



Carpenter Analytical Services

Market Models & Metrics

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Hedge Fund Analytix

HFA 4th Friday

December 28, 2007

Three of our four asset exposures are in their middle (3rd) quintiles, with one (bonds) in 4th quintile. In middling positions, there is no “contrarian” inference from over-confident bulls or bears, but individual assets do show historically significant differences from outcomes from “all other” quintiles; these differences should be heeded, albeit not with the confidence of reversals from extreme long or short exposures. All data here are based on our revised and extended CTA data base.

Current Exposure Summary:

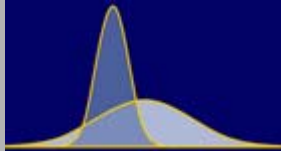
- **Stocks.** Equity exposure (+.063, and 45th percentile) is not much changed from last week but down from last month. Months of retreat from extreme long exposure continues gradually.
- **Bonds.** Fixed income exposure is up from last month, and approaching (but not yet quite) 80th percentile of over-done bullish position.
- **Currency.** Dollar exposure continues short...but still refuses to get over-short. Now at -.110 (revised basis) or 52nd percentile, no reason on these data to expect the dollar weakness is finished.
- **Commodity.** Aggregate commodity exposure is positive and holding (currently at 44th percentile). Historical inference is generally positive, but not pressing.

These four assets are elaborated graphically on pages 2-5, with full exposure paths and forward returns distributions. NEW: Longer-term exposure paths on pages 7-8. See *End Notes*, page 9, for explanatory context.

Managed Futures hedge funds (CTAs) are aggressive competitors. They go long and short; they use multiple asset classes; they rapidly adapt to emerging market trends. CTA exposure tracking shows tactics and sentiment dynamics in these aggressive funds. Our exposures model has been tracking fund strategies for more than fifteen years.

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U.S. Equity Exposure

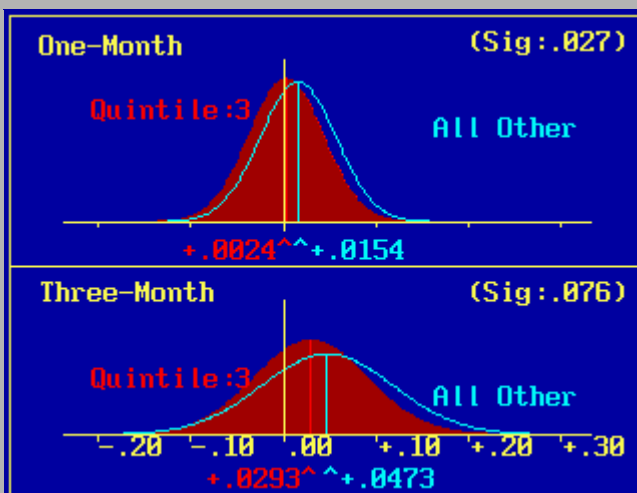
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Equity Exposure Path



Forward Return Distributions: Quintile #3



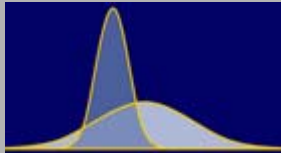
Red curves illustrate distribution of past equity returns 21 days (top) and 63 days (bottom) forward from *current* exposure quintile. Blue curves represent returns from "other" quintiles. See end notes page 9.

Equity Inference

Exposure is in 3rd quintile (45th percentile), which is unchanged quintile from a week ago and month ago. There is a clear downward bias in the line graph above, showing CTA funds are increasingly cautious but not yet bearish.

Five-year historical outcomes from middle quintile exposure are significantly below-average, as in comparison of red and blue return distributions at left (1.3% less than all other quintiles over 1-month and 1.8% less over three months).

Bottom Line: Significant below-average outcomes from Q3 is cause for great caution.



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Fixed Income Exposure

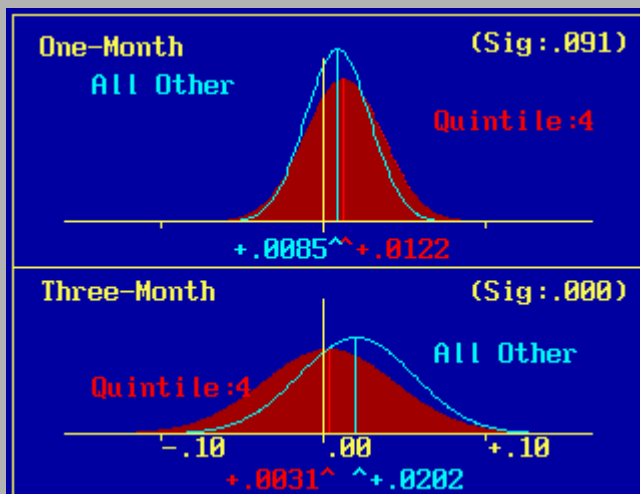
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Fixed Income Exposure Path



Forward Return Distributions: Quintile #4



Red curves illustrate distribution of past bond returns 21 days and 63 days forward from *current* exposure quintile. Blue curves show returns from "other" quintiles. See end notes, page 9.

Bond Inference

Bond exposure is approaching top quintile (currently 75th percentile), with definite downside inference when that happens. From present 4th quintile, 1-month returns are above-average (top curves), but 3-month returns are majorly below-average (bottom curves).

The 3-month difference is significant at .000; essentially zero chance these averages are this different by chance).

Bottom Line: Market upside still somewhat likely for near-term, but exposure too high to expect a lot, or for long.



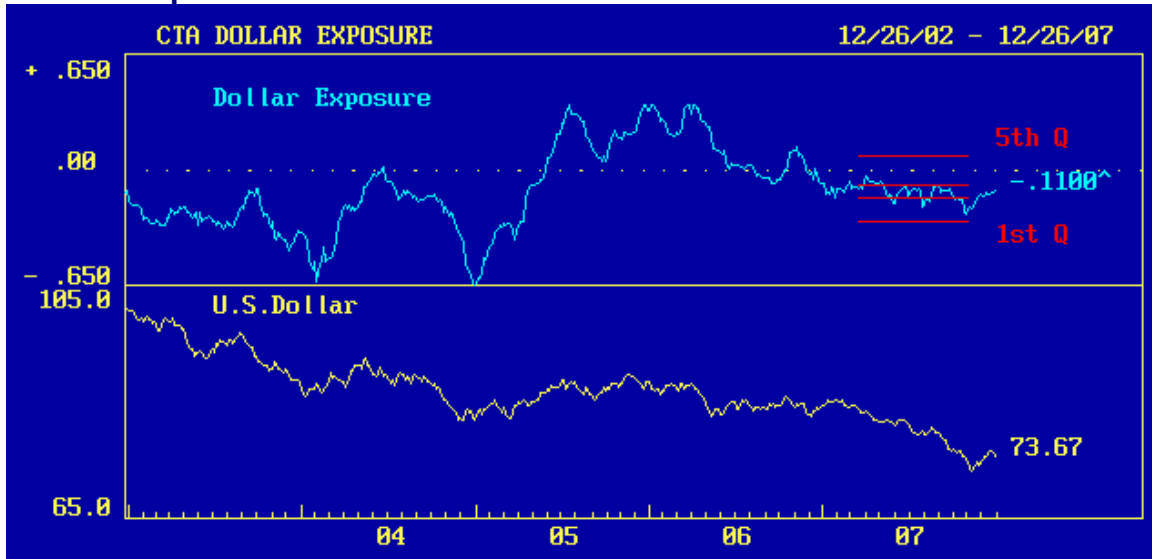
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U.S. Dollar Exposure

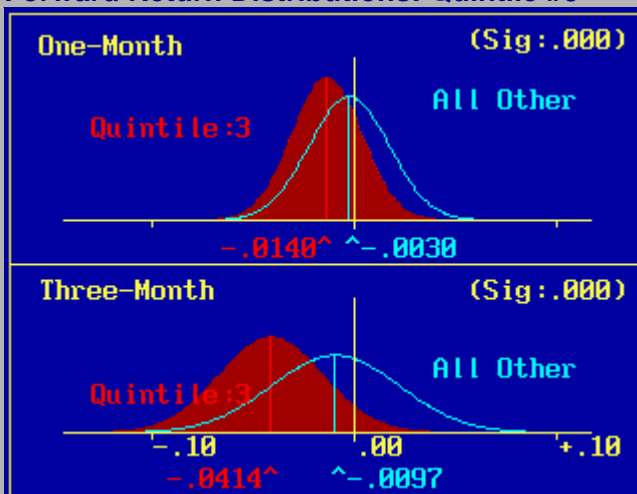
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Dollar Exposure Path



Forward Return Distributions: Quintile #3



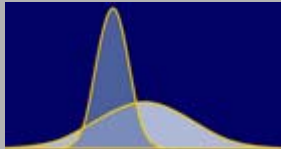
Red curves illustrate distribution of past dollar returns 21 days and 63 days forward from *current* exposure quintile. Blue curves show returns from "other" quintiles. Significance tests difference in red and blue means. See end notes, page 9.

Dollar Inference

CTAs continue to hold net short, while yet refusing to go deeply bearish. (See longer-term path on page 8.)

The current 3rd quintile position shows 1-month dollar index returns (-1.40%) significantly below "all other" quintile outcomes; three-month outcomes (-4.14%) also severe and significant at .000 (no chance these differences are random).

Bottom Line: Further weakness still more likely than recovery...while we keep watching for exposure change.



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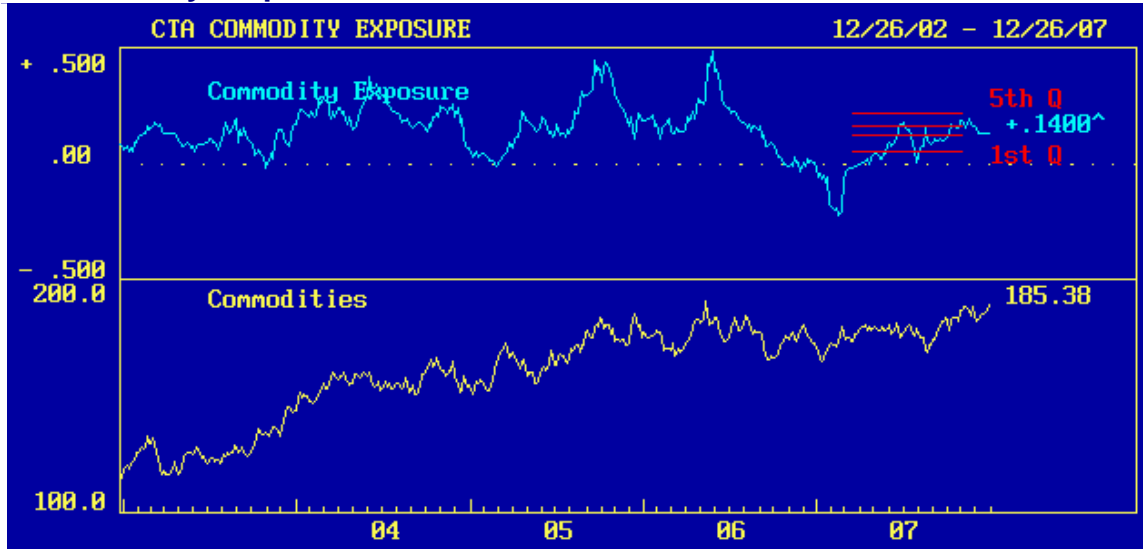
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Commodity Exposure

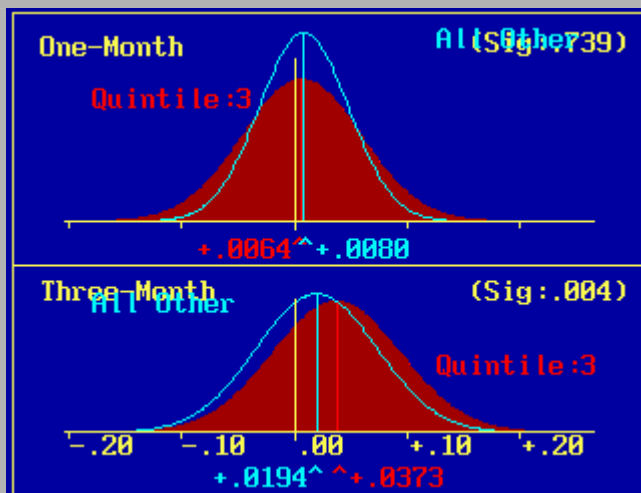
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Commodity Exposure Path



Forward Return Distributions: Quintile #3



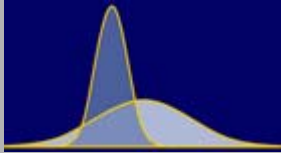
Red curves illustrate distribution of past commodity index returns 21 days and 63 days forward from *current* exposure quintile. Blue curves show returns from "other" quintiles. See end notes, page 9.

Commodities Inference

Aggregate commodity exposure remains positive and "middling" (44th percentile) relative to its historical range. Corrections often ensue from exposure "spikes," as seen in the 5-year path above. No spike has occurred in the present trend.

One-month forward returns from 3rd quintile have averaged negative, but not significantly from all others. Three-month forward returns (bottom red distribution) are both positive and above-average (and significant).

Bottom Line: Exposure position is constructive over 3-month span, but not compelling for very current outlook.



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Exposures Summary

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Exposures Data Summary December 28, 2007

Exposure Ranges

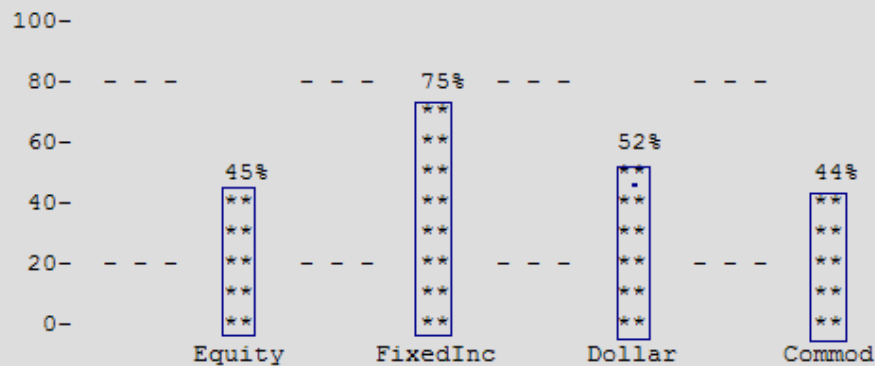
OVERALL FROM 2000

	Equity	FixedInc	Dollar	Commod
High	.33	.45	.42	.49
Low	-.59	-.44	-.66	-.23
Last	.06	.11	-.11	.14
Percentile	64	67	43	54

LAST FIVE YEARS

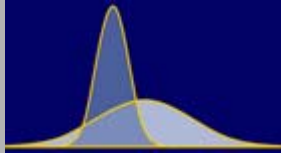
	Equity	FixedInc	Dollar	Commod
High	.33	.34	.42	.49
Low	-.19	-.44	-.66	-.23
Last	.06	.11	-.11	.14
Percentile	45	75	52	44
4 Days Ago	44	72	48	44

Exposure Percentiles



Thresholds of over-extension (with contrarian inference) are defined at 20th and 80th percentiles.

Hedge Fund Analytix is posted every Friday. **HFA Weekly** provides summary data and line charts. Once a month, **HFA Fourth Friday** adds forward returns distributions, significance stats, and summary inference.



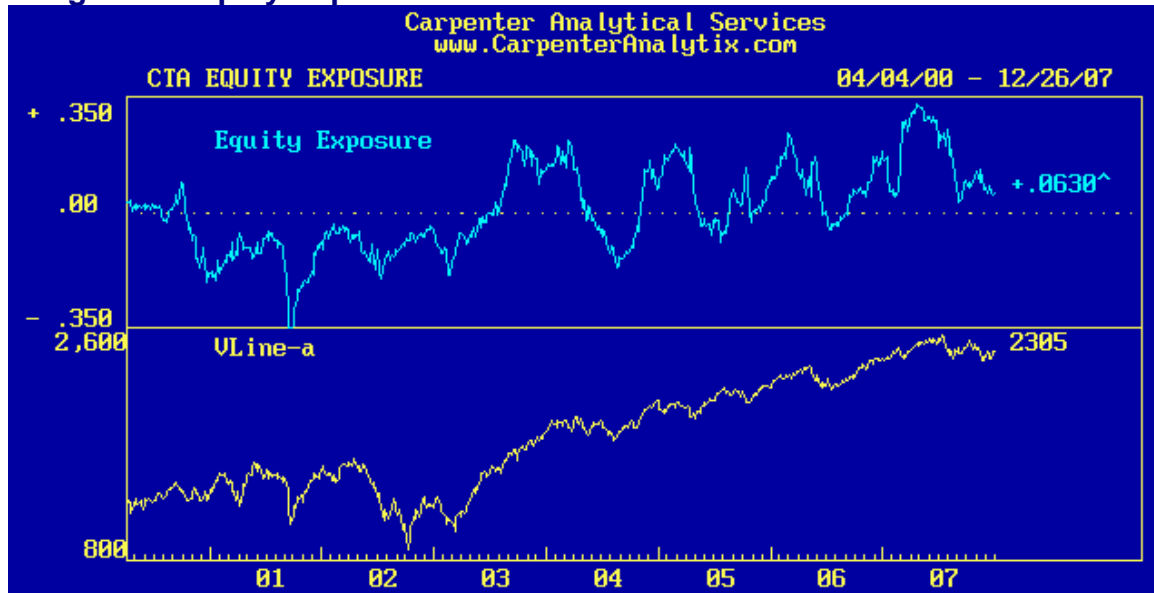
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HFA 4th Friday

Longer-Term: Stock & Bond

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Long-Term Equity Exposure Path

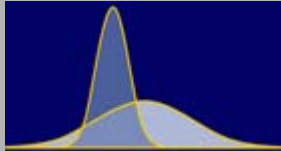


CTA equity exposure was negative throughout the bear market of 2000 into 2003. Exposure turned predominantly positive in the bull market. The range of “extreme” bullish or bearish sentiment must be considered relative to the era.

Long-Term Fixed Income Exposure Path



The LT bond exposure path turns sharply from extremes, usually with market turn coinciding. Net bond exposure range is notably lower in past few years, suggesting boundaries of “extreme” sentiment best gauged focusing on nearby years.



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Longer-Term: Dollar & Commodity

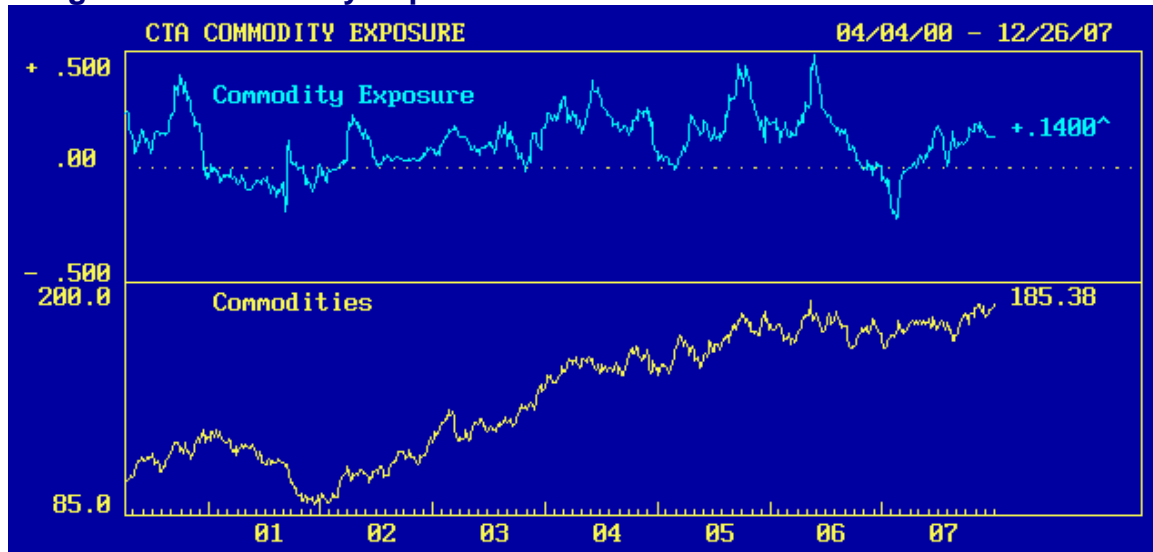
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Long-Term Dollar Exposure Path

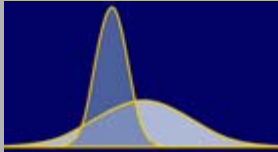


Exposure range shifted downward as the dollar approached its top in 2001, then finally remaining net short in 2002-03-04. Shorts were clearly over-wrought at intermediate bottoms. Recent bearish months are nowhere near those extremes.

Long-Term Commodity Exposure Path



Commodity exposure remains net long almost continuously. Gauging short-side exposure extremes is difficult for lack of sample base. Long-side extremes, as in the fixed income path, often reverse sharply, initiating commodity price retreat.



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****End Notes****

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Hedge Fund Analytix gauges strategy and sentiment in *Managed Futures* hedge funds. High and rising exposures reflect bullish position; low and falling exposures reflect bearish position. Extreme high or low exposures can imply over/under-confidence. Overextension thresholds are set at 1st and 5th quintiles. Following are key *HFA* foundation structures and concepts.

HFA 4th Friday presents monthly exposures analysis; *HFA Weekly* updates exposures other Fridays.

Managed Futures (CTA) Funds. *Managed Futures* funds represent a key element of the hedge fund universe. They use long, short and hedged strategies; they shift freely among asset classes; they adapt quickly to market conditions. They are tactically agile and market-sensitive. Tracking CTA fund exposures provides insight into highly proactive professional sentiment.

The XPO Exposures Model. Exposures series are derived statistically in a kind of “reverse engineering” from daily return streams. The analyses track aggregate hedge fund indexes relative to aggregate asset indexes; they do not represent individual funds or specific portfolio positions. Exposures paths are non-scalar sensitivity factors, each interpreted in context of its own history. Ebb and flow of exposure paths indicate direction of “index equivalent” positions and trends.

Sentiment Metrics. Exposures analysis speaks to “sentiment” mostly at extremes. Extreme positions usually imply extreme sentiment, and extreme sentiment often precedes market change. We use top and bottom quintiles (5th and 1st) as thresholds of “extreme” position, and also identify specific percentiles (0-100) of daily historical exposures. The XPO model can also reveal trend-chasing behavior (raising exposure as prices advance, or selling-off as prices fall), which can reflect unbalanced sentiment even when simple exposure *levels* may not be extreme.

Forward Returns Distributions. Market outcomes are inherently stochastic. *Hedge Fund Analytix* embraces the uncertainty, giving implied market outlook as a *distribution* of returns, based on mean and dispersion of historical outcomes from a given state. Dispersion of outcomes affects forward confidence. Absolute outcomes are era-specific, so are less important than outcome *differentials* across exposure states.

Statistical Significance. Significance estimates here are based on difference-of-means tests between quintile outcomes and non-quintile outcomes on “longer” side of exposures distribution. Significance gives estimated probability that an observed difference could arise merely due to chance variation (under given set of findings). Smaller values mean higher significance. Thresholds of .10, .05, .01 are common for confident inference.

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Past returns give no assurance of future performance.

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