Excess S\&P 500 Return}_t) + \varepsilon_t$$

$$\underbrace{\text{Excess Hedge Fund Return}_t}_{\substack{\uparrow \\ \text{Invest} \\ \text{in hedge} \\ \text{fund}}} - \underbrace{\beta (\text{Excess S\&P 500 Return}_t)}_{\substack{\uparrow \\ \text{Short } \beta \\ \text{S\&P 500} \\ \text{futures}}} = \underbrace{\alpha + \varepsilon_t}_{\substack{\uparrow \\ \text{Average} \\ \text{return to the} \\ \text{"hedged"} \\ \text{hedge fund}}}$$

“Hedged”
Hedge Fund

Problems with Hedge Fund Data

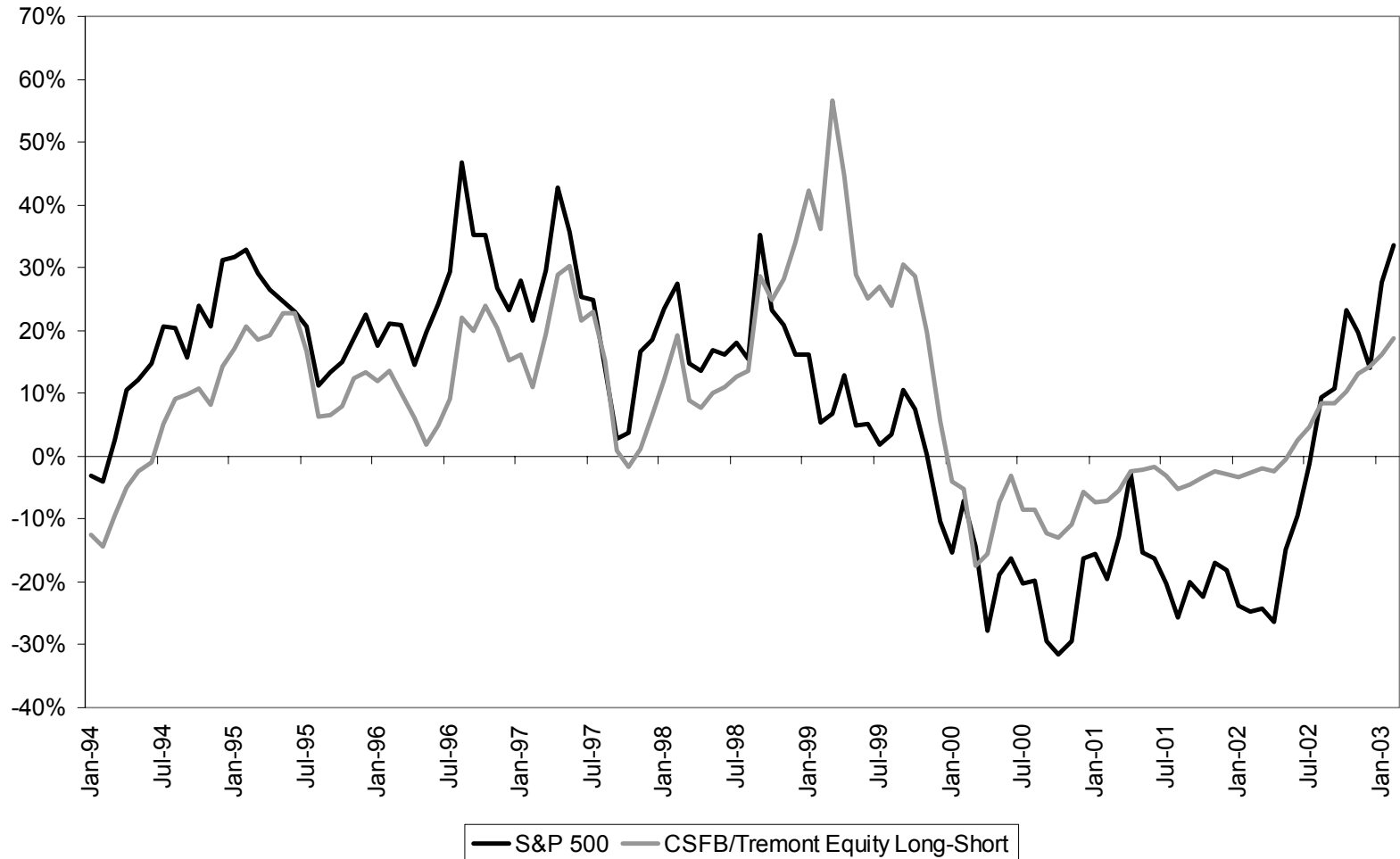
- Warning! Many hedge funds trade illiquid (to some degree) securities:
 - Month-end pricing can be stale
 - Month-end pricing is subject to manager discretion (smoothing)
- Illiquid securities can bias the type of analysis that we did on the previous page

	Month			
	<u>T</u>	<u>T+1</u>	<u>T+2</u>	<u>T+3</u>
S&P 500	-20%	0%	0%	0%
Liquid Security	-20%	0%	0%	0%
Illiquid Security	0%	0%	0%	-20%
“Smoothed” Security	-8%	-6%	-4%	-2%

- Illiquid securities will make hedge funds look less correlated to the market and thus have betas that look lower than they might be in real life
- Asness, Krail and Liew (JPM 2001) show that this is not just a theoretical issue.

There's Stock Market Beta In Them Thar Hills

Rolling 1-Year Returns vs. T-Bills



The “L-word”

- Levered strategies have been called the financial equivalent of “picking up pennies in front of a steamroller”
- Why do it? Well, to paraphrase Willy Sutton, that’s where the pennies are! It would also be nice to believe you can avoid the steamroller...

Examples of Leverage

- Compare the following four strategies
 - Long \$100 in Philip Morris, short \$43 in Cisco (volatility of 35%)
 - Long \$100 in U.S. bonds, short \$100 in Japanese bonds (volatility of 8%)
 - Long \$100 of the U.S. 2-year, short \$25 Of the U.S. 10-year (volatility of 2%)
- To run each at a per annum volatility of 10%
 - Long \$29 in Philip Morris, short \$12 in Cisco
 - Long \$125 in U.S. bonds, short \$125 in Japanese bonds
 - Long \$500 of the U.S. 2-year, short \$125 Of the U.S. 10-year

Pros and Cons of Leverage

- Now, are we indifferent to leverage even if the volatility is the same? No.
- Cons of leverage:
 - Reliance on assumptions.
 - Interaction with liquidity (leverage with poor liquidity is not a good idea...) and the possibility of being forced out of a good strategy.
- Pros of leverage:
 - The existence of leverage allows one to take small but hopefully reliable mispricings and make them economically meaningful.
 - People's discomfort with leverage might in fact be a major reason why attractive mispricings exist.
 - In general, how plausible is it that we get paid (through uncorrelated alpha) for pursuing the comfortable and absolutely safe?

Blow-ups, The Risk That Dare Not Speak Its Name

- Wealthy individuals often define risk as “don’t lose me money” (over any given hour), while institutions don’t particularly enjoy losses, other risks (e.g., headline risk below) feature as prominently in their worries.
- What is headline risk?
 - Blow-up in strategy
 - Fraud or malfeasance
- Headline risk might get more attention than it deserves investment-wise
 - For example, imagine a diversified hedge fund portfolio with one embarrassing blow-up, which still exceeds it’s overall goals. How does the meeting with the board go, what do you spend your time talking about, the successful year, or the blow-up?
- Are blow-ups a natural consequence of loosening the rules and widening the opportunity set for hedge funds vs. other investments? Whether this is net good or bad should be the main question for investors (not whether blow-ups exist).

Fire vs. Ice Risk Now

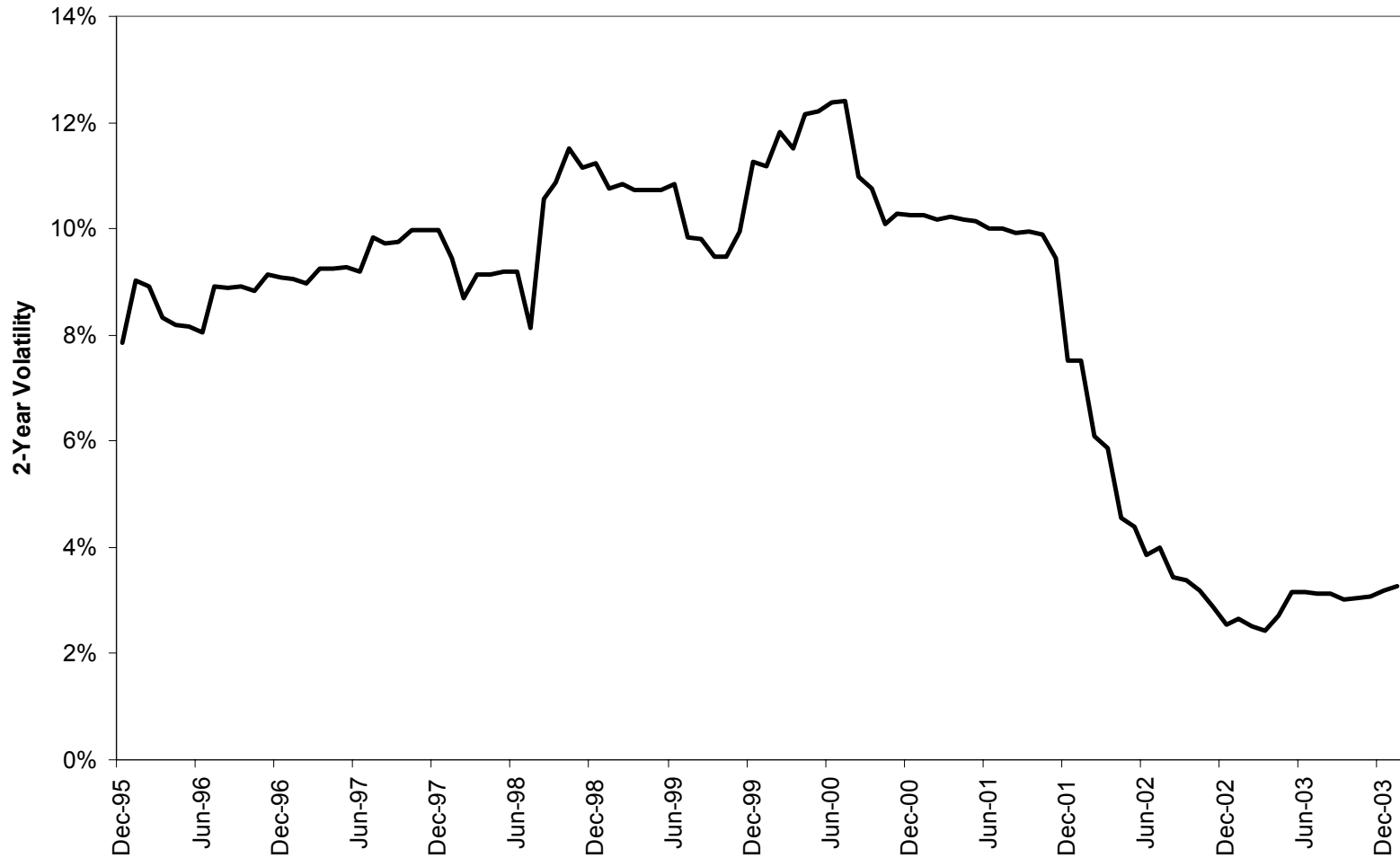
Some say the earth will end in fire,
Some say in ice.
From what I've tasted of desire
I'll side with those that favour fire.
But if the earth should perish twice,
I think I know enough of hate
To know that for destruction ice
Is also great,
And would suffice.

Robert Frost

- Fire is the risk of a big short-term blow-up for hedge funds in general.
- Ice is the risk of poorer than expected medium- to long-term returns.

Fire vs. Ice - Hedge Fund Volatility Today

Rolling 2-Year Volatility of CSFB/Tremont Hedge Fund Index



What Risk Of Fire Exists Today?

- Managers seem to follow a trend/momentum strategy in setting Beta.
 - Can get whipsawed.
- Can't be certain that out-of-the-money option writing doesn't exist.
- One wildcard that could cause fire risk is “guaranteed” products that must reduce exposure after any disappointment (10/87 meets 8/98).
- Still it certainly feels like a de-levered hedge fund world, reducing, if not eliminating, worries about fire.

What Risk Of Ice Exists Today?

- Why has risk/leverage come down?
 - Negatives
 - Spreads are tight on many strategies.
 - A great deal of money has flowed into hedge funds and probably not been fully invested, mis-pricings/arbitrage are not fully scalable. The general “capacity” problem.
 - Positives
 - Perhaps a realization that hedge funds don’t need to return much, if truly diversifying, to have a very positive impact on a portfolio.
 - Hedge funds being less about cowboy investing and more about building lasting institution-friendly organizations.
- Low cash rates can lead to risk of disappointment for investors suffering from money illusion. Note, this applies equally as well to traditional assets.

Is Fire Or Ice Currently A Bigger Risk For Hedge Funds?

- As just one opinion, ice risk predominates as desire for hedge funds outstrips capacity.
- Of course, if ice leads to disappointment which leads to redemptions, ice can cause fire.
- Please note, because prices are still high, the S&P 500 (and for that matter the bond market) itself is still loaded with both fire and ice risk.
- Ice isn't necessarily even a "risk" if expectations for hedge fund returns have rationally come down over time, or are being compared to traditional assets.

Some Summary Thoughts On Hedge Funds

- Hedge funds exist (or should exist) to take sources of expected return like individual skill, or non-traditional arbitrage strategies, and turn them into investable assets.
- Hedge funds should not be a really expensive stock market index fund with a few shorts thrown in for credibility!
- Hedge funds are here to stay. It's very possible that the model for the future will be index funds plus hedge funds.
- Institutionalization, with its pros and cons, is definitely underway.
- Risks and issues (e.g., capacity issues leading to the risk of "ice", leverage and headline risk) abound, and thus requires internal or external expertise to navigate.
- Risks and issues abound in traditional markets also. If there is ever a time to look for some non-traditional sources of return this is it.