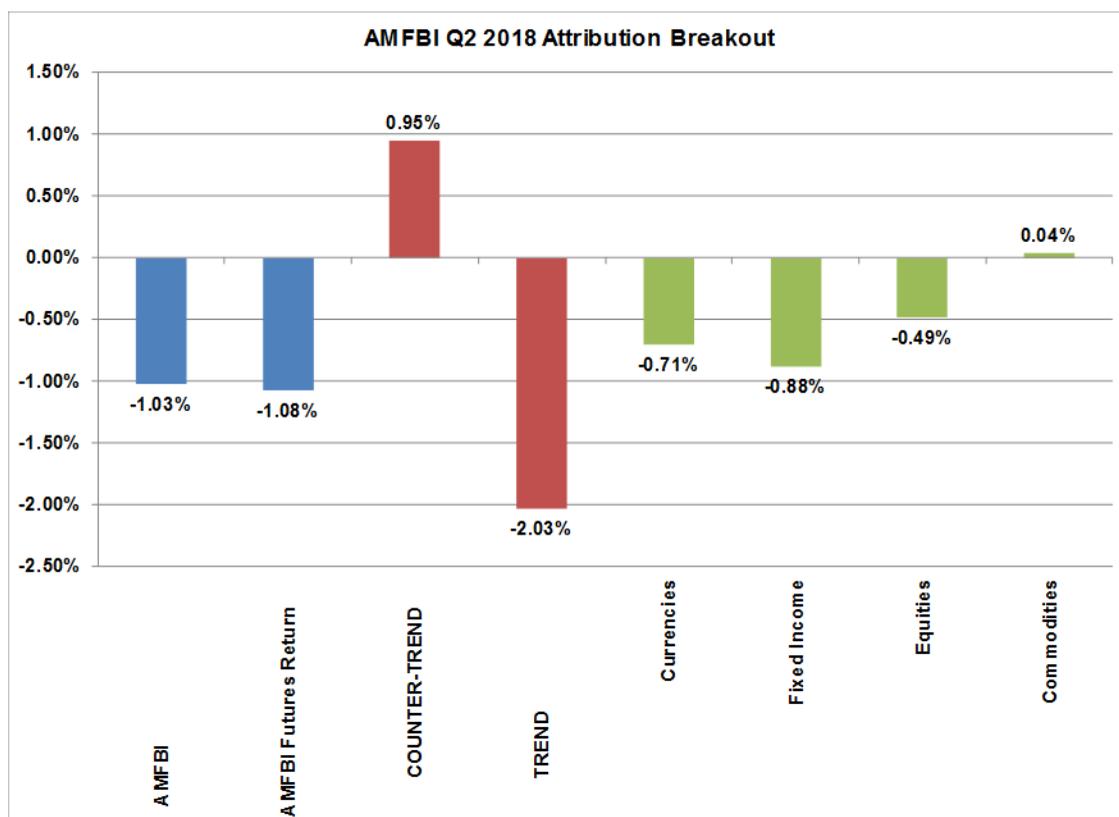


ASPEN MANAGED FUTURES BETA INDEX QUARTERLY COMMENTARY SECOND QUARTER 2018

Overview

- The Aspen Managed Futures Beta Index (AMFBI or the Index) returned -1.03% in the second quarter of 2018, via monthly returns of -0.29%, -0.79%, and +0.05% in April, May, and June, respectively. Year-to-date through June 30, Index return stood at -2.52%.
- AMFBI tracked closely with managed futures industry averages. For example, the BTOP50 Index returned -1.12% for the quarter. AMFBI remains slightly ahead of category averages for the year; BTOP50 YTD return through June 30 was -3.47%.¹
- Losses occurred despite seemingly more “normalized” volatility, though in reality the volatility backdrop was not uniformly elevated above typical post-crisis levels.
- While a reversal from short to long among fixed income trends produced the largest (negative) P&L for the quarter, the most dynamic asset class was the physical commodity complex, even though commodities ultimately contributed very little end-to-end attribution.



- Interest income has risen, with short-term interest rates effectively covering AMFBI’s embedded index fee (1.5%/year), making futures-only returns and Index total returns similar figures.

¹ Estimates as of 7/2/2018. Source: BarclayHedge,
<https://www.barclayhedge.com/research/indices/btop/index.html>

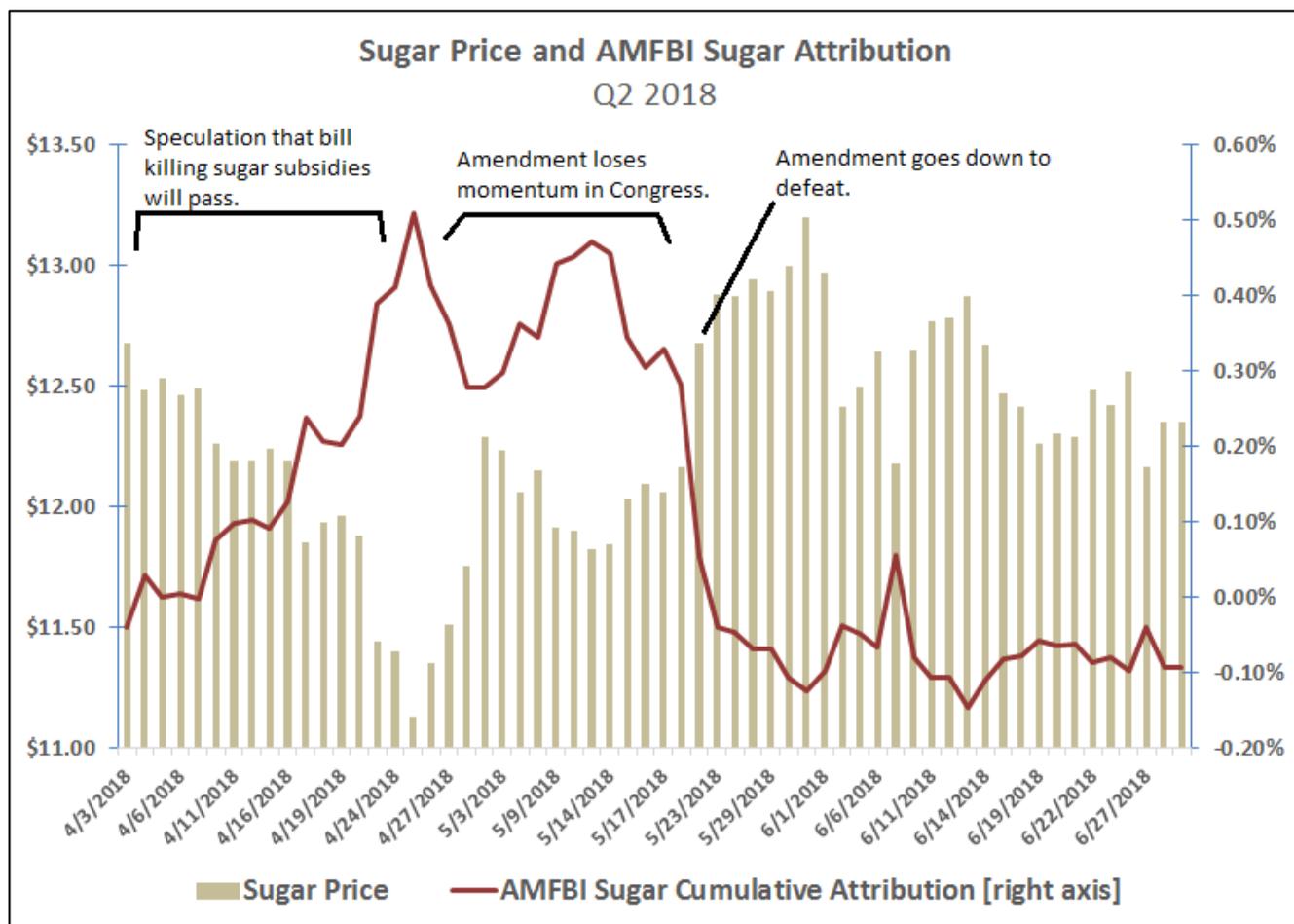
Some Notable Trends and Anti-Trends

Fixed Income

The largest contributor to net losses in the second quarter was the reversal of entrenched short trends in the fixed income complex stemming from the late 2017 and early 2018 spike in global interest rates. By the end of May, the Index was net long fixed income for the first time all year.

Sugar

Perhaps the wildest ride in AMFBI in Q2 was experienced by the sugar futures market, even though the attribution from sugar for the full quarter was minor, at -0.09%. The sugar trend—a variably-sized short position for the entire quarter—was, for a time, the most profitable position in the Trend model, contributing over 50 basis points to QTD return and extending gains from Q1. Much of the downtrend was based on speculation that Congress would eliminate a system of sugar subsidies, and when those amendments went down to defeat in May, the gain in sugar was given back. Year-to-date through 6/30, AMFBI sugar attribution clung to a gain of +0.06%.

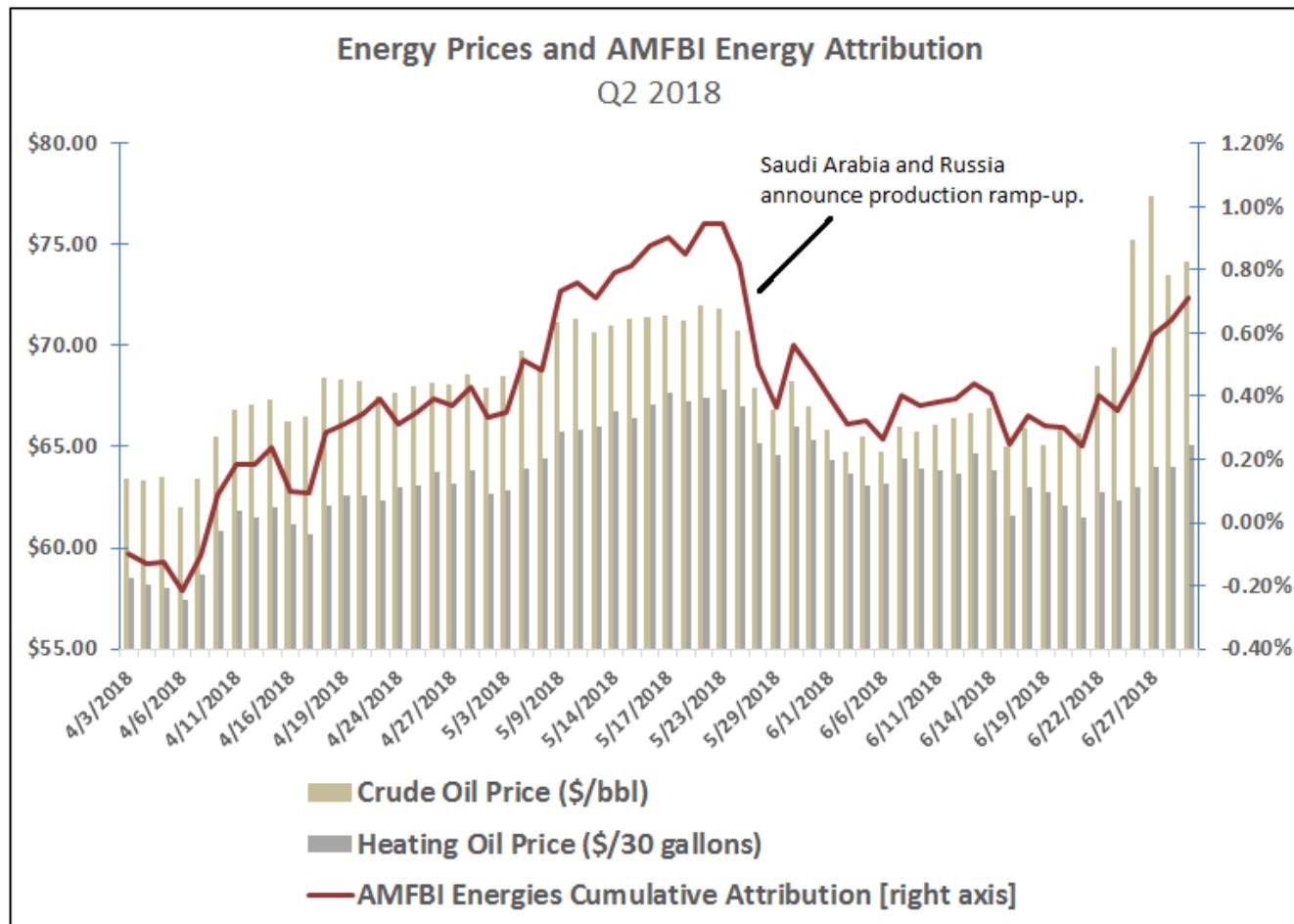


Source: CSI (Sugar spot price data).

The investment strategy presented is not appropriate for every investor and you should review with your financial advisor(s) the terms and conditions and risk involved with specific products or services.

Energy Complex

The brightest spot in the Trend model was the continuation of an uptrend in energy futures (Crude Oil and Heating Oil²), which enabled the commodity complex to post positive attribution overall in AMFBI for the second quarter. The mid-quarter announcement of increased production by OPEC heavyweights Saudi Arabia and Russia stalled the uptrend, but ultimately failed to kill it.



Source: CSI (Crude Oil and Heating Oil spot price data).

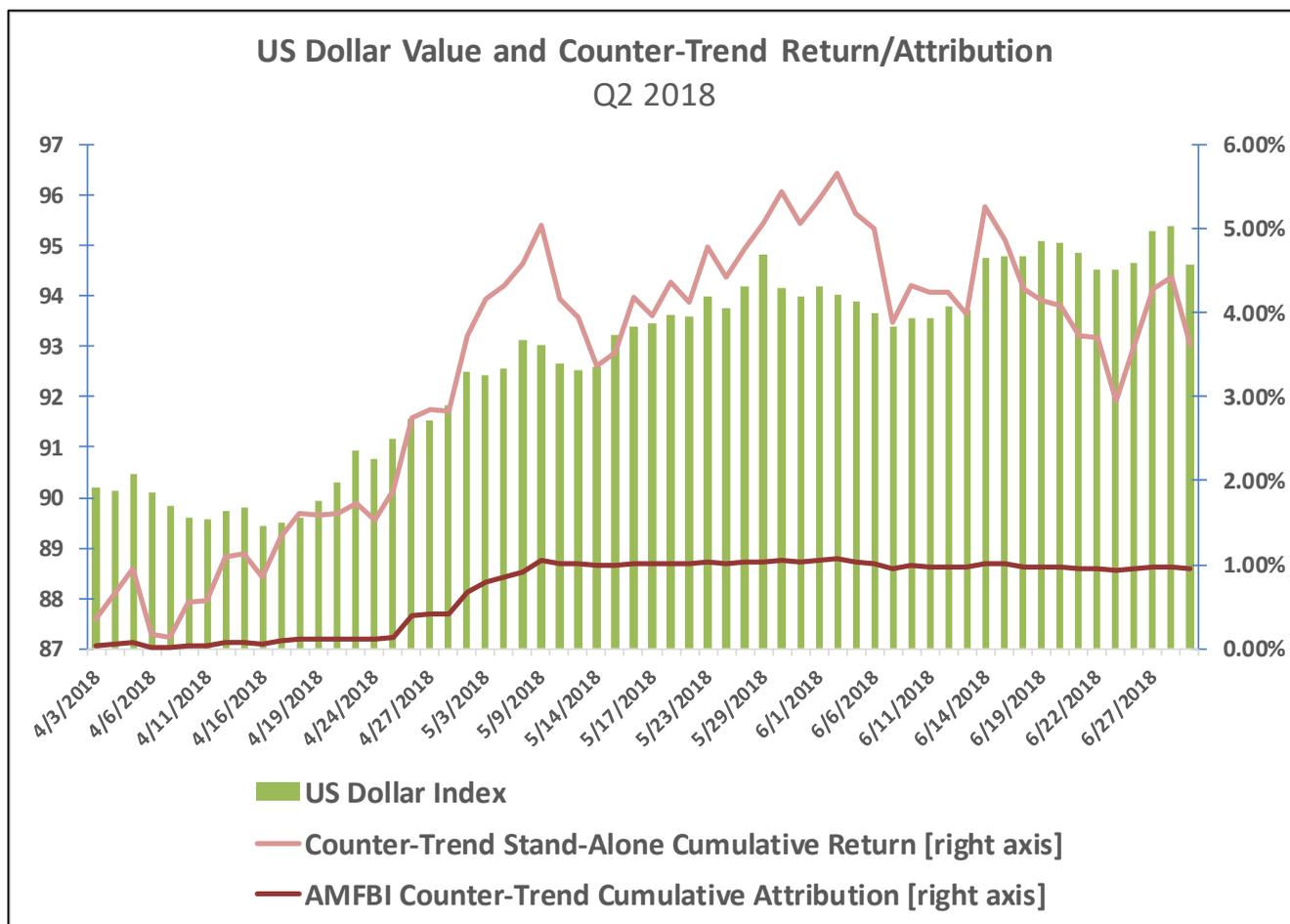
Counter-Trend Benefits from US Dollar Strength

Late in the first quarter, the US dollar entered the Index's currency carry Counter-Trend model for the first time since 2010. US dollar short-term interest rates were above either Australian dollar rates or New Zealand dollar rates (or both) for the entire second quarter, making USD a long position in the model. "Long" USD in Counter-Trend is expressed via a flat leg (equivalent to long USD/USD), rendering overall currency carry positioning net short FX vs. the dollar.

² Actually "Ultra-Low Sulfur Diesel" (ULSD). See <https://www.eia.gov/todayinenergy/detail.php?id=11211>

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The increase in interest rates in the US relative to other developed countries put upward pressure on the US dollar vs. most foreign currencies, particularly in the early part of Q2. While the Trend model was late to react to the move, Counter-Trend's net short FX positioning was well-timed to capture the benefit (albeit in reduced form, given the model's strict Counter-Trend exposure limits.) In the latter portion of the quarter, an increase in AMFBI's Broad Risk Indicator reduced Counter-Trend exposures, minimizing the effects of a choppy partial retracement toward the end of Q2. Counter-Trend gains offset nearly half of the Index's Trend model losses in Q2.



Source: CSI (US Dollar Index price data).

Volatility “Normalization”?

In conversations with clients and business partners over the last several months, we’ve noted that market volatility seems to have returned to more historically “normal” levels in 2018. Like most industry commentators, we’ve long identified the extended low-volatility backdrop as a primary culprit for the challenging stretch of performance that has been experienced by the managed futures industry for much of the post-Great Financial Crisis (GFC) era. While an initial spike in volatility (as was experienced in early February) is often difficult for trend followers, sustained elevated volatility tends to be beneficial over time.

This raises the question of why trend following performance failed to experience an uptick in Q2 if volatility was at more normalized levels. The simplest answer, of course, is that the -1.03% loss in the second quarter

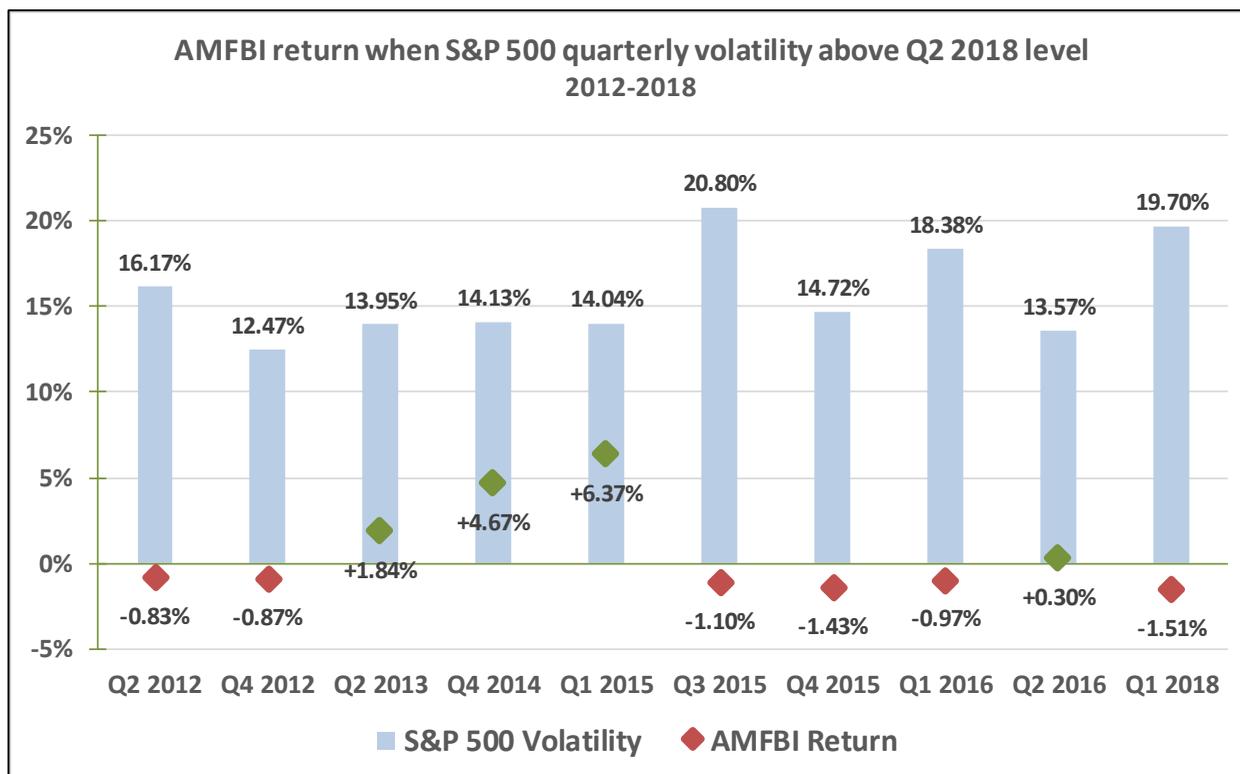
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by no means qualifies as a negative outlier in any volatility regime: I.e., quarterly losses of that size or greater have been experienced many times in high-vol and low-vol backdrops. Yet a deeper analysis of market activity in Q1 reveals the extent to which recency bias and an overly strong focus on US equities drove the conclusion that volatility was elevated at all.

US Equity Volatility and AMFBI Performance

The volatility (defined hereinafter as annualized daily standard deviation) of S&P 500 index returns in Q2 was 12.41%. This is indeed at the median quarterly level since the 2003 inception of AMFBI, and given the run of five consecutive quarters with sub-10% annualized volatility through the end of 2017, the 12% level felt very much like a return to normal. The notable downward dislocation in quarterly volatility levels occurred not precisely at the end of the GFC, but after European governments intervened in the Greek crisis in Q4 2011. Average quarterly S&P volatility 2003-2011 was 18.06%, and was above 20% one out every four quarters over those years. 2012-2018 average quarterly S&P volatility has been just 11.77%, and only once has the 20% level been exceeded on a quarterly basis.

Nonetheless, even since 2012 there have been 10 quarters (out of 25 total) with volatility above Q2's 12.41% level, complicating the question of whether volatility levels are returning or have returned to normal. AMFBI's compound return over those 10 higher-vol quarters is +6.30%, vs. -3.97% over the remaining 15 quarters, supporting the notion that trend following tends to perform better when volatility is higher. And yet the 10 quarterly returns that produced that outcome are positively skewed, and in fact 6 of those 10 quarters saw negative returns for AMFBI.



Source: CSI (S&P 500 data).

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Volatility of Other Asset Classes

While most market watchers' sense of investment volatility comes from the equity markets, a broadly diversified trend following system such as AMFBI tends to perform best when volatility is elevated across all major asset classes. This commentary stops short of a comprehensive volatility analysis, but a quick look at representative markets³ from each major asset class further complicates the question of whether volatility levels have normalized.

Quarterly Volatility Statistics, Representative Markets				
	Equities	Currencies	Commodities	Fixed Income
	S&P 500	Dollar Index	Crude Oil	10-Year Treasurys
Median, 2003-2018	12.42%	7.66%	30.57%	4.86%
Median, 2012-2018	10.86%	6.81%	27.03%	4.46%
Second Quarter 2018	12.41%	5.37%	26.42%	4.07%

Source: CSI (market data)

As noted above, Q2 2018 S&P 500 volatility was at the median for the full 2003-2018 period and above the median level for the 2012-2018 low-vol backdrop. But for the representative markets in all three of the other asset classes, not only was Q2 volatility well below the full-period median level, it was also below the median quarterly level even for the infamously low-vol 2012-2018 backdrop. **If market volatility is in the process of returning to historical norms, that process is apparently being led by equities, and other asset classes have yet to follow.**

Looking Ahead

The volatility analysis in the previous section is both good news and bad news. It is good news in that the AMFBI Q2 loss does not constitute a warning sign that something is amiss despite elevated volatility, both because the return is by no means a downside outlier even for normal-to-high volatility backdrops and because it is highly debatable whether Q2 was a normal-to-high volatility backdrop at all. It is bad news in that the evidence remains strong that trend following performs best when long-term volatility is at least at normal levels and preferably elevated, whereas the evidence is mixed at best that global catalysts like interest rate normalization, global economic recovery, and geopolitical wrangling are producing a sustained uptick in market volatility levels.

A related relevant question is whether a divergence wherein equity volatility normalizes while other asset classes remain quiescent is sustainable. While we hesitate to offer a broad prediction, it is worth noting that the very worst backdrops for equities—i.e., crisis periods—which have historically been among the best backdrops for trend followers, are periods where elevated equity volatility is extremely likely to be accompanied by turbulence in other asset classes as well.

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³ Selected markets:

- Equities: S&P 500 (annualized standard deviation of daily S&P 500 index total returns).
- Currencies: Dollar Index (annualized standard deviation of daily US dollar index returns).
- Commodities: Crude Oil (annualized standard deviation of rolling WTI Crude Oil futures returns).
- Fixed Income: 10-Year Treasurys (annualized standard deviation of rolling US 10yr treasury futures returns).

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Important Disclosures

Past performance is no guarantee of future results.

All AMFBI monthly returns shown do not include transaction cost, but are net of 1.50% for estimated fees and other expenses. An investor cannot invest directly in an index.

This document does not constitute an offer to sell or solicitation of an offer to buy any security. The information contained herein is provided for educational purposes only and is not intended to solicit interest in any investment opportunity.

Data has been obtained from reliable sources. Aspen Partners believes the information herein to be reliable; yet no warranty or guarantee is made as to its accuracy or completeness.

Benchmarks & Indices

AMFBI is constructed using a quantitative, rules-based model designed to replicate the trend-following and counter-trend exposure of futures markets by allocating assets to liquid futures contracts of certain financial and commodities futures markets. The index therefore seeks to reflect the performance of strategies and exposures common to a broad universe of futures markets, i.e., managed futures beta.

“Barclays AGG” represents The Bloomberg Barclays U.S. Aggregate Bond Index is a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type.

“BTOP50 Index” represents the Barclay BTOP50 Index, an index of the largest investable CTA programs, as measured by assets under management.

“Euro Stoxx 50” represents a stock index of Eurozone stocks designed by STOXX, an index provider owned by Deutsche Börse Group and SIX Group. It is made up of fifty of the largest and most liquid stocks.

“Goldman Sachs Commodity Index,” also known as the S&P GSCI, is a long-only index of commodity returns.

“S&P 500” represents the S&P 500 Total Return Index, a widely recognized, unmanaged index of common stock prices.

“SG CTA Index (formerly, the Newedge CTA Index)” provides the market with daily performance benchmarks of major commodity trading advisors (CTAs).

The Barclays AGG, BTOP50 Index, Euro Stoxx 50, S&P GSCI, SG CTA Index, and S&P 500 are unmanaged and do not represent the attempt of any manager to generate returns on an investment. These benchmark indices do not include transaction costs and other expenses.

Definitions

Broad Risk Indicator (BRI): A proprietary, broad market risk analysis system.

Compound Annual Growth Rate: The year-over-year growth rate of an investment over a specified period of time.

Forex: A commonly used abbreviation for "foreign exchange," it is typically used to describe trading in the foreign exchange market by investors and speculators.

Maximum Drawdown: The greatest peak-to-trough decline during a specific period of an investment.

Sharpe Ratio: A measurement of risk-adjusted performance which subtracts the “risk-free” rate of return from an investment’s performance.

Standard Deviation: A measurement of the annual rate of return’s dispersion from its mean, indicating an investment’s volatility.

TIPs: Treasury Inflation-Protected Securities provide protection against inflation. The principal of a TIPS increases with inflation and decreases with deflation, as measured by the Consumer Price Index.

VIX: The ticker symbol for the Chicago Board Options Exchange (CBOE) Volatility Index, which shows the market’s expectation of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options.

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