

Market Volatility and High Yield Bonds



Q4 2011 Newsletter

“Everybody likes a roller coaster ride”

Peter Alan Waterman, English record producer

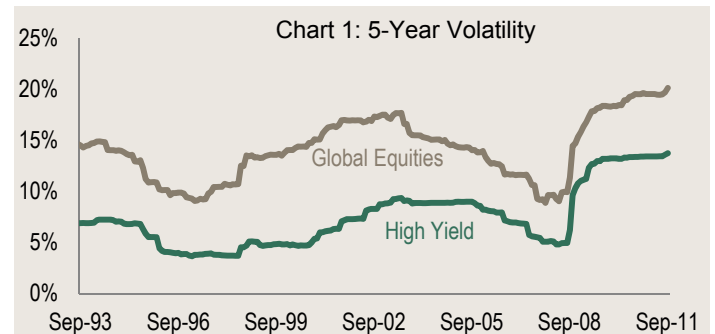
Introduction

The ups and downs of risky asset classes have been increasingly severe over the past few years, enough to turn more than a few stomachs. Increased volatility has tested investors' patience and challenged their long-term convictions. Correlations across asset classes have also increased, reducing the usual benefits of diversification. Many have attempted to combat the issue with various “de-risking” strategies that often involve major asset allocation changes. The result has been a considerable migration from risky assets to Treasuries, gold, and market-neutral strategies.

As against-the-grain investors, we are innately skeptical of herd-like behavior and question whether this shift will prove to be prudent or ill-timed. In this note, we look at measures of volatility and correlation to assess whether their respective increases are transitory (cyclical) or here to stay (secular). Recent fund flows suggest that the market believes we have experienced a paradigm shift that will persist indefinitely. Our conclusion: we find little evidence to support the idea that increased volatility is the new normal. Instead, we believe recent financial and economic events created an atmosphere of uncertainty that feels like a new normal, but is actually a protracted cyclical event that will normalize in time.

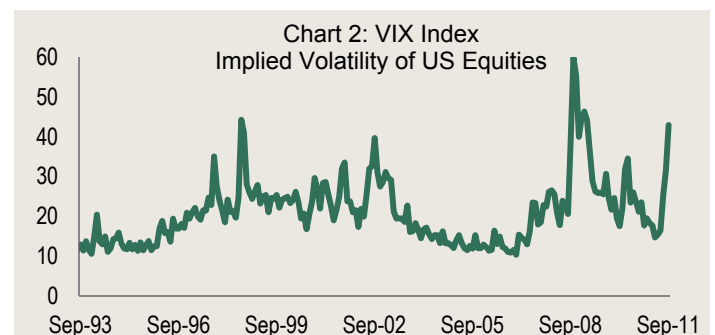
Historical Volatility

As depicted in Chart 1, volatility of equities and high yield bonds increased considerably in late 2008, coinciding with the burst of the US housing bubble and ensuing recession. New normal advocates point to the persistence in elevated volatility levels as evidence of a paradigm shift. Previous periods of elevated volatility in the early 1990s and the early 2000s, however, also coincided with destabilizing bubble-deflating periods and ensuing recessions. The confluence of economic crises in a short period is to blame for the abnormally high volatility in recent years.

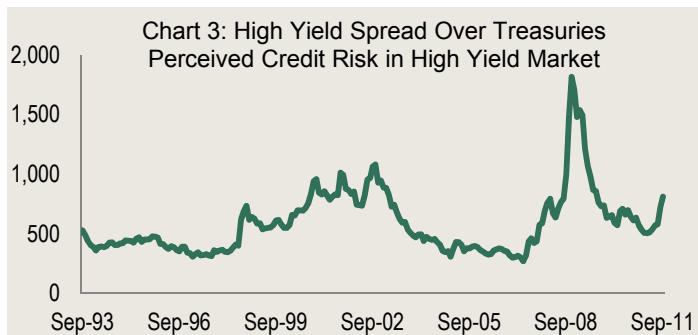


Expected Volatility

Many investors put more credence into forward-looking volatility metrics rather than historical metrics like standard deviation. The most conventional volatility gauge for equities is the Chicago Board Options Exchange Volatility Index, or the “VIX” (Chart 2). The index reflects an estimate of future equity market volatility based on the prices of S&P 500 puts and calls. Chart 2 depicts the monthly level of the VIX Index. Expectations for volatility spiked during the financial crisis and have spiked again recently as Europe's sovereign debt problems have become more pronounced.

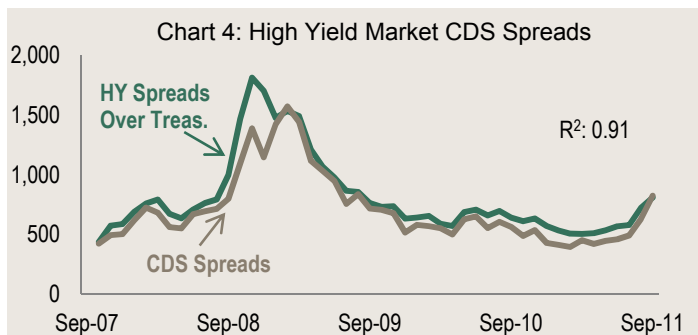


One option for estimating expected volatility in the high yield market is to evaluate cash pay bond spreads over Treasuries. We use the Credit Suisse High Yield Index as a proxy for high yield bond spreads. While this metric reflects the market's perception of credit risk, it can also be used as an approximation of expected volatility. In Chart 3, we see a large spike during the financial crisis and a recent increase as well—albeit to a much smaller magnitude than the recent VIX increase.



An alternative metric for estimating expected volatility is to evaluate the cost of buying protection against default; the more expensive the protection, the greater the perceived credit risk and expected volatility. Chart 4 illustrates High Yield Credit Default Swap Spreads on the high yield market alongside cash pay bond spreads over Treasuries. The Markit CDX North American High Yield Index is composed of 100 equal weighted BB or B rated CDS contracts and is reconstituted every 6 months. The index has traded in the market since 2003, but before 2007 it was relatively illiquid.

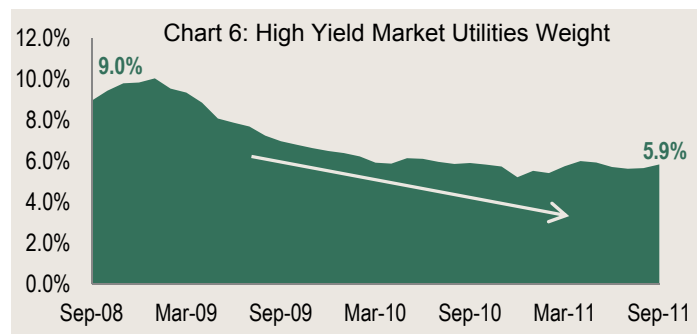
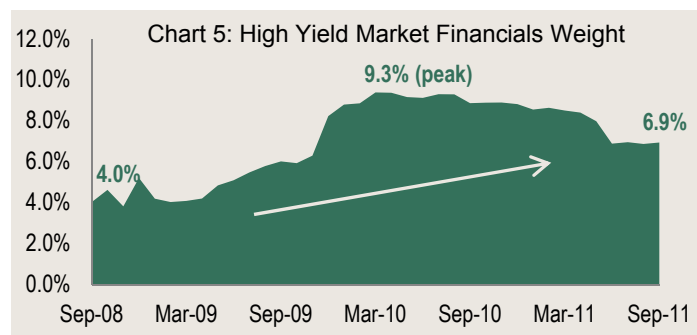
Not surprisingly, we see elevated levels during the financial crisis as well as a recent spike. The difference in behavior between CDS spreads and cash pay spreads is also notable. In the 3rd and 4th quarters of 2008, cash pay spreads widened considerably more than CDS spreads. We attribute this to a lack of liquidity in the “funded” high yield market (i.e. few buyers). During liquidity squeezes, funded forms of high yield credit demand a greater spread premium when compared to “unfunded” or synthetic forms. Currently, regulatory uncertainty has forced broker/dealers to limit inventory levels, which has reduced overall liquidity. The market remains much more liquid today, however, than it was during the liquidity crunch of 2008. Accordingly, we observe a low premium for funded (cash pay bonds) versus unfunded (CDS synthetic index) credit in today’s market.



High Yield Volatility by Sector

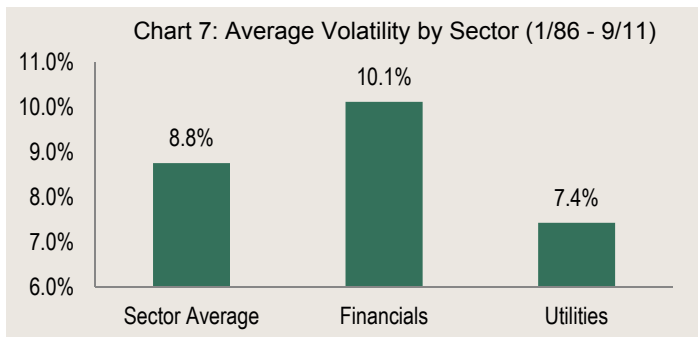
Unlike the broad equity market, the composition of the high yield market is quite dynamic. Sector weights can change quickly. There are several reasons for this, with fallen angels and rising stars among the most prominent. Fallen angels are credits that had been rated investment grade, but were subsequently downgraded to high yield (BB+ or below). Credit downgrades that are widespread across a particular sector can flood the high yield market. From 2007 to 2009, financials were downgraded in spades, prompting an increase in the sector’s weight in the high yield market.

Rising stars are credits that have been upgraded, often times from high yield to investment grade. There have been few downgrades and several upgrades in the utilities sector since 2007. This prompted the utilities weight in the high yield market to decrease. Charts 5 and 6 demonstrate the changes in the high yield market’s financials and utilities weights, respectively.



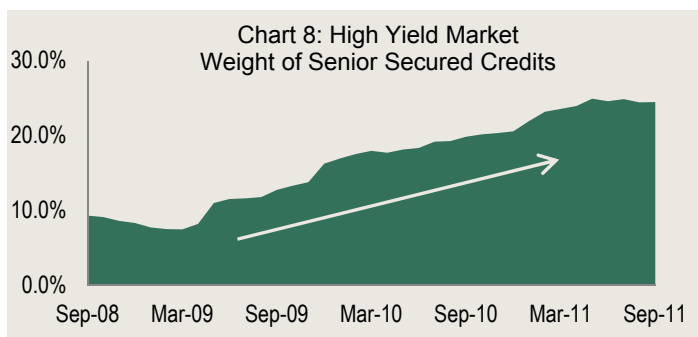
Changes in the makeup of the high yield market can influence volatility—not to the same extent as sweeping economic crises, but the effect is certainly notable. As shown in Chart 7, the financial sector has been one of the most volatile sectors of the high yield market historically, and now comprises a larger proportion of the market. The utilities sector has been one of the least volatile sectors of the high yield market historically, and now comprises a smaller proportion of the market.

Past performance is no guarantee of future results.



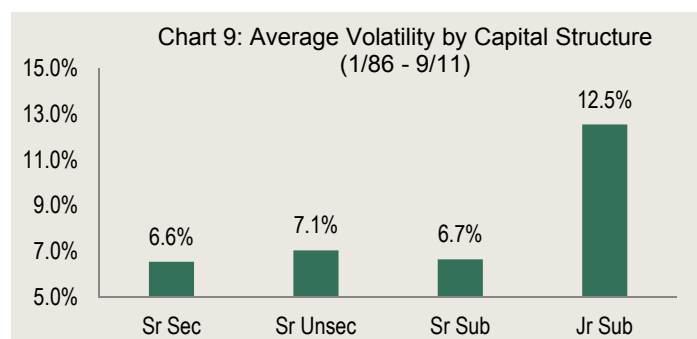
High Yield Volatility by Capital Structure

The fluctuation of the high yield market’s composition by capital structure is similarly volatile to the oscillation of the market’s sector weights. The proportion of the market that is composed of senior secured credits, as opposed to senior unsecured or subordinated credits, is dependent on the credit cycle. During expansionary credit cycles the market is more inclined to provide unsecured credit. As a result, unsecured and subordinated credit becomes a larger portion of the high yield market. Conversely, as risk aversion mounts near the end of credit cycles, the market is more inclined to require security before providing credit. As a result, senior secured credit becomes a larger portion of the high yield market. The 2007-2009 period was a classic example of the end of a credit cycle. Consequently, senior secured credits comprise a larger portion of the market, as shown in Chart 8.



Intuitively, senior secured credits should be less volatile than other forms of claim because they are supported by (better) collateral. Post default recovery rates—the percentage of par value that creditors receive in default—are considerably higher for secured claims than for unsecured and subordinate claims. Since 1982, the average post default recovery rate for the high yield market has been 41.4% (defaults averaged 4.3%). The post default recovery rate for senior secured bonds, however, has been 50.8%. Senior unsecured and subordinated recoveries have been 36.7% and 31.0%, respectively. (source: JPMorgan)

Chart 9 supports the intuition that historical volatility of the senior secured portion of the high yield market is lower than junior subordinated credits. Surprisingly, the difference in volatility between senior secured, senior unsecured, and senior subordinated debt appears almost negligible. We attribute this lack of divergence to a constituency bias—companies that issue secured debt are often forced to do so. Most often, this is because they carry excessive leverage or possess idiosyncratic credit risk. As such, the underlying credit issues that forced the issuer into secured lending in the first place, may offset the fact that the debt is secured. Nonetheless, we generally regard the recovery advantage of secured bonds to be especially compelling.



Correlation

Volatility discussions should always be accompanied by correlation discussions. Combining volatile asset classes can result in a total portfolio with low volatility so long as correlations are low; the best investment decisions are those made with the total portfolio in mind. The core premise underlying modern portfolio theory is that combining risky assets with low/limited correlations will result in a more favorable risk/return profile than either asset in isolation. Chart 10 highlights the long-term correlation between various major asset classes; high yield is the only asset class that does not have a correlation above 0.60 with any other asset class.

	HY	US Eq	Int'l Eq	EM Eq	IG Bonds	Treas
HY	1.00					
US Eq	0.59	1.00				
Int'l Eq	0.53	0.72	1.00			
EM Eq	0.56	0.67	0.69	1.00		
IG Bonds	0.20	0.15	0.07	(0.02)	1.00	
Treas	(0.05)	(0.02)	(0.09)	(0.17)	0.93	1.00

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Unfortunately, correlations can fluctuate. Over the past several years, correlations between risky asset classes have increased considerably, reducing the normal benefits of diversification. This would be an acceptable outcome if the asset classes were moving in tandem in an upward trajectory, but we are all well aware that this has not been the case.

We presume that US equities comprise the largest portion of most investment portfolios, hence, Charts 10, 11, and 12, show how the correlations between the S&P 500 and other risky asset classes have evolved over time.

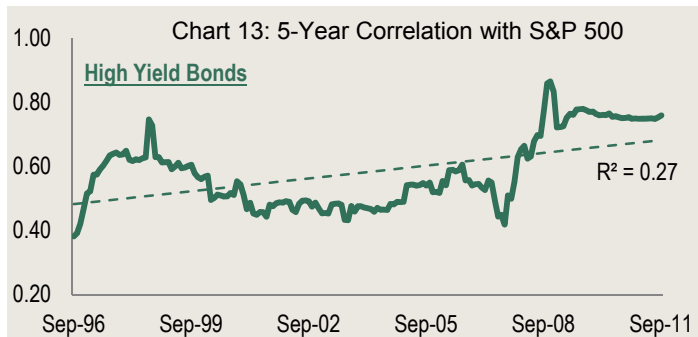
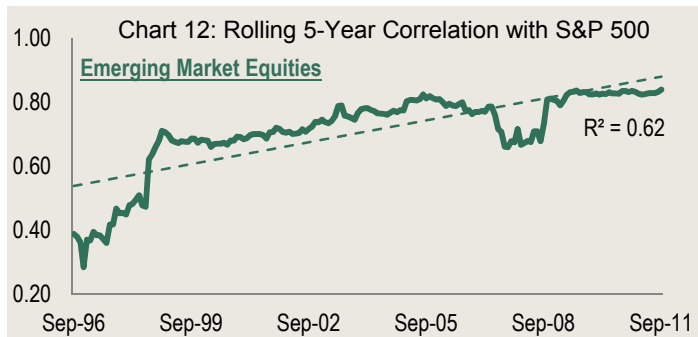
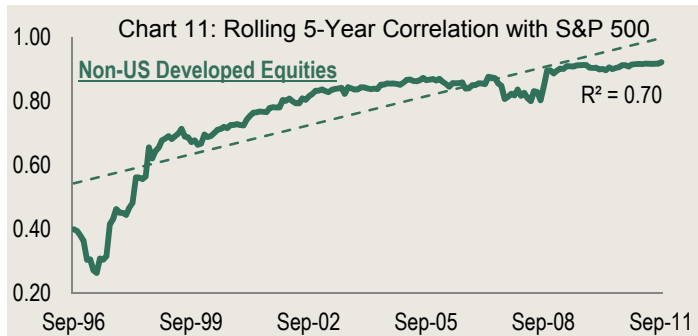


Chart 11 shows the correlation of the S&P 500 and the MSCI EAFE Indices over time. The R^2 is 0.70, which signifies a strong relationship between the correlation of the indices and the trend line. For the handful of our readers that enjoy technical jargon (if there are any), this indicates that 70% of the variation between the observations and the trend line can be explained by the

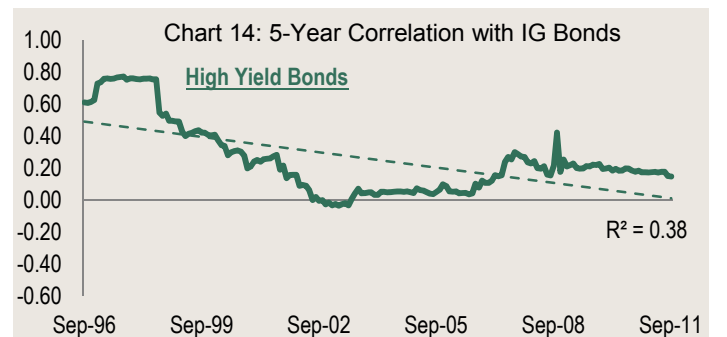
passage of time. For the rest of us, this simply indicates that the increase in correlation is not random. Economic globalization is the likely culprit of the upward trend. The physical location of a company's headquarters has become less important as companies of all sizes have extensive and growing global reach.

Chart 12 shows a similar relationship between the S&P 500 and the MSCI Emerging Markets Indices. Globalization has not been isolated to developed markets. Businesses and investors alike have shown an increased willingness to embrace emerging markets.

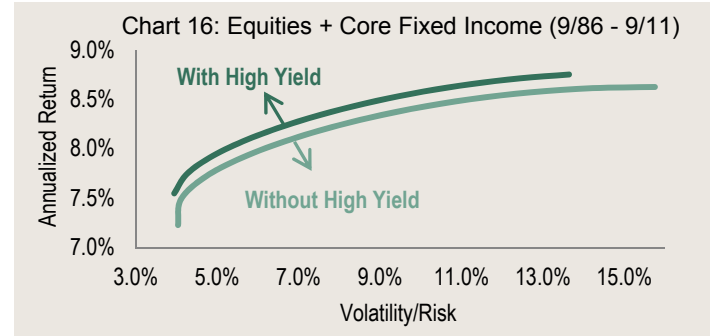
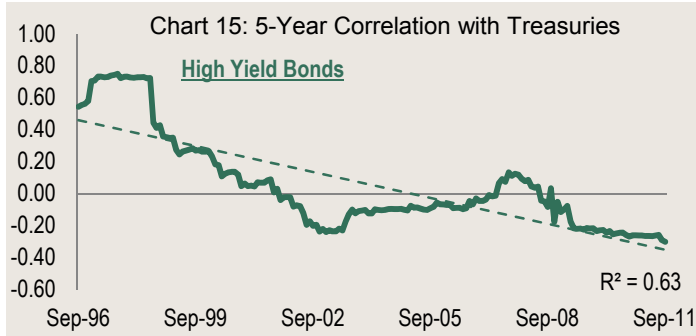
Chart 13 shows the correlation of the S&P 500 and the BofA Merrill Lynch Master II High Yield Index over time. Though the trend line is sloping slightly positive, the R^2 is low. The increase in the correlation over time is not well explained (i.e. it is random).

The key takeaway is that correlations of equity markets across the globe have increased over time in a statistically significant manner. The proliferation of free trade, the progression of communication and transportation technologies, and the spread of democracy have diminished financial borders. High yield bonds, however, deviate from this theme. The correlation of high yield bonds and equities is positive, as it always has been, because both are positively tied to economic growth. Its recent increase, however, is not statistically significant. Similar to volatility, we believe that once the current uncertainty surrounding global growth diminishes, high yield correlations with equities will revert to traditional levels.

Chart 14 shows the correlation of high yield and investment grade bonds (BofA US Corporate, Government, and Mortgage Index). Chart 15 shows the correlation of high yield and Treasuries (10-Year Treasury). The charts highlight the low and decreasing correlation of high yield with other fixed income asset classes. This relationship suggests adding high yield to a fixed income portfolio would have favorable and improving diversification benefits.



Past performance is no guarantee of future results.



Conclusion

Like most investment attributes, volatility moves in cycles. Extended periods of elevated volatility often coincide with economic crises. We believe the exceptionally unstable environment over the past several years is due to highly atypical circumstances—two major global financial crises. In the past several years we have witnessed the cathartic symptoms of a business cycle endpoint: a decline in GDP, a spike in bond defaults, and elevated unemployment. Volatility could persist for a while, but we are hard-pressed to believe there has been a paradigm shift that will result in erratic markets permanently. In the US, we have already observed nascent signs of recovery: growth in GDP, a decline in bond defaults, and balance sheet deleveraging (though unemployment remains elevated). As cyclical uncertainties wane, volatility should recede.

Correlation between asset classes also moves in cycles, but equities across the globe have been exhibiting increasing interconnectedness for more than a decade—financial and economic interdependency have increased substantially. Globalization is a rational explanation for this trend, which lessens the diversification benefit once achieved by investing in international equities. The correlation of equities and high yield bonds has also increased, but this appears to be a statistically insignificant association. We believe the correlation of equities and high yield bonds should revert downward and the diversification advantages of high yield should persist—especially given the low and declining correlation of high yield bonds and investment grade bonds/Treasuries.

We believe high yield remains an asset class with an attractive yield/return potential and low correlation with other asset classes. Combining asset classes with these qualities is the main objective of Harry Markowitz’s modern portfolio theory. Chart 16 highlights these benefits by showing the effect of adding a 20% high yield allocation to a simple portfolio composed of equities and investment grade bonds—the improved risk/return profile speaks for itself.

We believe the recent period of elevated volatility and correlations represent a protracted adjustment period—not a paradigm shift or a new normal. Contemporary investors’ lack of exposure to these highly uncertain periods fuels a contentious debate, but we find no evidence supporting permanent change. We expect elevated high yield volatility and correlations to persist in the near-term, but expect both to revert to normal levels as cyclical uncertainties fade. As such, we continue to believe that high yield remains an attractive component in most asset allocation programs.

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All investments contain risk and may lose value. Investing in the debt securities is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk. Investment in lower-rated and non-rated securities presents a greater risk of loss to principal and interest than higher-rated securities.

Data source(s): Charts 1-2, 4, 11-14, 16: Bloomberg. Charts 3, 5-9: Credit Suisse. Charts 10 & 15: Bloomberg, Barclays.

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