Alternatives Update

3rd Quarter 2016

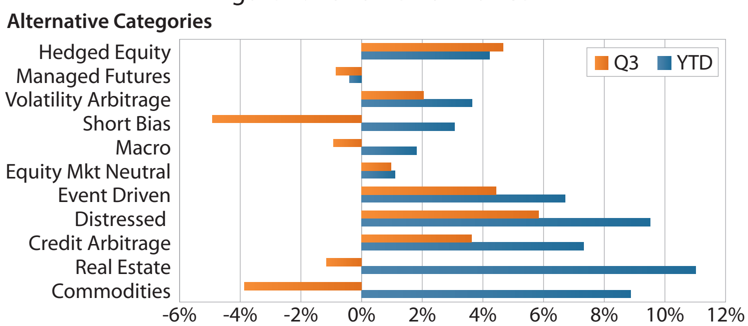
In the third quarter, Alternative Investments ("Alternatives") were a mixed bag with regards to performance (*Figure 1*). Six of eleven categories had positive returns with the remaining five posting negative returns. The strongest performing categories were primarily focused in the credit markets and the higher equity beta related strategies (hedged equity, event driven). Tangible assets (commodities and real estate) along with short bias equity funds ended sharply in the red, a strong reversal from the 2nd quarter performance. The Managed Futures category continued its malaise as rates remained very low and sustained trends absent. Short bias strategies, which had been one of the top performers earlier in the year, suffered as equity markets rallied, volatility fell and the U.S. markets shrugged off international rumblings with aplomb. Framed another way, the rank order of 3rd quarter returns was very closely aligned with rank order correlation of hedge fund categories to the S&P 500 Index (*Figure 2*); the higher the correlation, the higher the returns. Managed futures, commodities, and global macro have historically shown low correlations to stocks and bonds. Based upon monthly correlations over the past two years, that relationship is seemingly intact. Other Alternatives categories, while having higher correlations with equities, generally do so with considerably less volatility (*Figure 3*).

Risk seeking investing was in full "go mode" in the 3rd quarter with many risk indicators continuing to retreat from their peaks in the first quarter of 2016 and/or stabilizing at relatively low levels for the year. Risk assets performed reasonably well, credit spreads (*Figure 4/Figure 5*) were well behaved, and developed markets equity volatility moved to the lower end of their trading ranges (*Figure 6*).

A September spike in forward and realized volatility (as measured by the option forward curve and spot equity market movements – *Figure 7*) was transitory as the domestic equity market quickly recovered and volatility collapsed in on itself once again. Increased signaling of a "hard" Brexit, a plummeting British pound, and the rapidly declining fortunes of Germany's two largest banks (Deutsche Bank and Commerzbank) flashed across the headlines, but neither the US capital markets, nor the global capital markets seemed overly concerned. Not unexpectedly, the perma-bulls point to the quick recovery in risk assets as sunny skies ahead; the doomsayers point to the same quick recovery as the calm before the storm; and the macro traders opine about the negative long-term effects of the central bank put and likely waning effect of QE. For the larger investing community, it seems to be about waiting for the next Central Bank move both here and abroad.

Sentiment (the overall attitude of investors and their willingness to risk capital) can be measured, or more accurately inferred, in many ways, though they are rarely unanimous in their message. The 2nd quarter ended with domestic equity sentiment generally having a positive tone. The ratio of New Highs to New Lows for the NYSE remained elevated and for the NASDAQ, continued its upside move (*Figure 8*). Despite reasonable economic data, low unemployment and signs of wage growth, the Federal Open Market committee (FOMC) continued its interest rate game of thimblerig. In their latest minutes, despite acknowledging that the case for rate increases had "strengthened", the FOMC offered that it would wait for "further evidence of continued progress toward its objectives". Ignoring that the majority of previously outlined objectives had been met, the FOMC found yet another way to put off rate hikes and maintained its direction of little or no action this year or the first half of 2017. This continued dovish tone seems to be positive for equities and other risk assets. The CBOE Skew Index (*Figure 9*), which is an option based indicator of the likelihood of outlier events, ended flat for the quarter and declined from intra-quarter highs in August.

Figure 1: **2016 Performance**



Source: Bloomberg, 9/30/16. Past performance is no guarantee of future results. An investor cannot invest directly in an index.

Figure 2: **Correlations (2-Year) & Returns**

	S&P 500	3Q16 Returns
Distressed	0.62	5.84%
Hedged Equity	0.87	4.66%
Event Driven	0.75	4.43%
Credit Arbitrage	0.64	3.63%
Volatility Arbitrage	0.50	2.05%
Equity Mkt Neutral	0.55	0.97%
Managed Futures	(0.15)	-0.84%
Macro	0.01	-0.92%
Real Estate	0.55	-1.15%
Commodities	0.17	-3.86%
Short Bias	(0.74)	-4.92%

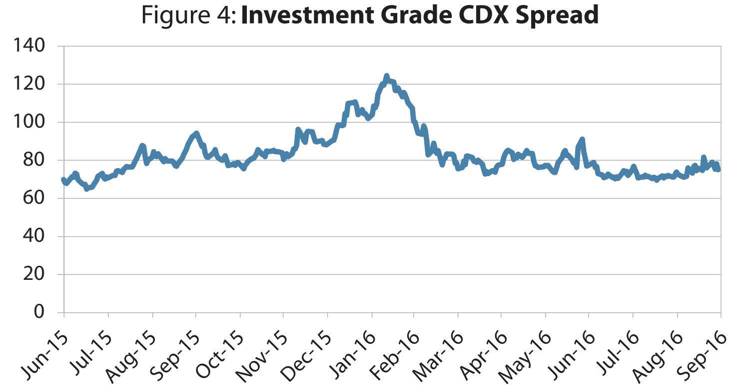
Source: Bloomberg, 9/30/16. Past performance is no guarantee of future results. An investor cannot invest directly in an index.

Figure 3: **Correlations (2-Year)**

	S&P 500	BarCap Agg
Commodities	0.17	(0.04)
Real Estate	0.55	0.61
Credit Arbitrage	0.64	(0.04)
Distressed	0.62	(0.12)
Event Driven	0.75	(0.19)
Equity Market Neutral	0.55	0.09
Macro	0.01	0.62
Short Bias	(0.74)	0.22
Volatility Arbitrage	0.50	(0.14)
Managed Futures	(0.15)	0.58
Hedged Equity	0.87	(0.19)

Source: Bloomberg, 9/30/16.

Figure 4: **Investment Grade CDX Spread**

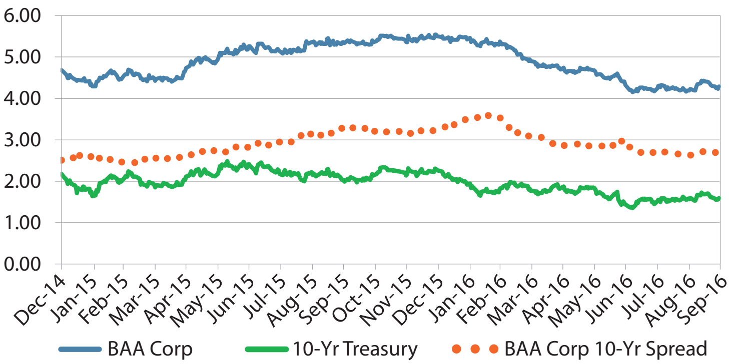


Source: Bloomberg, 9/30/16.

For the quarter-to-date, traditional "Risk Off" assets considerably underperformed traditional "Risk On" assets (*Figure 10*). Year-to-date "Risk Off" assets hold a slight lead in total return but the switch seems to have flipped in the 3rd quarter to the "Risk On" position. There are plenty of places to look for distractions globally, both positive and negative. We continue to emphasize that Alternatives have historically provided significant diversification benefits when paired with a portfolio of traditional assets, in addition to both competitive absolute returns and attractive risk-adjusted returns, although diversification doesn't guarantee a profit or protect against a loss.

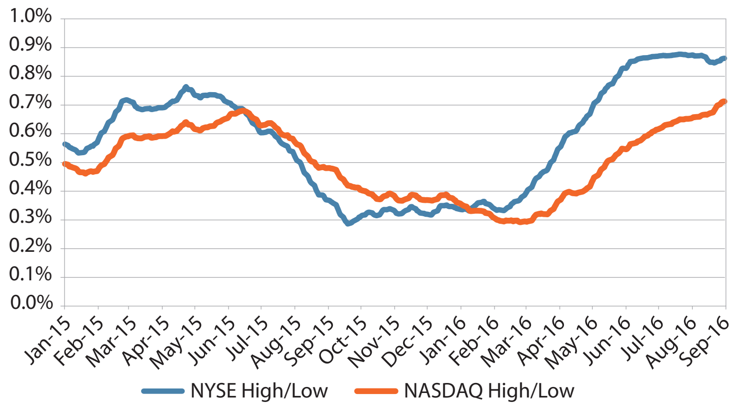
Please Note: Alternative investments may employ complex strategies, have unique investment and risk characteristics that may not be suitable for all investors.

Figure 5: **Credit Spread vs. 10-Year U.S. Treasury**



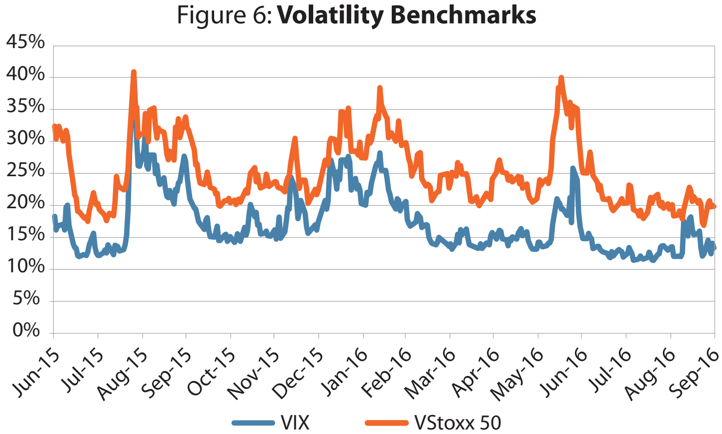
Source: Bloomberg, 9/30/16.

Figure 8: **New Highs/New Lows** *(90-Day Rolling Average)*



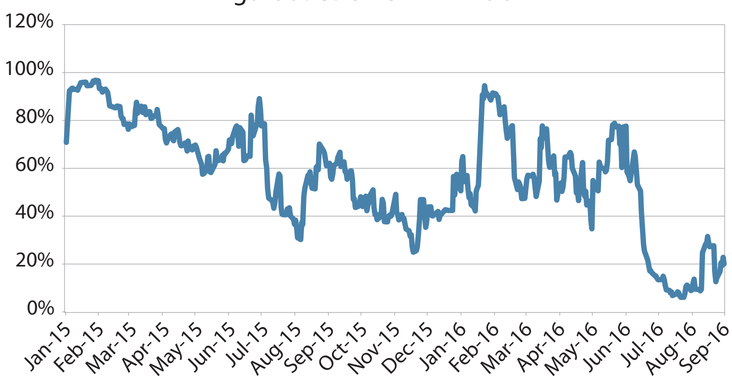
Source: Bloomberg, 9/30/16.

Figure 6: **Volatility Benchmarks**



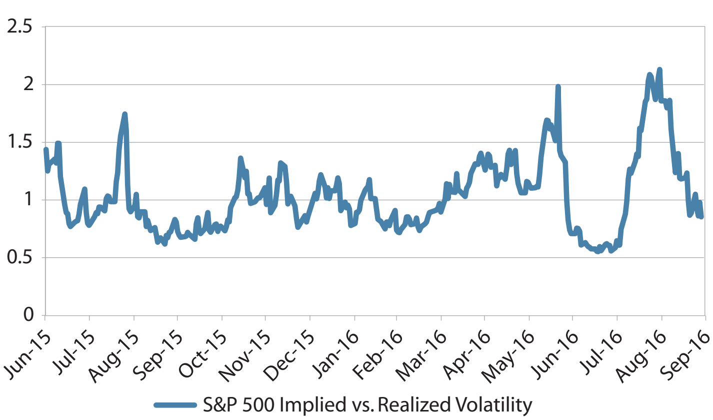
Source: Bloomberg, 9/30/16.

Figure 9: **CBOE SKEW Index**



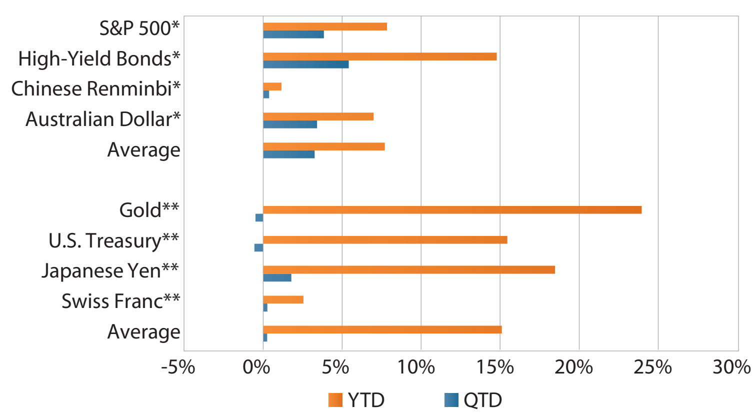
Source: Bloomberg, 9/30/16.

Figure 7: **30-Day Implied Volatility/Realized Volatility**



Source: Bloomberg, 9/30/16.

Figure 9: **Risk Off vs. Risk On Assets**



Source: Bloomberg, 9/30/16.
** Considered to be "Risk On" asset class. ** Considered to be "Risk Off" asset class.*

All charts shown herein are for illustrative purposes only and not indicative of any investment. The performance illustrations exclude the effects of taxes and brokerage commissions or other expenses incurred when investing. Past performance is not indicative of future results and there can be no assurance past trends will continue in the future.

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Definitions

Correlation: Pearson Product Moment Correlation is a linear statistical measure that quantifies the extent to which two or more data series fluctuate together. Values run from -1.0 to +1.0.

BarCap Agg: The Bloomberg Barclays US Aggregate Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market.

Hedged Equity: Hedge Fund Research HFRI Equity Hedge Total Index. Investment Managers who maintain positions both long (positions that are owned) and short (positions that are owed) in primarily equity and equity derivative securities. Hedged Equity managers would typically maintain at least 50%, and may in some cases be substantially entirely invested in equities, both long and short.

Managed Futures: Barclays US Managed Futures Industry Top 50 (BTop 50) Index. The Index seeks to replicate the overall composition of the managed futures industry with regard to trading style and overall market exposure.

Volatility Arbitrage: Hedge Fund Research HFRI Relative Value Volatility Index. Volatility strategies trade volatility as an asset class, employing arbitrage, directional, market neutral or a mix of types of strategies, and include exposures which can be long, short, neutral or variable to the direction of implied volatility, and can include both listed and unlisted instruments. Directional volatility strategies maintain exposure to the direction of implied volatility of a particular asset or, more generally, to the trend of implied volatility in broader asset classes. Arbitrage strategies employ an investment process designed to isolate opportunities between the price of multiple options or instruments. Volatility arbitrage positions typically maintain characteristic sensitivities to levels of implied and realized volatility, levels of interest rates and the valuation of the issuer's equity, among other more general market and idiosyncratic sensitivities.

Short Bias: Hedge Fund Research HFRI EH Short Bias Index. Short-Biased strategies employ analytical techniques in which the investment thesis is predicated on assessment of the valuation characteristics on the underlying companies with the goal of identifying overvalued companies.

Macro: Hedge Fund Research HFRI Macro Total Index. Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed-income, hard currency and commodity markets.

Equity Market Neutral: Equity Market Neutral strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Event Driven: Hedge Fund Research HFRI Event-Driven Total Index. Investment Managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments.

Distressed: Hedge Fund Research HFRI ED Distressed/Restructuring Total Index. Distressed/Restructuring strategies employ an investment process focused on corporate fixed-income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Credit Arbitrage: Hedge Fund Research HFRI ED Credit Arbitrage Index. Credit Arbitrage strategies employ an investment process designed to isolate attractive opportunities in corporate fixed-income securities; these include both senior and subordinated claims as well as bank debt and other outstanding obligations, structuring positions with little of no broad credit market exposure. These may also contain a limited exposure to government, sovereign, equity, convertible or other obligations but the focus of the strategy is primarily on fixed corporate obligations and other securities are held as component of positions within these structures.

Real Estate: Dow Jones US Real Estate Total Return Index. The DJ US Real Estate Index represents REITs & other companies that invest directly or indirectly in real estate through development, management or ownership, including property agencies.

Commodities: Bloomberg Commodity Total Return Index. The Bloomberg Commodity Total Return index is composed of futures contracts and reflects the returns on a fully collateralized investment in the Bloomberg Commodity Index. This combines the returns of the Bloomberg Commodity Index with the returns on cash collateral invested in 13 week (3 Month) U.S. Treasury Bills.

Investment Grade CDX Spread: Markit CDX North America Investment Grade Index. The Markit CDX North America Investment Grade Index is composed of 125 equally weighted credit default swaps on investment grade entities. A credit default swap is an agreement in which the buyer makes payments to the swap seller until maturity of the contract. In return the seller agrees that, in the event that the debt issuer has a credit event (missed payment or a default) the seller will pay the security's premium as well as interest.

Credit Spread: The difference in yield between two fixed-income instruments with differing credit profiles.

VIX: Chicago Board Options Exchange SPX Volatility Index. The Chicago Board Options Exchange Volatility Index reflects a market estimate of future volatility, based on the weighted average of the implied volatilities for a wide range of strike prices.

VStoxx 50: Euro Stoxx 50 Volatility Index VSTOXX. VSTOXX Index is based on a methodology jointly developed by Deutsche Borse and Goldman Sachs to measure volatility in the Eurozone. VSTOXX is based on the EURO STOXX 50 Index options traded on Eurex. It measures implied volatility on options with a rolling 30 day expiry.

BAA Corp: Moody's Bond Indices Corporate BAA. Moody's Long-Term Corporate Bond Yield Averages are derived from pricing data on a regularly replenished population of corporate bonds in the U.S. market, each with current outstandings over $100 million. The bonds have maturities as close as possible to 30 years; they are dropped from the list if their remaining life falls below 20 years, if they are susceptible to redemption, or if their ratings change. All yields are yield-to- maturity calculated on a semi-annual basis.

10-Yr Treasury: Yield of U.S. Treasury securities maturing in approximately 10 years.

S&P 500 Implied Volatility: 30 day implied volatility of S&P 500 options at 100.0% moneyness from Bloomberg volatility model. Moneyness is the relationship between the strike price of an option and the current price of its underlying security. 100% moneyness means the strike price and underlying security price are equal.

S&P 500 Realized Volatility: A measure of the risk of price moves for a security calculated from the standard deviation of day to day logarithmic historical price changes. The 30-day price volatility equals the annualized standard deviation of the relative price change for the 30 most recent trading days closing price, expressed as a percentage.

NYSE High/Low: Bloomberg New Highs and New Lows Sentiment Index NYSE. The New Highs and New Lows indices represent the 52-week highs/lows for the securities on a specific exchange (NYSE) on a given day. New Highs divided by the sum of the new highs plus the new lows.

NASDAQ High/Low: Bloomberg New Highs and New Lows Sentiment Index NASDAQ Composite. The New Highs and New Lows indices represent the 52-week highs/lows for the securities on a specific exchange (NASDAQ Composite) on a given day. New Highs divided by the sum of the new highs plus the new lows.

CBOE Skew Index: CBOE SKEW Index is a global, strike independent measure of the slope of the implied volatility curve that increases as this curve tends to steepen. The index is calculated from the price of a tradable portfolio of out-of-the money S&P 500 options. Out-of-the money call options are those in which the strike price of the option exceeds the price of the underlying security. Out-of-the-money put options are those in which the strike price of the option is below the price of the underlying security.

S&P 500: An unmanaged index of 500 stocks used to measure large-cap U.S. stock market performance.

High-Yield Bonds: A component of the US Corp High Yield Index that is designed to track a more liquid component of the USD-denominated, high yield, fixed-rate corporate bond market. The US High Yield VLI uses the same eligibility criteria as the US Corp High Yield Index, but includes only the three largest bonds from each issuer that have a min amount outstanding of USD500mn and less than five years from issue date.

Chinese Renminbi: The S&P Chinese Renminbi Index is designed as a tradable index that replicates the performance of the Chinese Renminbi versus the U.S. Dollar.

Australian Dollar: The return from selling the short currency (USD) to buy the long currency (AUD) and earning interest. The return is calculated by adding the spot return to the interest earned from the long currency position. It is designed to measure the performance of the Australian dollar vs. the U.S. dollar.

Gold: The return of the gold spot price as quoted as U.S. dollars per Troy Ounce.

U.S. Treasury: The ICE U.S. Treasury 20+ Years Bond Index is part of a series of indices intended to assess U.S. Treasury issued debt. Only U.S. dollar denominated, fixed-rate securities with minimum term to maturity greater than twenty years are included.

Japanese Yen: The return from selling the short currency (USD) to buy the long currency (JPY) and earning interest. The return is calculated by adding the spot return to the interest earned from the long currency position. It is designed to measure the performance of the Japanese yen vs. the U.S. dollar.

Swiss Franc: The return from selling the short currency (USD) to buy the long currency (CHF) and earning interest. The return is calculated by adding the spot return to the interest earned from the long currency position. It is designed to measure the performance of the Swiss franc vs. the U.S. dollar.