Market Update

Low Volatility Regime?

Amit Bortz, Senior Analyst

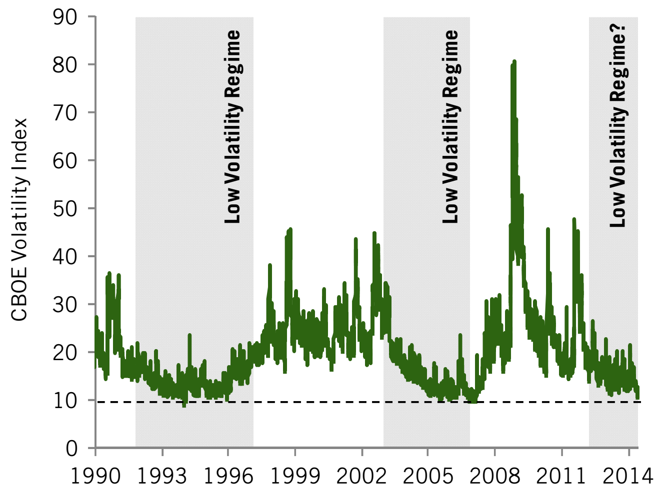
- **While financial markets have seen plenty of unexpected short-term swings so far this year, expected (or implied) volatility has fallen sharply**
- **We believe this environment does not reflect market complacency but rather easy monetary policy, controlled inflation and economic expansion; it may last for a while**
- **Today's implied-volatility backdrop favors active investment management and presents opportunities for selective "long vol" strategies across asset classes**

Media attention is increasingly focused on volatility in financial markets — and for the first time in a while, the discussions are centered on the death of volatility rather than the usual references to fear, uncertainty and risk.

At the start of this month, the European Central Bank (ECB) announced its decision to deliver a broad package of measures to stimulate lending growth in the euro zone. As financial markets digested the ECB's steps to add to global liquidity, volatility around the globe slid lower across every asset class; indeed, to the lowest levels seen in almost a decade.

The CBOE Volatility Index (VIX) — the market's most well-known measure for shorter-dated U.S. equity volatility — dropped to 10.7. To offer a little perspective, long-term average and median levels for the VIX since 1990 are 20 and 18.4, respectively. Since the VIX's inception in 1990, the index has only closed below 11 in 2% of the total trading days over 24 years (Exhibit 1). While the media focuses heavily on the VIX, a simultaneous decline in volatility across asset classes (e.g., currencies, rates, credit, and commodities) is fairly unusual.

Exhibit 1: CBOE Volatility Index
1990 – Present



As of June 13, 2014.
Source: Bloomberg Chicago Board of Trade

What does a VIX level of 11 actually mean?

The VIX Index implies expectations for one-month future volatility in the S&P 500 Index. A VIX of 11 suggests that the market expects average daily moves of ~0.68% in U.S equities (11% annualized). Over the last month, the S&P 500 has been realizing only 7% (versus a long-term historical average of 15% annualized), which translates into average daily moves of ~0.44%. In other words, U.S. equities and every other asset class across financial markets are fluctuating at daily rates less than half their historical averages. However, there's one key thing to understand about measuring volatility over long periods of time — volatility travels in regimes (high and low). Regimes are a function of strong autocorrelation properties — periods of high volatility tend to be followed by high volatility and vice versa for low volatility environments, otherwise known as clustering. Therefore, looking at long-term averages in volatility to express views can be misleading.

Why are market participants concerned by very low levels of volatility?

Equity volatility measured by the VIX Index, also known as the "fear gauge," has become a household indicator of investor sentiment and nervousness. The consensus explanation for volatility grinding to decade-low levels is simply a reflection of "investor complacency." Changes in volatility levels tend to move inversely with equities, and as equities hover near all-time highs and volatility near all-time lows, market participants are feeling anxious. While we do believe that there are valuable market signals inherent in implied volatility (especially for short-term traders), we disagree with the argument that "investor complacency" is the reason for lower volatility (Exhibit 2).

Instead, we believe there are specific fundamental underpinnings in place today that are responsible for the volatility regime shift.

Exhibit 2: Cross Asset Risk (Implied Volatility) Near Decade Lows

1990 – Present

Asset Class	June 2014	10-Year Percentile
S&P 500 Index	19	0
Global Equities	14	4
U.S. High-Yield Bond (5-Year)	298	8
U.S. Investment-Grade Bond (5-Year)	57	28
10-Year U.S. Treasury	4	8
Copper	20	10
Oil (WTI)	14	0
FX	6	0

As of June 13, 2014.
Equities, currencies, and commodities are measured by three-month implied volatility; credit risk is measured by five-year credit default spreads. FX reflects U.S. dollar versus basket of nine developed-market currencies.
Source: Bloomberg, Chicago Board of Trade, Standard & Poor's

So why do we think volatility has dropped? And how long can it persist?

There are three primary forces underpinning a trend of lower volatility:

1. Liquidity
2. Price and rates stability — controlled inflation and stable interest rates
3. Positioning along the economic/business cycle

In the course of five-plus years of aggressive easing measures and loose monetary policy, central banks around the world have flooded the global economy with liquidity. Liquidity provides stability. It minimizes the vulnerability to volatility shocks — unlike what we witnessed during the financial crises where a reduction in liquidity, freeze in credit access and forced de-leveraging amplified the supply and magnitude of volatility shocks in the market.

Inflation and interest rate stability are also key forces which have contributed to declines in market volatility. Following the recent rally in interest rates, there appears to be an acceptance of range-bound yields for the foreseeable future (also evidenced by very low interest rate implied volatility). Controlled price stability and inflationary expectations are very important to maintaining a stable discount rate (a key determinant of asset price valuation and in turn price volatility).

In our view, the last primary driver of lower market volatility is related to positioning within the current business cycle. Volatility is a countercyclical asset class. It's normal for volatility to be low in the expansionary part of the business cycle as liquidity and credit growth generally pick up speed — not to mention confidence. We're seeing that today with very strong trends in corporate bond issuance, a big pick up in new structured credit issuance and M&A deal transactions. If we use previous business cycles as a guide, the expansionary phase typically lasts the longest and sees volatility move into an environment characterized as a "low volatility regime."

As we alluded to earlier, low volatility regimes can last for several years, depending on the length of transition from expansion to contraction. **To be clear, low volatility regimes are not immune to volatility spikes. However, the spikes are generally short-lived and tend to impact only shorter-dated volatilities. It should also be noted that markets are <u>never</u> immune from exogenous shocks, or Black Swan events — events that by definition are unpredictable and deviate beyond what is normally expected. Black Swans <u>can occur</u> in any volatility regime and can completely alter the path of the financial markets and the business cycle.**

Identifying signals ahead of the contraction phase in the business cycle is the subject of an in-depth study that Bessemer's Investment team is working on. We plan to share our findings in the fall.

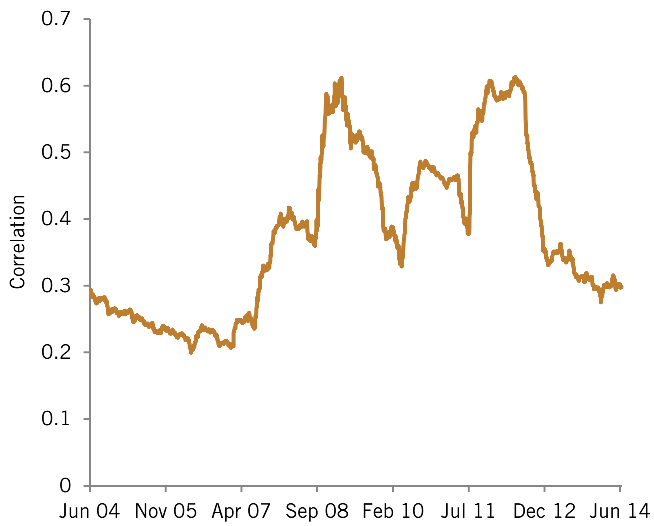
What are implications for investors?

We started 2014 looking at a "Year of Volatility," as described in our *Quarterly Investment Perspective*. And indeed, markets have seen unexpected short-term swings this year — including equities sharply lower in January but then bouncing quickly in February; and U.S. longer-dated interest rates and the dollar falling into the spring (and now showing signs of rebounding).

Through these ups and downs, however, market expectations for future, or implied, volatility have continued to edge lower. Such environments are generally favorable for active investment managers — particularly bottom-up, fundamentally driven stock pickers, as equity correlations tend to fall and opportunities for price dispersion increase (Exhibit 3). Dispersion explains the relative price variance between an index and a component of underlying stocks representing the index. We expect a meaningful pickup in dispersion across single-name equities and have been exploring optimal approaches to

Exhibit 3: S&P 500 Index

1-Year Realized Correlation



As of June 13, 2014.
Source: Bloomberg, Standard & Poor's

exploit low volatility and simultaneously express a view on future equity dispersion. The team has also started to add some long volatility exposure across a select group of currencies and is finding interesting "pair-trade" opportunities across the volatility term structure in a few Asian equity markets. Broadly speaking, the decline in volatility and asset correlations provides a great backdrop for asset allocators to generate alpha, or excess returns, beyond market benchmarks.

Low volatility does not last, and when higher volatility reasserts itself, correlations are more likely than not to rise and cyclical assets are likely to become more vulnerable. We appreciate that the more volatility falls and the longer it stays unusually low, the greater the risks become in the future for cyclical assets. For now, however, we believe that easy global central bank policy, controlled global inflation pressures, and the current phase of the economic cycle all suggest that, barring an unexpected shock, the inevitable rise in volatility remains far enough away that we want to hold our exposure to cyclical assets and capture the opportunities that come with the current regime.

Mr. Bortz is a Senior Analyst of Bessemer Investment Management LLC, a member of the Bessemer Trust group of companies.