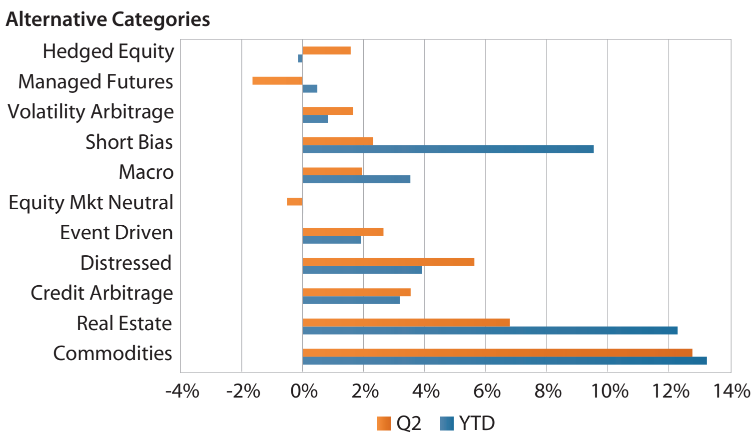
Alternatives Update
2nd Quarter 2016

In the second quarter, Alternative Investments ("Alternatives") generally had positive performance (*see Figure 1*) with tangible assets (commodities and real estate) posting strong returns. Managed futures was a notable outlier with a negative 2nd quarter, lagging not only other Alternative categories but traditional asset classes as well. Year-to-date, most Alternative categories are keeping pace or outperforming traditional asset classes, with once again tangible assets leading the way. Short bias strategies have had considerable success most likely due to a combination of periodic freefalls in the broader equity markets, increased volatility, and wider dispersion in both sector and single name returns. Lagging categories were primarily focused in the equity markets (hedged equity and equity market neutral). Managed futures, commodities, and global macro historically have shown low correlations to stocks and bonds and based upon monthly correlations over the past two years, this continues to be the case. Other Alternative categories, while having higher correlations with equities, generally do so with considerably less volatility (*Figure 2*).

Risk aversion in the 2nd quarter declined, continuing a trend which began towards the end of the first quarter. Central Bank policy continues to drive capital markets behavior. In general, rapid price declines, accompanied by large spikes in volatility and heightened risk aversion are quickly followed by rapid price appreciation, plummeting volatility and risk seeking on the anticipation of continued easy monetary conditions as a response to market disruptions. The 2nd quarter was no exception to this pattern. Risk assets were performing well, credit spreads (*Figure 3 & Figure 4*) were continuing to shrink, but volatility markets were beginning to flash caution in early June (*Figure 5*). The surprise of Britain's vote to withdraw from the European Union (BREXIT) shocked many, jolting the markets, as evidenced by the sizeable increase in forward and realized volatility (as measured by the option forward curve and spot equity market movements – *Figure 6*) , a quick selloff in global equities, and large inflows into U.S. Treasuries and gold. However, before one could say "Risk Off", on cue, the central banks issued statements that they stood at the ready to support the markets. Any U.S. rate hikes looked to be off the table for 2016, and it was back to "Risk On". Volatility reverted, global markets soared and BREXIT became old news.

Sentiment (the overall attitude of investors and their willingness to risk capital) can be measured, or more accurately inferred, in many ways,

Figure 1: **2016 Performance**



Source: Bloomberg, 6/30/16. Past performance is no guarantee of future results. An investor cannot invest directly in an index.

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

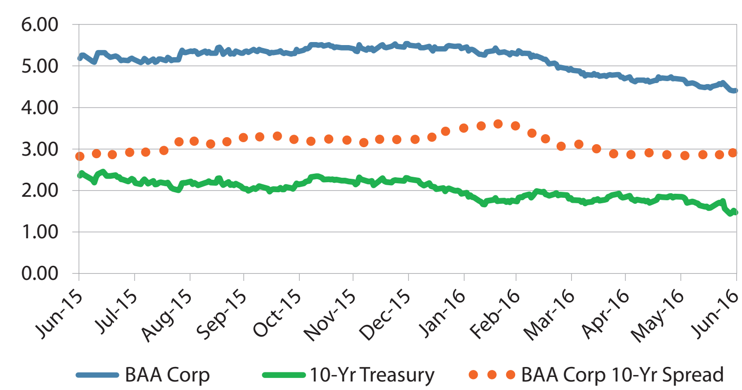
	S&P 500	BarCap Agg
Commodities	0.24	0.01
Real Estate	0.55	0.60
Credit Arbitrage	0.63	(0.08)
Distressed	0.65	(0.09)
Event Driven	0.77	(0.18)
Equity Market Neutral	0.54	0.11
Macro	0.04	0.64
Short Bias	(0.77)	0.21
Volatility Arbitrage	0.54	(0.09)
Managed Futures	(0.13)	0.60
Hedged Equity	0.88	(0.15)

Source: Bloomberg, 6/30/16.

Figure 3: **Investment Grade CDX Spread**

Source: Bloomberg, 6/30/16.

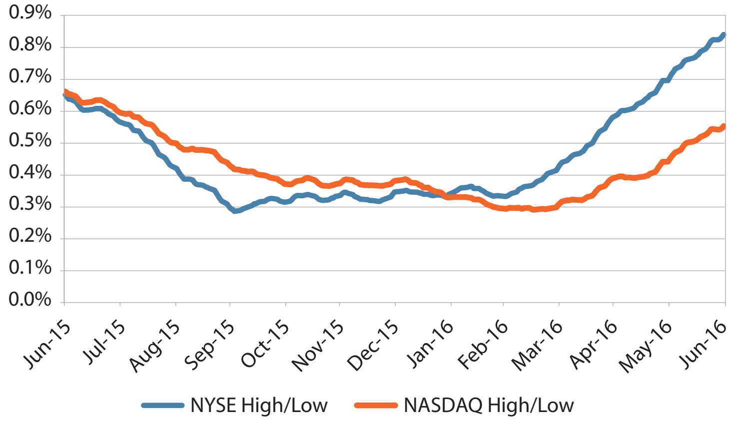
Figure 4: **Credit Spread vs. 10-Year U.S. Treasury**



Source: Bloomberg, 6/30/16.

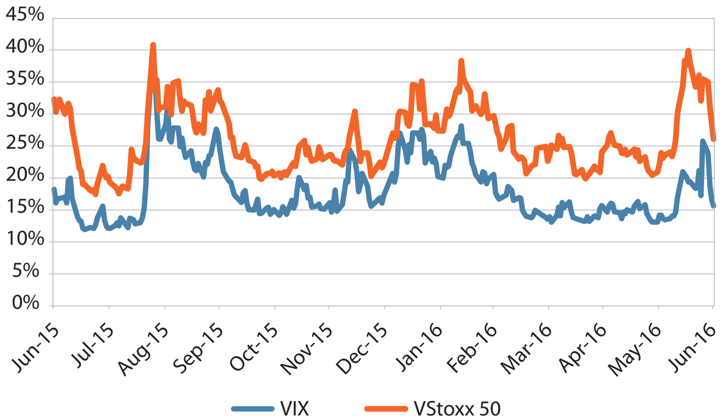
though they are rarely unanimous in their message. The 2nd quarter ended with domestic equity sentiment having a positive tone. The ratio of New Highs to New Lows for both the NYSE and NASDAQ broke out to the upside (*Figure 7*). In addition, the expected Federal Open Market Committee (FOMC) rate hikes moved further in the direction of little or no action this year or the first half of 2017. This shift in expectations likely supported the positive tone for equities. The CBOE Skew Index (*Figure 8*), which is an option based indicator of the likelihood of outlier events, also indicated declining risk aversion and a more positive outlook. Quarter-to-date and Year-to-date, traditional "Risk Off" assets considerably outperformed traditional "Risk On" assets (*Figure 9*). Digging a bit deeper, U.S. based assets, even "Risk On" assets, seemed to capture a flight to quality premium versus their global counterparts in the uncertain and volatile environment. We anticipate that Alternatives will continue to provide significant diversification benefits when paired with a portfolio of traditional assets, in addition to both competitive absolute returns and attractive risk-adjusted returns.

Figure 7: **New Highs/New Lows** *(90-Day Rolling Average)*



Source: Bloomberg, 6/30/16.

Figure 5: **Volatility Benchmarks**

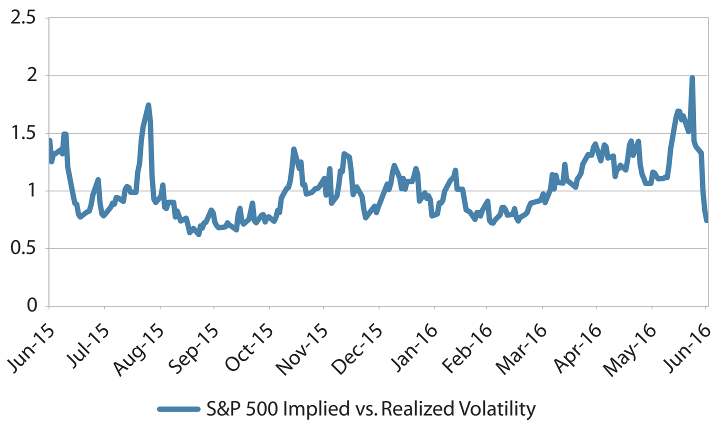


Source: Bloomberg, 6/30/16.

Figure 8: **CBOE SKEW Index**

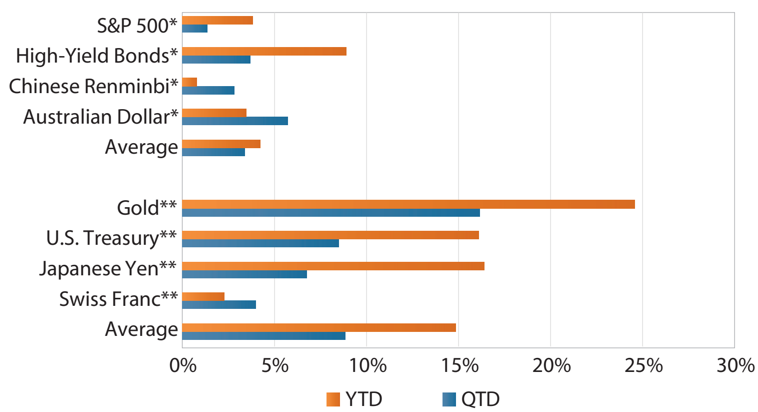
Source: Bloomberg, 6/30/16.

Figure 6: **30-Day Implied Volatility/Realized Volatility**



Source: Bloomberg, 6/30/16.

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



Source: Bloomberg, 6/30/16.
** 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.

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

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 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.