ADVISOR PERSPECTIVES

Howard Marks' Warnings and How to Protect your Portfolio

By Geoff Considine
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Howard Marks, founder and chairman of Oaktree Capital Management, wrote in a recent memo that the biggest danger to investors is their willingness to buy risky assets that are likely to provide low returns. Market conditions may not fully reflect current risk; option prices, for example, are very low. Some firms – notably PIMCO – recommend investors buy put options to protect their portfolios. I propose an alternative strategy that will be resilient to the potential shocks of increased volatility and higher interest rates, without incurring the cost of options.

The risk cycle

Investor attitudes fluctuate between risk tolerance and risk aversion, Marks says. When markets are rising, investors take on ever-greater levels of risk and volatility declines. Eventually, however, prices outpace demand, and the market turns. As assets get cheaper, investors deleverage and become increasingly pessimistic. Marks' explanation of the risk cycle is consistent with Hyman Minsky's financial instability hypothesis.

One implication of this view is that asset quality may not be a good predictor of future risk. Marks cited two specific cases to illustrate this assertion:

1. In the late 1960s, the "Nifty Fifty" stocks were considered to be an excellent core of a portfolio because the underlying companies were high-quality investments. Enthusiasm for these 50 stocks drove their valuations to astronomical levels (price-to-earnings ratios of 80 and above). Investors who purchased those stocks suffered major losses when prices subsequently declined. Investor complacency in loading up on these assets led directly to their collapse.

2. As a second example, Marks noted that junk bonds were undervalued in the 1970s because they were considered too risky. Since the late 1970s, though, high-yield bonds have enjoyed consistently strong performance, even though they are low-quality assets.

Both price and asset quality matter. Low-quality assets at low prices may be a much better bet than high-quality assets at high prices. That lesson is critically important today. Treasury bonds, for example, are high quality, but this does not mean that investors can afford to be indiscriminate with regard to their current yields.

Another lesson to be learned from Marks' theory of the risk cycle is that reaching new lows in volatility of risky assets is a major warning sign.

Where we stand today

Marks' assessment is that we are experiencing an unusual state of the risk cycle. Investors – individual and institutional – are investing more aggressively than they have in recent years, according to Marks.

"The good news is that today's investors are painfully aware of the many uncertainties," Marks wrote. "The bad news is that, regardless, they are being forced by the low interest rates to bear substantial risk at returns that have been bid down."

With yield-starved investors turning to high-yield bonds in recent years, companies are finding it cheaper to issue low-grade debt and leverage up.

While Marks is focused on the fixed-income side of the market, his assessment has implications for equities and other asset classes. "The wise man invested aggressively in late 2008 and early 2009," he wrote. "I believe only the fool is doing so now. Today, in place of aggressiveness, the challenging search for return should incorporate goodly doses of risk control, caution, discipline, and selectivity. "

Measuring risk aversion

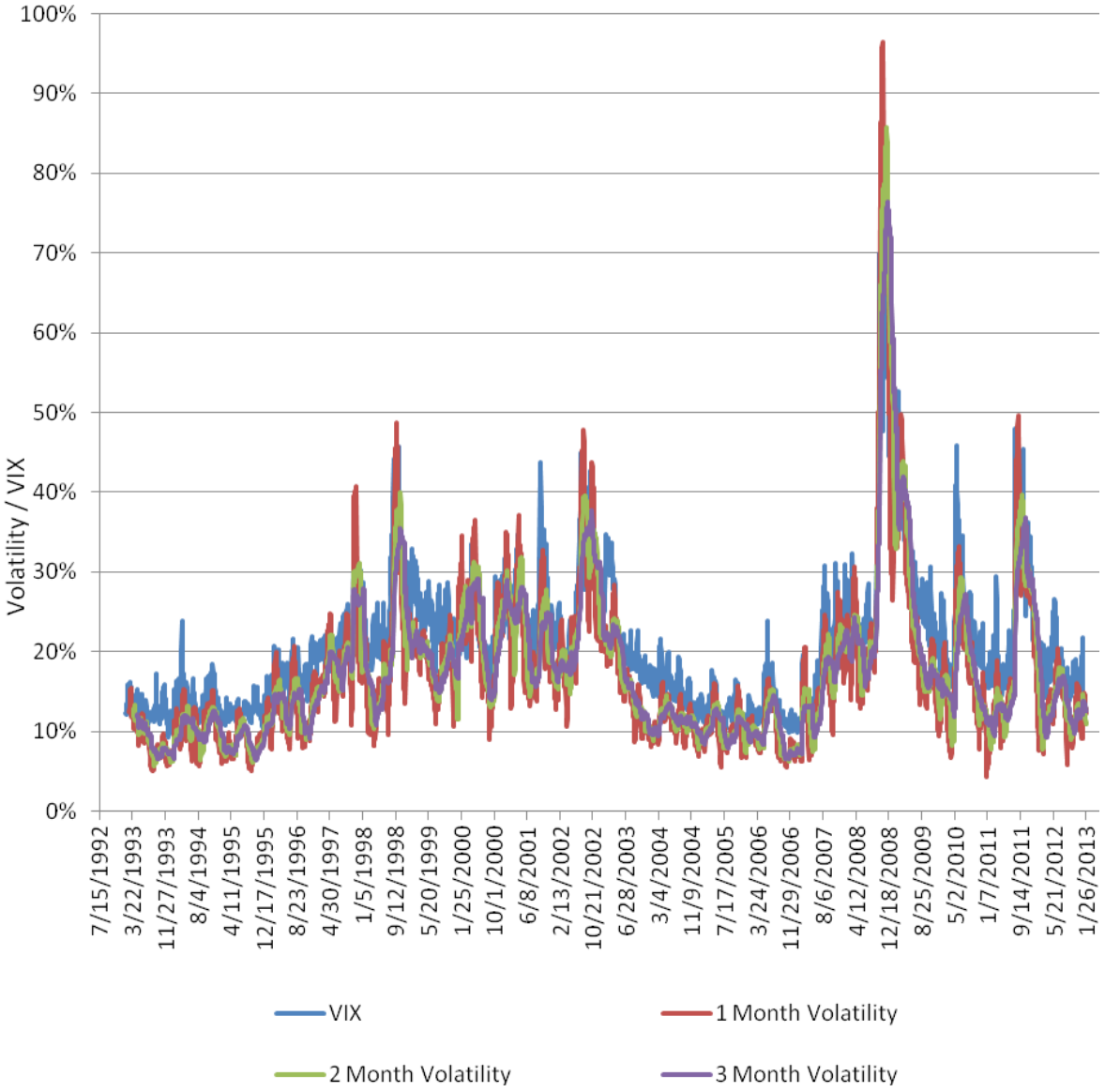
Analysts typically look at yield to measure risk aversion. Lower yields mean investors are accepting less income in exchange for taking on risk. Risk aversion can also be measured by looking at volatility. When investors are uncertain or worried, volatility tends to be higher. When investors are complacent, volatility tends to be low.

I will use both yield and volatility to measure risk aversion. The two metrics are related: Yields and volatility tend to rise in tandem in response to increased risk. If investors are essentially indiscriminate with regard to risk in their search for yield (which is referred to as "yield chasing"), both yield and volatility will decline. Marks is concerned that the current decline in volatility has less to do with decreasing risk in the underlying assets and more to do with investors becoming too risk tolerant.

Option prices depend on investors' perception of future risk. When investors perceive the future as riskier, options are more expensive, and vice versa. The VIX, a standard measure of volatility, tracks the volatility of options on S&P 500 stocks that are nearest to expiration. The VIX is highly correlated to recent historical volatility in the S&P 500. The chart below shows the history of VIX along with trailing one-month, two-month and three-

month realized volatility in the S&P 500. While the correlation is far from perfect, it is very strong — between 88% and 89% in all three cases.

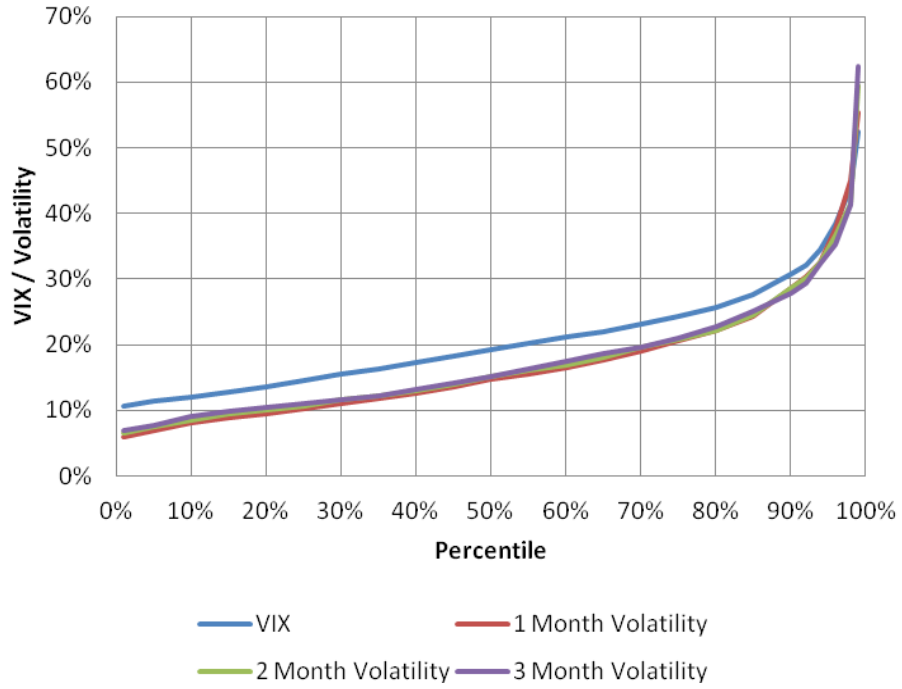
VIX vs. Trailing 1-, 2-, and 3-Month Volatility in the S&P500



The most striking feature of the chart above is the huge spike in both realized volatility and the VIX in late 2008, when the market crashed. It is also notable that in 2007, the VIX was a low as 10% and realized market volatility dropped well below 10%.

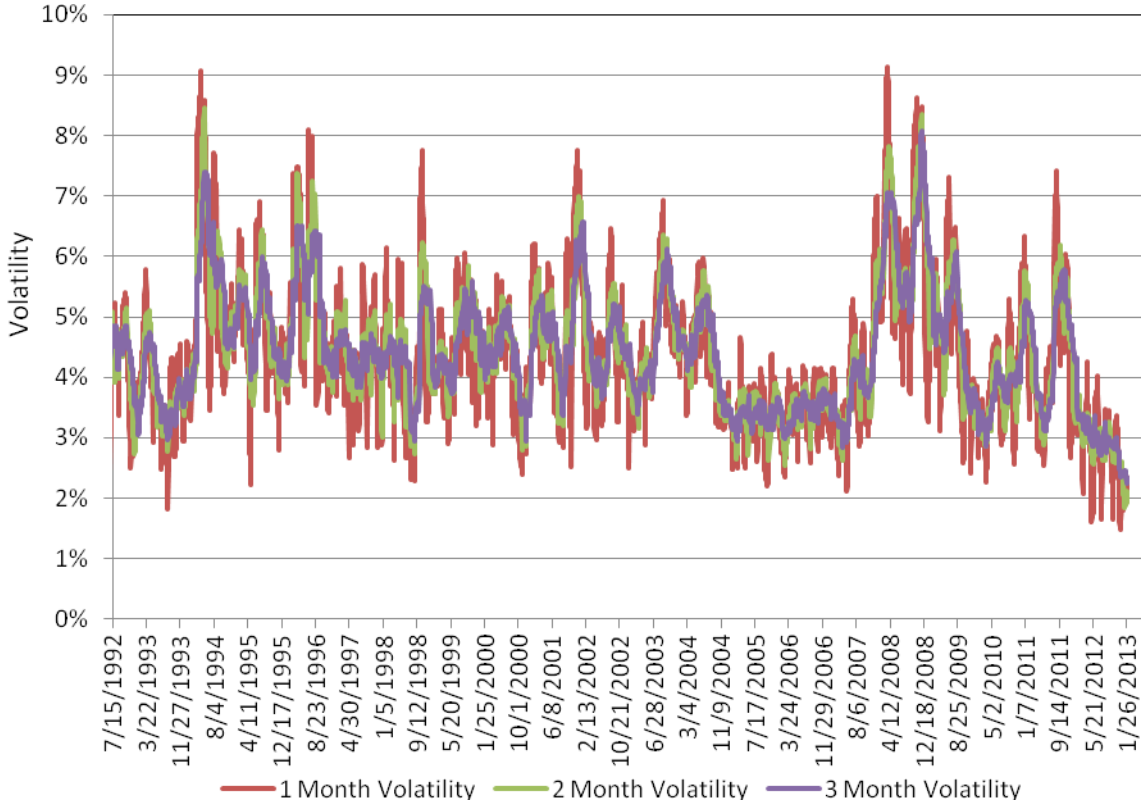
It is well-documented that implied volatility tends to be higher than realized volatility. We see this effect clearly when we look at the aggregate percentiles of VIX versus trailing volatilities for the S&P 500 (using the exchange-traded fund SPY).

Percentiles for VIX and historical S&P 500 volatility



The VIX is now 12.9%, and the current trailing one-month, two-month, and three-month volatilities for SPY are 12.2%, 11.0%, and 12.6%, respectively. These levels correspond to the 15th percentile for VIX and about the 35th percentile for historical volatility.

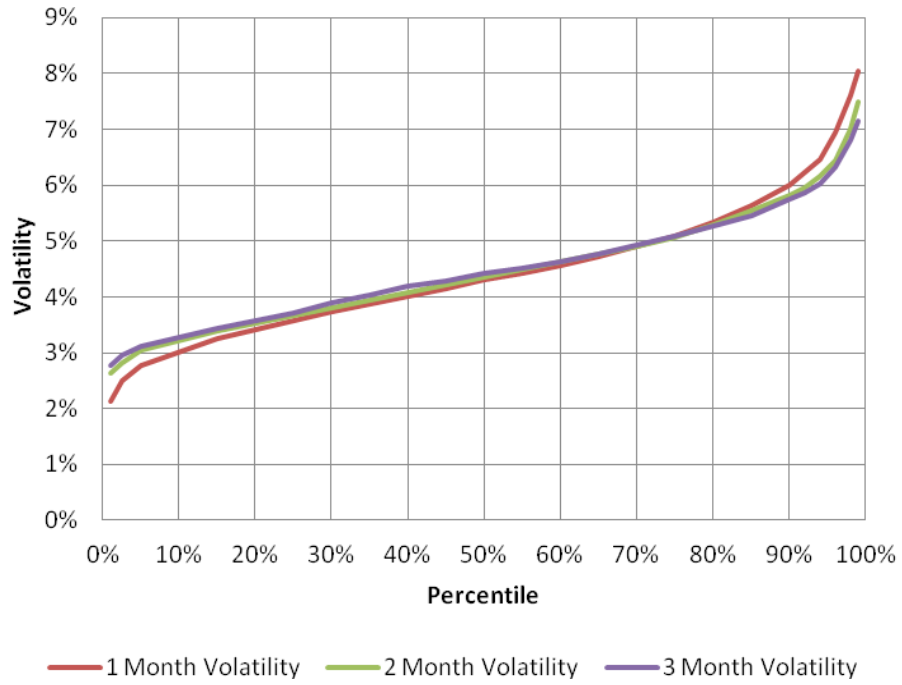
Historical volatility of bond index (VBMFX)



The graph above shows long-term cycles in the volatility of bonds. The current one-, two- and thee-month trailing volatilities for VBMFX, the Vanguard total bond market ETF, are 2.3%, 2.1%, and 2.3%, respectively.

The chart below shows the historical ranges for these three volatility measures.

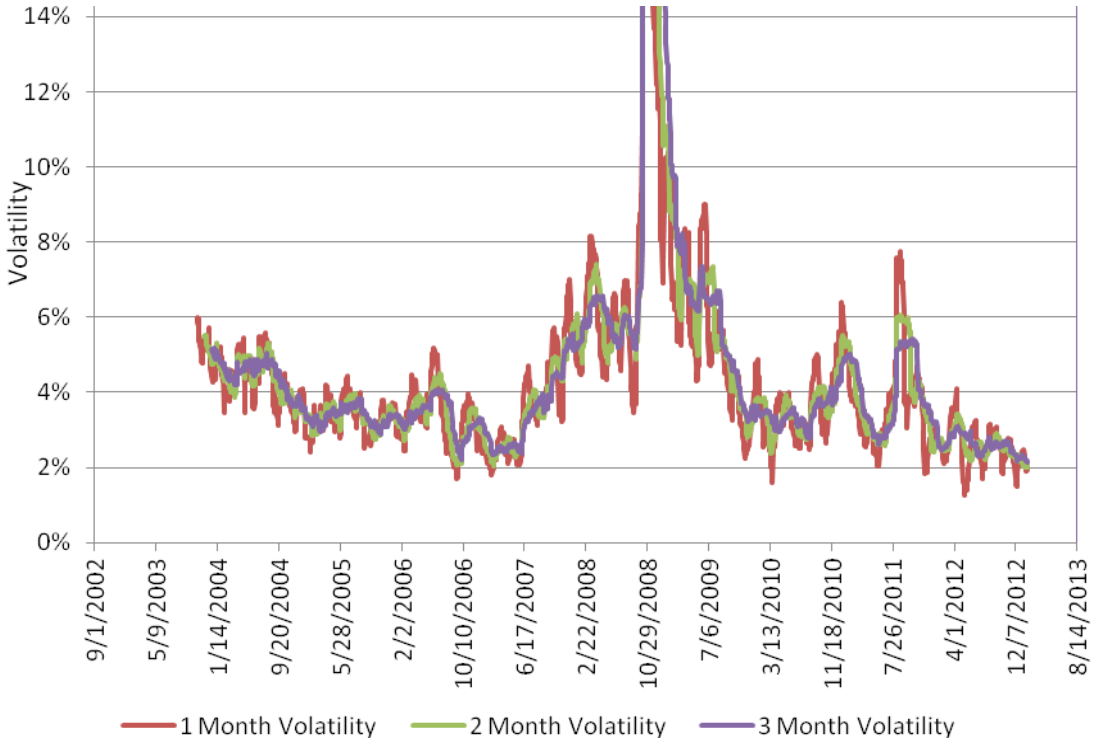
Percentiles for aggregate bond index volatility



The current volatility for VBMFX is first percentile. The volatility of this bond index has been greater than the current level 99% of the time.

There are no options on mutual funds so it is useful to also look at implied volatility for bond ETFs. For example, AGG, an aggregate bond ETF, has historical data going back only to 2003, which is why I did not use this ETF for my primary analysis of bond volatility. There are, however, options on AGG so that we can use option implied volatility to get a forward-looking assessment of risk. The chart below shows the historical volatility for AGG over this period. The variability in AGG's volatility is similar to that for VBMFX, although AGG had a much larger spike in volatility in 2008.

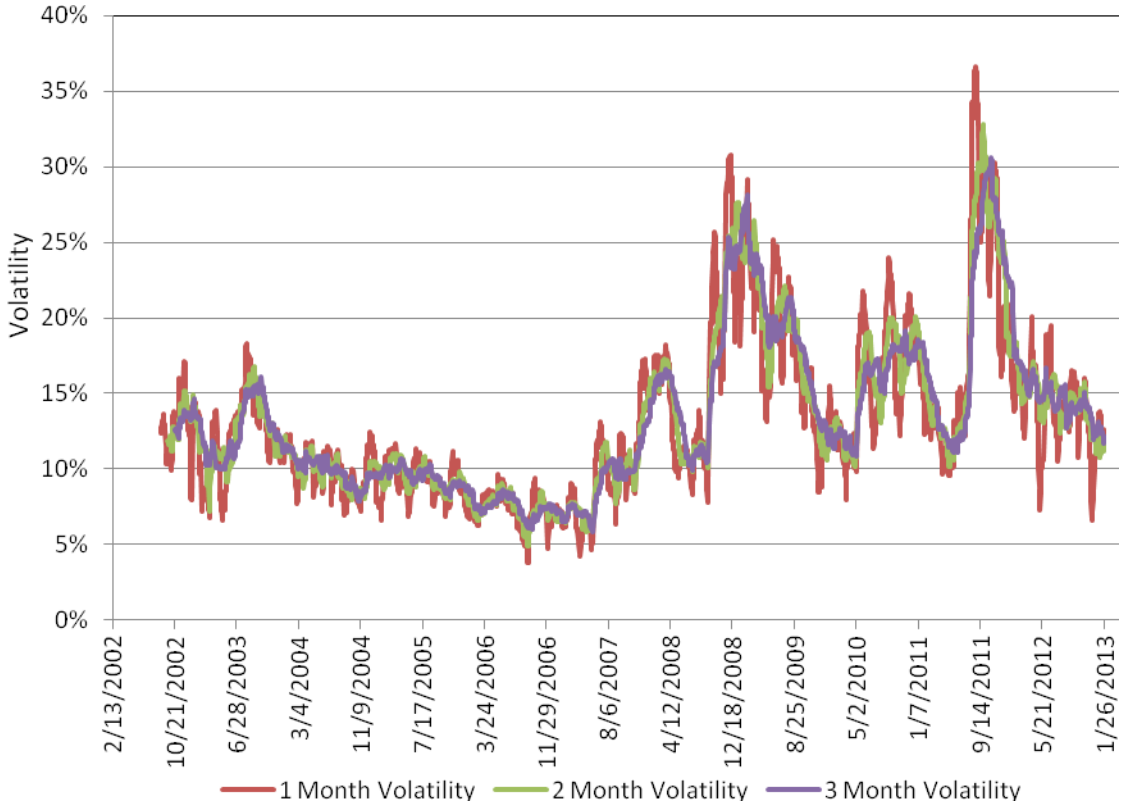
Historical volatility of the aggregate bond index ETF (AGG)



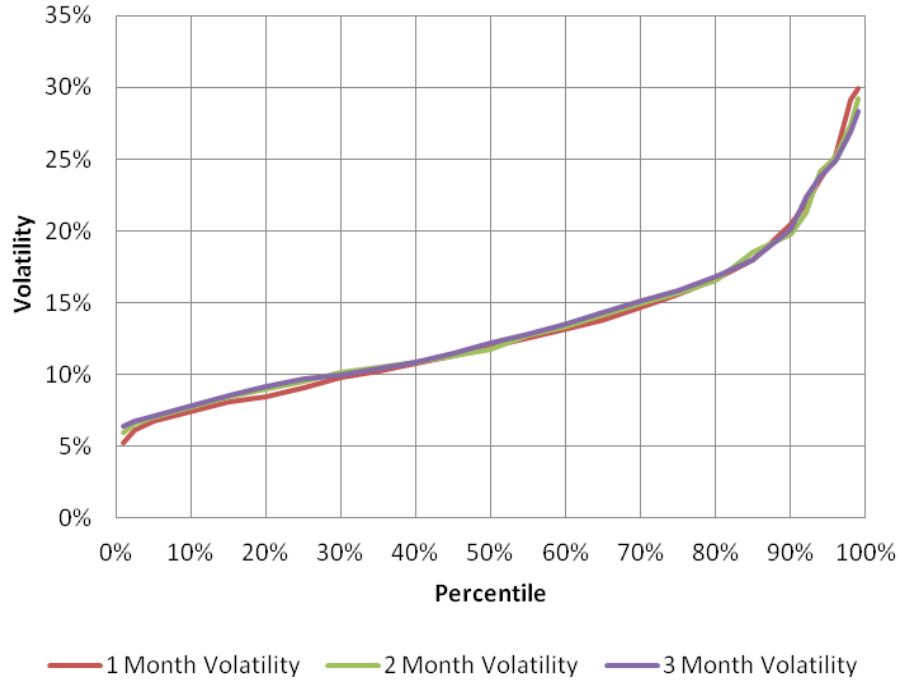
The volatility of the bond indexes is at or near historical lows.

The charts below provide historical volatility for TLT, the iShares long-term Treasury ETF, in the form of a time series and a percentile chart.

Historical volatility of the long=term Treasury bond ETF (TLT)



Percentiles for the long-term Treasury bond index volatility



I have included similar charts for two additional asset classes in an Appendix: emerging market equities (EEM) and real estate investment trusts (RWR).

The table below compares the trailing historical volatility for these asset classes to the implied volatilities of various options. The implied volatilities are averages for at-the-money call and put options. Some cells are blank in the table below because option expiration dates for different ETFs vary, and not all ETFs have longer-dated options

Summary of trailing and implied volatility for SPY, AGG, TLT, EEM, and RWR

		SPY	AGG	TLT	EEM	RWR
Historical Volatility	Trailing 1-Month	12.2%	2.1%	12.6%	12.2%	6.8%
	Trailing 2-Month	11.0%	2.1%	11.6%	10.2%	7.5%
	Trailing 3-Month	12.6%	2.2%	12.0%	12.4%	9.8%
Implied Volatility	Options Expiring Feb 2013	10.4%	3.7%	13.0%	14.1%	9.7%
	Options Expiring Mar 2013	11.9%	3.7%	13.1%	15.6%	11.8%
	Options Expiring Jun 2013	13.6%	4.4%	14.1%	17.4%	
	Options Expiring Jul					13.7%

	2013 Options Expiring Sep 2013	14.6%	4.8%	14.6%	18.6%	
	Options Expiring Jan 2014	15.3%		15.0%	20.2%	
	Options Expiring Mar 2014	16.0%			20.4%	

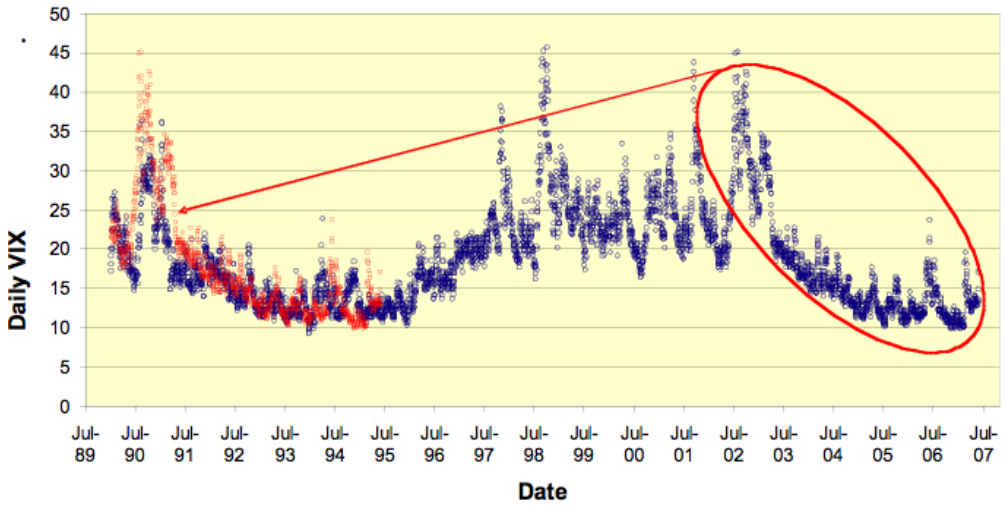
The data for these asset classes support the conclusion that risk, as measured by volatility, is currently low. The implied volatilities are higher than the recent trailing volatilities.

Comparing strategies for risk management

This is a challenging environment for risk management. Volatility has been steadily dropping since 2008, and very recent volatility is well below the historical average. Implied volatility, the best estimate of future volatility, suggests that volatility will rise in the not-too-distant future. Similarly, volatility tends to go in cycles, and the current levels suggest that we are due for a reversion to higher levels.

Even though the returns of stocks and bonds have low, and often negative, correlations, volatility in stocks and bonds tends to be positively correlated. This is a reflection of the risk cycle. When investors are complacent, volatility on all assets tends to fall, and vice versa. The correlation between the 90-day volatility of TLT and that of SPY is 0.69 from late 2002 to now, even though these two ETFs have a negative correlation in returns.

In the current environment, there are two possible scenarios. Either volatility will remain low for some period of time, or it will revert to the mean and cycle higher. In early 2007, after a number of years of low volatility, my analysis suggested that we were poised for a big rise in volatility after a period of complacency. In fact, my analysis in early 2007 described a phase of the risk cycle that resembled what Marks described today. The following chart, from this 2007 article, shows that the VIX at that time was at a low level, as it is today:



Historical daily VIX—comparing recent years to the early 1990's

Volatility skyrocketed in 2008, reaching its highest levels since 1987. Today's complacency is reminiscent of 2007.

One approach to managing risk is simply to buy put options to protect against extreme events. PIMCO's Vineer Bhansali, who specializes in the analysis and management of extreme events, has argued that the current environment looks very attractive for purchasing options. In a recent analysis, I found that options prices look reasonable.

But aside from buying put options, what are the best choices for risk management? To hedge a portfolio against a volatility shock, the best approach is to explicitly manage your portfolio's exposure to volatility.

There are a number of sectors and subsectors that can be added to a portfolio to reduce exposure to rapid increases in volatility. The challenge, however, is to reduce exposure to volatility without creating dangerous exposure to increases in interest rates. The table below shows a series of asset classes (each represented by an ETF), along with their corresponding correlation to changes in VIX and to changes in 10-year Treasury yield.

Asset class correlations to VIX and Treasury bond yield

Asset Class	Ticker	3 Year Correlation of returns to VIX	3 Year Correlation of returns to 10-Year Treasury Yield
Long Treasury Bonds	EDV	65%	-86%
Intermediate Treasury Bonds	IEF	60%	-96%
Aggregate Bond Index	AGG	42%	-83%
Mortgage-Backed Bonds	MBG	37%	-56%
Inflation Protected Bonds	TIP	34%	-50%
Short Treasury Bonds	SHY	31%	-60%
Municipal Bonds	PZA	18%	-73%
Investment-Grade Corp Bonds	LQD	1%	-36%
Gold Miners (Equities)	GDX	-3%	3%
Gold	GLD	-6%	-3%
Utilities	XLU	-38%	13%
Commodities	DBC	-59%	49%
Preferred Shares	PFF	-66%	34%
High-Yield Bonds	HYG	-68%	47%
Consumer Staples	XLP	-77%	43%
Convertible Bonds	CWB	-77%	69%
Total Stock Market Index	VTI	-79%	73%

We can easily reduce a portfolio's sensitivity to VIX if we are willing to add to a portfolio's interest rate risk. It will not be wise to simply take on interest rate risk in place of VIX exposure, however, given the current low-rate environment and the historically low volatility of bonds.

Selecting a portfolio with negative correlation to the VIX and positive correlation to interest rates is not easy. Simply combining stocks with bonds will not appreciably lower a portfolio's correlation to VIX. A portfolio that is 60% allocated to VTI and 40% allocated to AGG has a -78% correlation to the VIX. An all-bond portfolio has very low correlation to the VIX but high exposure to interest rate risk.

In designing portfolios for this complacent low-VIX environment, we need to reduce the exposure to VIX while maintaining a positive correlation to increases in Treasury bond yield. A combination of asset classes accomplishes this.

Model Volatility Shock Portfolio

Asset Class	Ticker	Weight
Total Stock Market Index	VTI	22%
Gold Miners (Equities)	GDX	15%
Commodities	DBC	15%
Gold	GLD	15%
Inflation Protected Bonds	TIP	9%
Long Treasury Bonds	EDV	9%
Mortgage-Backed Bonds	MBG	7%
Aggregate Bond Index	AGG	4%
Convertible Bonds	CWB	4%

This portfolio has the following properties:

- -35% correlation to the VIX
- +20% correlation to 10-year Treasury bond yield
- Trailing three-year volatility of 9.6%
- Projected volatility of 8.7%
- Trailing three-year average annual return of 11.1%
- Expected return of 8.9%
- Beta with respect to the S&P 500 of 0.34. (Low-beta asset classes tend to have lower correlation to the VIX than high-beta asset classes.)

My model portfolio has far less exposure to a volatility shock than traditional stock-bond portfolios. It is one example of how to reduce a portfolio's correlation to the VIX while maintaining a positive correlation to an increase in bond yields.

A volatility shock absorber may be more attractive than buying protective options. Option premia add up over time and create a drag on portfolio performance if a market correction does not occur. Second, investors and advisors may be reluctant to take on the ongoing task of managing options positions.

The choice for risk management

Marks asserts that investors are accepting low risk-adjusted returns, even though they are aware of the dangers. Looking at historical and implied volatility over extended periods of time confirms his conclusion that the market is complacent with regard to risk. Particularly as the U.S. equity market has hit multi-year highs, investors should be concerned.

PIMCO's Bhansali believes that investors should "reload" hedges and buy reasonably priced put options to replace older options that are near expiration. A better approach to risk management is to construct portfolios that are specifically designed to mitigate the impacts of a surge in volatility, while maintaining a positive correlation to a rise in bond yields.

Geoff Considine is founder of Quantext and the developer of Quantext Portfolio Planner, a portfolio management tool. More information is available at www.quantext.com.

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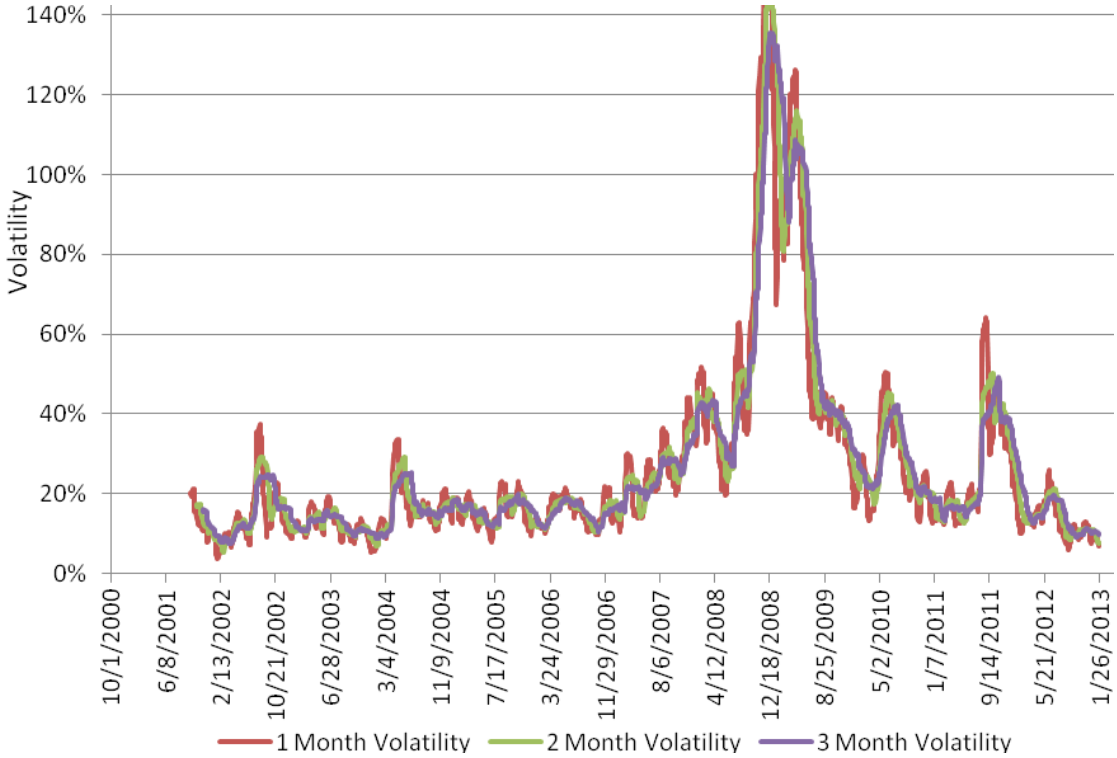
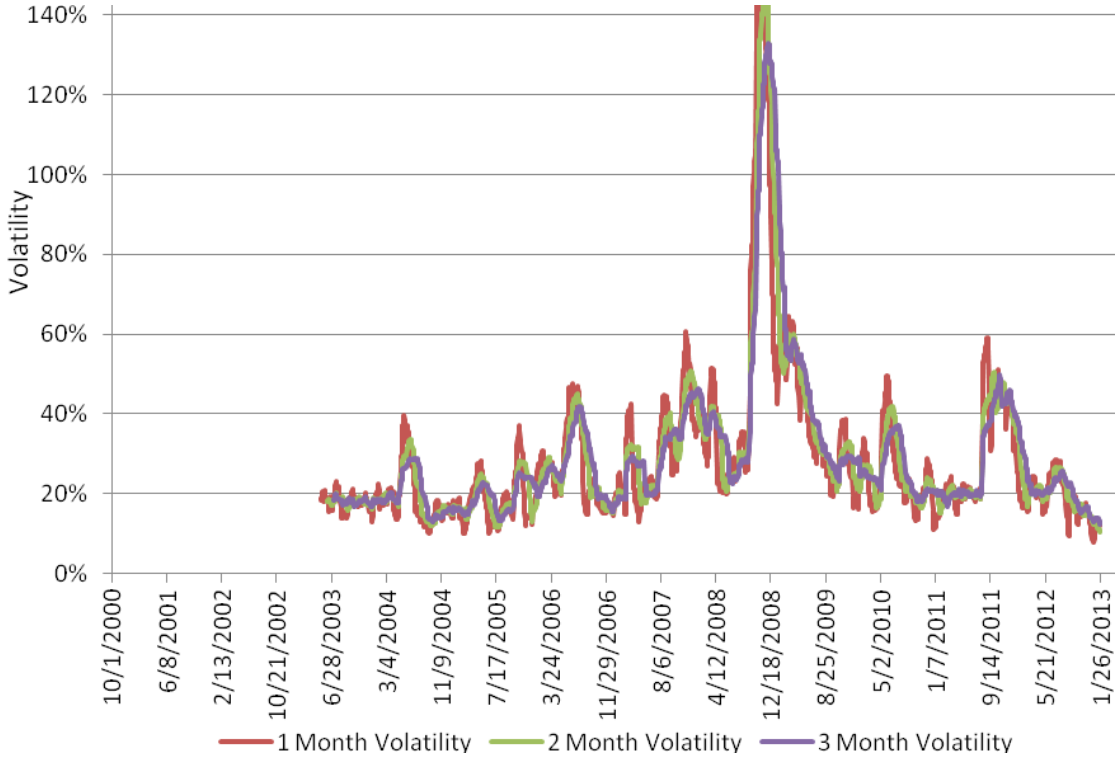
Additional Charts

Real Estate (RWR)



Emerging Market Equities (EEM)



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