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# Widespread Tail Risk Concerns Seem Bullish

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Investors tend to be overly bullish at a stock market peak, and are overconfident regarding the economic and profits outlooks. There is typically no widespread desire to hedge risk, and the subsequent bear market comes as a surprise.

Compare that textbook peak bullish sentiment with today's concerns regarding the need to hedge "tail risk." Mutual funds are coming out specifically designed to manage tail risk, and Wall Street's derivatives desks have practically become full-time mongers of tail-risk hedges.

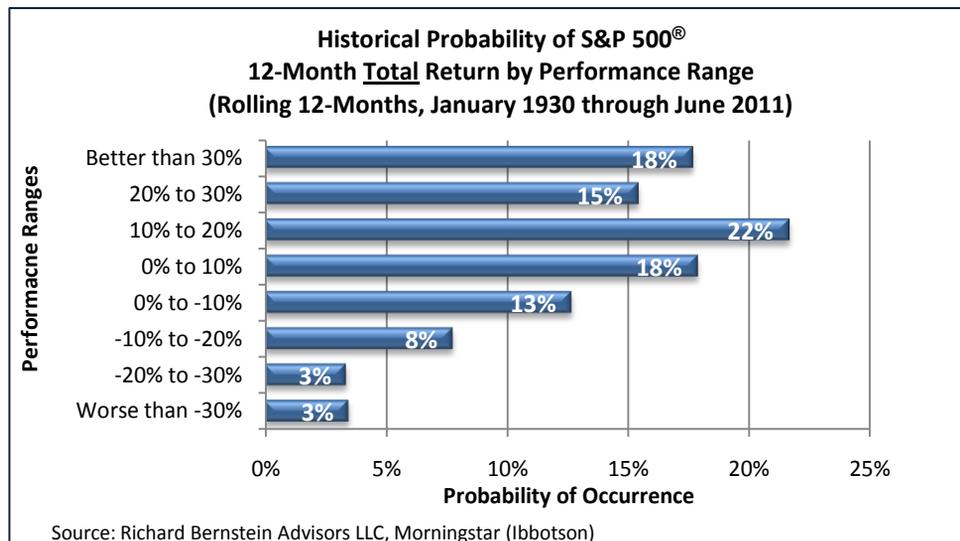
We doubt that the peak in the current stock market cycle is likely to occur when hedging tail risks is so common. After all, no one discussed tail risks at the market peaks in 2000 or 2007. Just like in previous cycles, the ultimate stock market peak will likely be accompanied by levered investments, rather than by hedged investments.

## Hedging tail risk seems irrational

Tail risk, as the name implies, is the risk of a highly unusual event occurring. A tail risk is often defined as an event occurring that provides a negative return at least three standard deviations below the average return. If one were to assume that returns were roughly normally distributed, then statistical theory suggests the probability of such an event occurring would be less than 0.15%.

Stock market returns are not normally distributed. However, stock market returns are not normally distributed because they are positively skewed! Chart 1 shows the range of 12-month S&P 500 total returns from 1930. Contrary to current popular belief formed by the memories of the last bear market, extremely bad outcomes in the stock market are relatively rare.

Chart 1:



**PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS**



From 1930 to present, the S&P 500 provided an arithmetic average 12-month total return of roughly 11% with a standard deviation of 22%. Using these data, a tail risk would result in a return worse than -55% (i.e., three standard deviations below the 11% mean). Probability theory suggests that this should have happened only 0.15% of the time. In reality, this happened 0.3% of the time, which is still an extremely low probability.

A simple expected return calculation for the S&P 500 using these data would be the combination of a 99.7% probability of 11% return plus 0.3% probability of -55%. That provides an expected return of 10.8%. Why would one consider hedging the difference between 11% and 10.8%?

Investors may be synonymously using the phrases tail risk and bear market. Traditionally, a bear market is defined as a decline of 20% or more, and investors may have become so risk averse that a bear market is now considered a tail risk. However, chart 1 shows that historically the S&P 500 has had a 12-month return of -20% or worse about 6% of the time. Assuming that all bear markets produced returns three standard deviations below the average return (i.e., the entire 6% of the time the return was -55%), the expected return drops from 10.8% to 7.0%. Is it really necessary to hedge against a 7% expected return?

### **Hedging for the investor's benefit or for the manager?**

One often hires a person with more knowledge to act in one's best interests. In economic terms, the hirer is called a "principal", whereas the person hired is called an "agent". Sometimes an agent might act in their own best interests rather than in those of the principal. This divergence from the original agreement is called an agent/principal conflict.

Tail risk hedging seems to us to be a potential agent/principal conflict. Some hedge fund managers define tail risk as the probability of an event that might put the hedge fund itself out of business. This definition should lead investors to ask whether managers who hedge tail risk do so because it is in the best long-term interests of their investors (many of whom have very long time horizons), or are they hedging tail risk because it is in the best short-term interest of their own businesses?

### **Lengthening investment time horizon might be a better hedge**

The widespread desire for tail risk hedging maybe a function of hedge funds' short time horizons. History, however, strongly suggests that investors should simply extend their time horizons rather than hedge short-term tail risks.

Chart 2 shows the probability of the S&P 500 providing a negative return for varying time horizons. Investors have a greater probability of losing money when investing with shorter time horizons than they do when investing with longer time horizons. Our previous studies have shown similar results across a broad spectrum of financial asset classes.

Investing with longer time horizons make sense to us because the economic and profit cycles simply do not change very rapidly. The day-to-day, week-to-week, or even month-to-month gyrations of the stock market are mostly based on noise. Economic and profit fundamentals, rather than noise, are more likely to influence longer-term returns.

<sup>1</sup> We have biased the expected return calculation against our argument by double-counting the extremely negative outcomes. Tail risk negative returns are imbedded both in the market expected return (99.7% probability) and in the extreme negative outcomes (0.03% probability).



Rather than worry about short-term (often levered) returns and hedging tail risks, it seems to make more sense to us to simply invest with longer time horizons and use traditional asset allocation strategies to limit risk.

**Chart 2:**

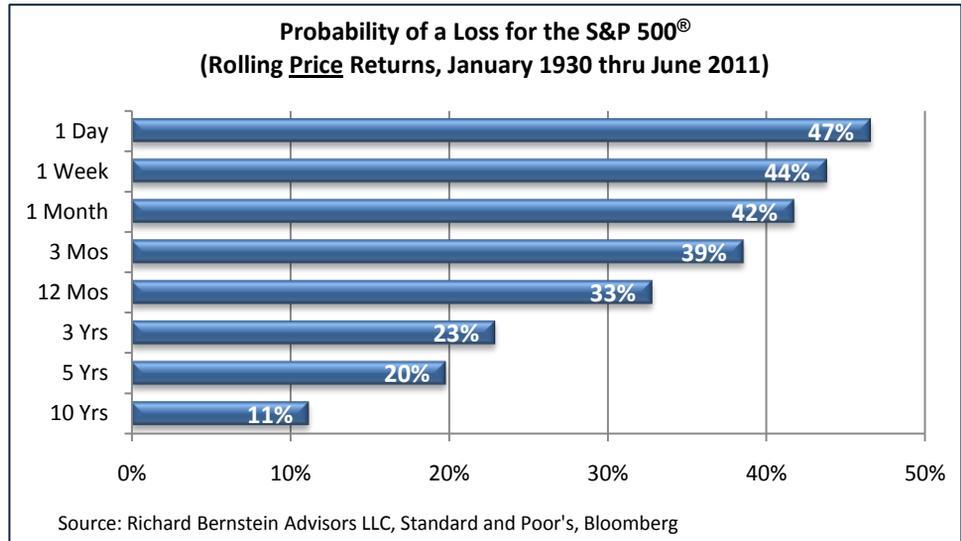


Chart 3 seems to strongly support our contention regarding the use of traditional asset allocation strategies. The chart compares the last five years' returns of the HFRI Fund Weighted Composite Index with those of the iShares Barclays 20+ Year Treasury Bond ETF (TLT). Despite all the hoopla regarding the risk of Treasuries and the growing acceptance of tail hedging, T-bonds have outperformed hedge funds by about 240 basis points per year.

### **Sentiment seems attractive**

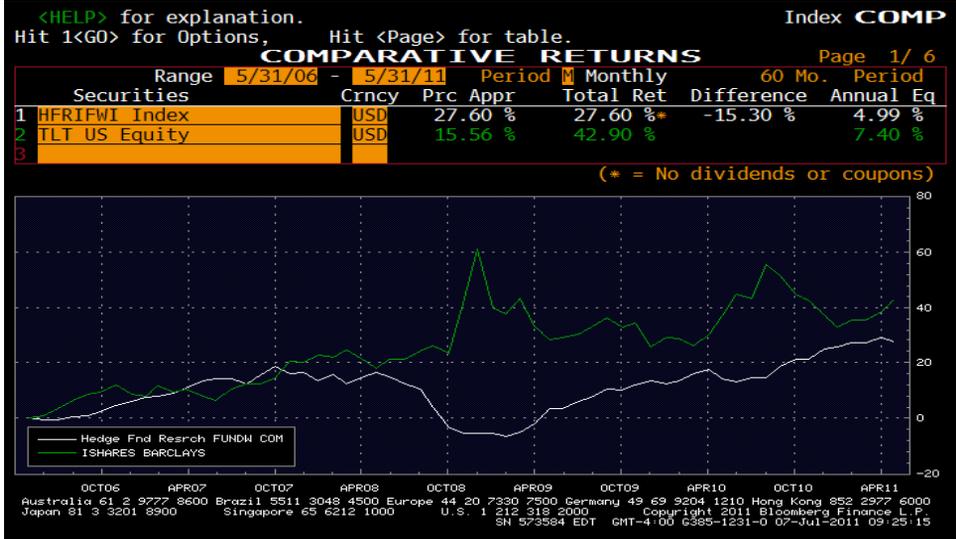
Although the concept of tail risk hedging sounds sophisticated and insightful, we think the concept's widespread acceptance simply reflects that investors are still quite cautious after 2008's bear market. Market peaks are generally accompanied by investors' sense that there are no risks at all. Today, investors regularly point to countless risks, all of which must be hedged.

We continue to believe that longer time horizons and traditional asset allocation are more effective investment strategies than are short-term trading and tail risk hedging.



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Chart 3:



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PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS



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*The following descriptions, while believed to be accurate, are in some cases abbreviated versions of more detailed or comprehensive definitions available from the sponsors or originators of the respective indices. Anyone interested in such further details is free to consult each such sponsor's or originator's website.*

***Indices are not available for direct investment.***

**Standard & Poor's (S&P) 500<sup>®</sup> Index.** The S&P 500<sup>®</sup> Index is an unmanaged, market-capitalization-weighted index designed to measure the performance of the broad US economy through changes in the aggregate market value of 500 stocks representing all major industries.

**iShares Barclays 20+ Year Treasury ETF.** The iShares Barclays 20+ Year Treasury Bond Fund is an exchange-traded fund incorporated in the USA. The Fund seeks results that correspond to the price and yield performance of the United States Treasury market as defined by the Barclays Capital 20+ Year Treasury Index. The Fund invests 95% of its assets in US Government bonds.

**Hedge Funds: The Hedge Fund Research (HFRI) Fund Weighted Composite Index.** The HFRI Fund Weighted Composite Index is a global, equal-weighted index of over 2,000 single-manager funds that report to the HFR database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 million under management or a twelve-month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

***Richard Bernstein is chief executive officer of Richard Bernstein Advisors LLC.***

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