ASPEN MANAGED FUTURES BETA INDEX

Summary and Introduction

Key Takeaways:

- Notwithstanding a small gain in the fourth quarter (+0.32%), the Aspen Managed Futures Beta Index ("AMFBI" or "Index") suffered a difficult year in 2017, returning -7.32% for the year.
- While the Index's annual losses occurred against a backdrop of almost unprecedentedly low market volatility, and while it is true that such low-vol environments are not generally favorable for trend following returns, it is important to be aware that the magnitude of the losses in 2017 are atypical for trend-following in a low-vol backdrop, which is generally more likely to produce a minor, mostly uninteresting pattern of trend returns.
- In fact, even in 2017, the final 7.5 months of the year demonstrated the more usual range-bound, small end-to-end return behavior for AMFBI; the annual losses were concentrated in a series of brief anti-trend macro-related shocks in the first 4.5 months.
- As would be expected given the strong returns and very minor retracements in equities during the year, the AMFBI Trend model captured gains in equity futures in the fourth quarter and for the year. For the quarter, but not for the year, these gains were sufficient to offset losses elsewhere in the portfolio.
- In the context of a broad investor portfolio, while systematic trend following continues to lag traditional investments in the post-Great Financial Crisis ("GFC") era, the long-run cost to hold AMFBI (or other trend vehicles) continues to be low, especially as compared to other methods for protecting against major risk asset drawdowns, which of course have yet to reoccur since the GFC.

Introduction

This Aspen Managed Futures Beta Index commentary will provide an overview of a relatively uneventful fourth quarter, followed by a more in-depth review of what proved to be a difficult year for the Index. In brief, Q4 illustrates the behavior that is most commonly expected from an extremely low-volatility market backdrop for a trend system like that employed by AMFBI: Low-vol Index returns with only a small end-to-end return. Such behavior actually prevailed beginning around mid-May and continued through the end of the year. The entire year's end-to-end return, though, was dominated by a sequence of rapid anti-trend market events in the early part of the year. Those events were outlined in detail in the Q1 and Q2 AMFBI commentaries, and are reviewed and placed in the context of full-year performance in the annual commentary section below.

The fourth quarter commentary section can be viewed as primarily a breakdown of model returns, whereas the annual commentary section is a broader contextual year in review. Given those different mandates, the two sections do not adhere fastidiously to their respective timeframes. In particular, subsections of the quarterly commentary outline related full-year performance figures wherever such references are cleaner or more appropriate in that context.

Fourth Quarter 2017 Commentary

A truly remarkable year for low-volatility equity gains ended as it began. Global equity markets continued their relentless march upward in the fourth quarter. While the strong returns for equities in 2017 were not unprecedented, what was largely unprecedented was the extraordinarily low-volatility manner in which they were achieved. It felt like every few weeks a financial news article would outline some new milestone, such as the S&P 500's new record for consecutive days without a 3% drawdown (which was set in October and continues as of this writing), its extraordinary 67 days hitting new highs in 2017, or its 14 consecutive up months on a total return basis, capped by its first-ever calendar year of 12 positive months. Our favorite stat is probably this one: The VIX implied volatility index closed below 10 a grand total of nine times in its first 27 years of existence (1990-2016), but in 2017 it closed below 10 a whopping *fifty-two* times. Aspen's own Broad Risk Indicator also sat at its minimum 0% level an incredible 71% of the time for the year.

Low volatility prevailed in other asset classes as well. But the gains in equities were fairly unique, as other markets were mostly range-bound in the fourth quarter—as was generally true for the full year as well. The performance overview immediately below and a similar topic in the annual commentary section provide further detail.

Performance Overview

AMFBI posted a gain of +0.32% in the fourth quarter, bumping annual performance up slightly to -7.32%. It was the first quarterly gain since Q4 2016, though it occurred against a backdrop that generally felt similar to the backdrop of the prior three quarters of 2017. As with Q3, both the small magnitude end-to-end performance and the low-vol path to the final outcome reflected typical expected behavior for a trend following system in a low volatility environment—particularly a system like AMFBI's Trend model, which does not increase leverage in such a setting in order to hit a predefined volatility target. Monthly Index returns were +0.22%, -1.10%, and +1.21% for October, November, and December, respectively.

Relative to industry averages, the quarter produced a shortfall for AMFBI, as was the case for the full year. For example, the industry benchmark BTOP50 Index returned +3.63% in Q4 and -0.88% for the year.[1] There is strong reason to believe that much of the difference is attributable to intentional design differences between AMFBI and the majority of CTA trend following models nowadays—particularly the long equity and fixed income tilts among many competitors relative to AMFBI, combined with volatility targets that would tend to further stretch those tilts in a persistent low-vol backdrop. Details are discussed below and in the annual commentary section.

Equities vs. Everything Else

Equities are the most visible, most watched, and most discussed of all financial market asset classes. Thus, when equity markets post a strong, sustained rally like they did throughout 2017, while AMFBI posts unremarkable performance, we are sometimes asked why the AMFBI Trend model apparently didn't latch onto such a clear trend. The answer is that it did indeed catch the uptrend in equities, but equities are only one-quarter (by risk) of the Trend model, and the other three asset classes were not nearly as cooperative.

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[1] Source: BarclayHedge. Return figures are not yet fully finalized for BTOP50 as of this writing.

The fourth quarter added an interesting nuance to this observation, though. While the *ex ante* risk allocation to equities is 25%, the subsequent application of the actual trend signals can cause an asset class to have a higher or lower *ex post* effective risk weighting. In the extreme, if a given portfolio rebalance results in every market in one asset class having strong trend signals in the same direction (long or short) while another asset class has all weak signals with half the markets long and the other half short, the former asset class's expected contribution to total model volatility and P&L is likely upwards of several multiples of the expected contribution of the latter asset class. Even absent that extreme a setup, this phenomenon plays out to a greater or lesser extent every rebalance week. In Q4, that phenomenon tended to produce a greater *ex post* weighting to equity trends than to trends in other asset classes, due to the strength in equity trends and the choppiness otherwise across various lookbacks.

As a result, breaking out AMFBI futures attribution (excess return, before fees and interest income) into Trend and Counter-Trend components, and further breaking down Trend attribution by asset class, the results for Q4 are as shown in the chart below. (Note: Counter-Trend performance is addressed in the annual commentary section.)

AMFBI Futures Attribution, Q4 2017
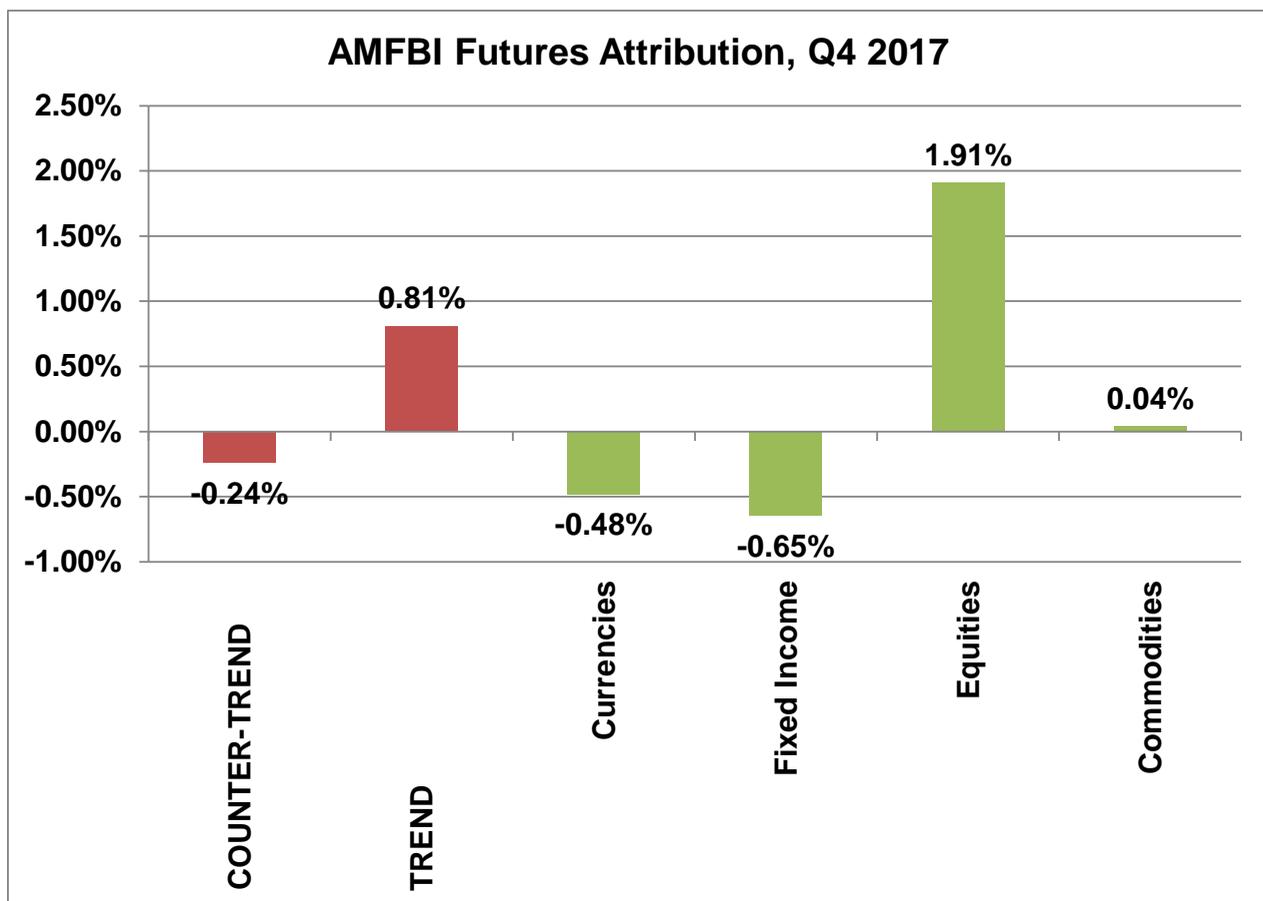
Commodity markets managed to produce a slight gain in Q4, with successful long trends in energy markets counterbalanced by losses elsewhere. However, currency and fixed income trend markets sustained losses due to range-bound choppiness, much as they had done the entire year. As was the case for the full year, equities were the only futures markets to produce meaningful gains for the trend model. But due to the phenomenon discussed above, in the fourth quarter the effective risk-weighted allocation to equity trends was meaningfully

greater than 25% of the model's total risk for much of the quarter, which enabled the equity gains to overcome losses elsewhere in the portfolio, producing the model's positive return for the quarter.

Side Note on Relative Performance

If the Trend model's *ex post* effective "tilt" toward long equity trends was thus beneficial, why the above comment about other CTAs generating a relative benefit from long equity tilts? Evidence indicates that such tilts are built into many modern trend following models not just *ex post* but *ex ante;* i.e., a typical trend fund nowadays is likely to have a greater weighting to long equity positioning by design. This is not to say that such trend systems can't ever get net short equities or that other asset classes can't dominate *ex post* risk,[2] but both of these outcomes are less likely in such models than they are in AMFBI.

This outcome is further compounded by the employment of volatility targets, which tend to lever up the entire portfolio in a low-vol backdrop—potentially to levels that we would consider too high for comfort. In a period like Q4, this likely resulted in an even wider notional disparity between long equity trends and other trend positions—a disparity that proved beneficial for the quarter. The topic of long-equity tilts and other differences between AMFBI and many trend following CTAs is discussed in greater detail in the annual commentary below.

2017 Annual Commentary

Relative to the Index's own history and relative to expectation, AMFBI's 2017 was unquestionably an ill-fated year; it was in fact the worst calendar year in AMFBI history. For some perspective though, it's worth observing how small in magnitude is a trend following system's worst-ever year relative to the worst years of other risky asset classes. Equity markets have been known to drop more than 7.32% in a *month*, let alone a year. This is partly due to the fact that equities, like most risk assets, have negatively skewed returns, whereas trend following returns are positively skewed, enabling much larger outliers to the upside if conditions are good than to the downside if conditions are poor.

Nonetheless, after a difficult year, reflection and analysis are in order. We begin that process with a review of the sources of negative return in 2017.

Performance Overview

As we've noted elsewhere, a low-volatility market backdrop is generally a difficult environment for a traditional trend-following system. But that difficulty tends to manifest itself as unimpressive rather than strongly negative end-to-end returns. The -1.56% and -1.43% AMFBI returns in 2015 and 2016, respectively, are good examples. Given only the information that 2017 would be an inordinately low-vol year, it is actually quite unexpected that losses would be produced of the magnitude actually experienced. The source of a larger-than-expected Trend model loss is the conundrum that must be tackled in analyzing 2017 performance.

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[2] Actually, it is particularly common for fixed income to dominate CTA model risk, because the (long) tilts into that asset class are in many cases even stronger than the equity tilts.

Event-Driven Losses

In the broadest view, a difficult start that included AMFBI's first-ever five-month losing streak[3] gave way to low-vol, range-bound quietude for AMFBI returns for the remainder of 2017. Index performance after mid-May was much more along the lines of what we would consider normal in such a setting: Low volatility with very little overall drift. In fact, the Index was never more than 0.84% below a local minimum set on May 19, and it finished the year 0.78% above the May 19 level. Still, such a minor 7.5-month "recovery"—though a return to form given the backdrop—was not nearly enough to climb out of the hole created in the first 4.5 months.
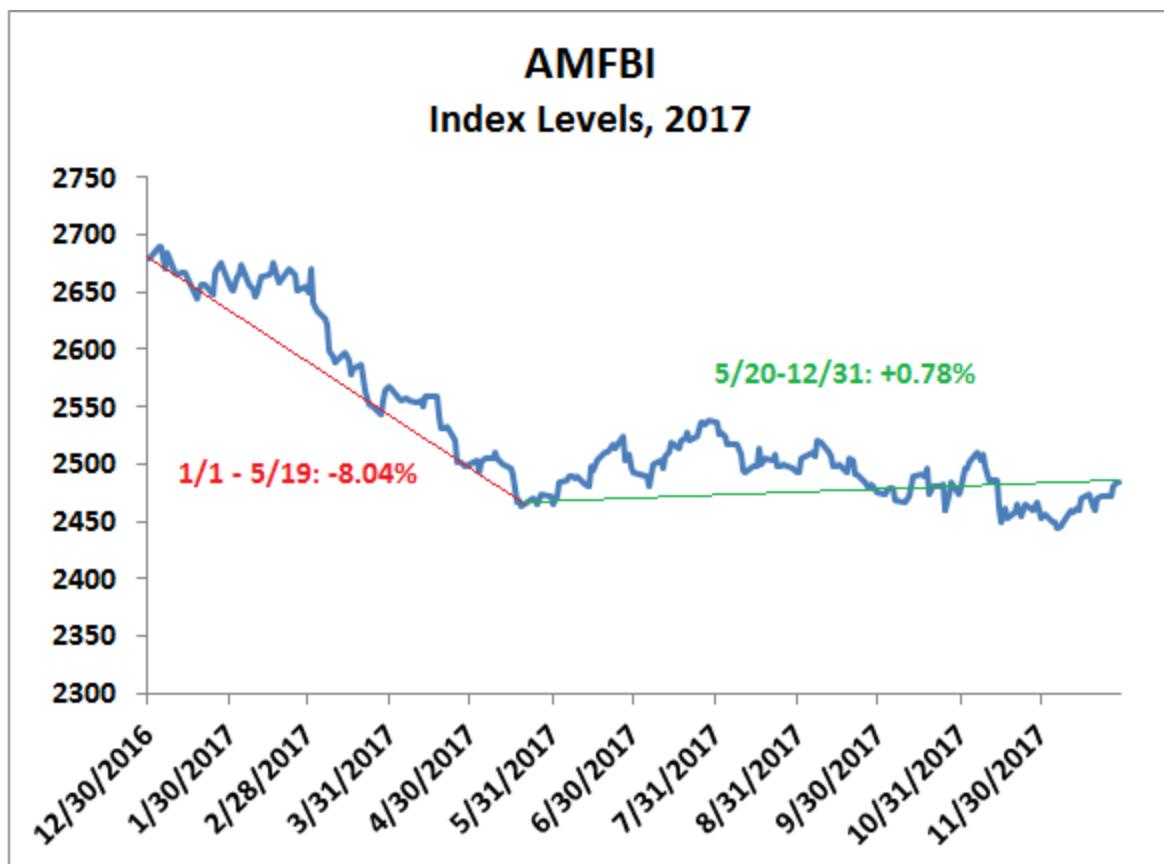
Within those first 4.5 months of the year, the difficulty for the Trend model was concentrated in a sequence of brief, event-driven spurts. Those spurts were caused by things like an OPEC-related "V-top" in energy prices, a Fed-related "V-bottom" in currency prices, the French election, President Trump talking down the US dollar, and a mini European version of the Taper Tantrum caused by an ill-conceived speech by ECB president, Mario Draghi. Each relevant event is analyzed in detail in the Q1 and Q2 commentaries.

Such events move the markets every year of course, but in most years there is no meaningful relationship between these kinds of surprises and Trend model positioning, such that surprise gains and surprise losses tend to even out over time. But in the first half of 2017, for whatever reason, every market-moving geopolitical/macro event seemed to go against the Trend model. The question of why this might be, is the

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[3] This streak is discussed in depth in the Q2 AMFBI commentary, including a probability analysis indicating that, if anything, it is somewhat surprising that a losing streak of that length had never been sustained previously.

distilled essence of the aforementioned conundrum. Though we can't altogether rule out the possibility that there is a unifying anti-trend pattern underlying all of those events, the idea of such a unifying theme seems quite fanciful given the disparate sources of those negative performance periods.

Readers of the descriptions of the event-driven losses in Q1 and Q2 will note that market-moving macro events can cause immediate whipsaws if they move against existing trend positions, but they can also cause the trend model to establish new positions in the direction of the sudden move. The repeated "V-top/V-bottom" phenomena described in the aforementioned quarterly commentaries imply that such newly-established trends often turned out to be poorly positioned in 2017. The nadir was probably the OPEC-related energy whipsaw, when energy markets "bought the rumor" of a production freeze, whipsawing the trend model and turning it long, after which markets "sold the news" of the confirmed freeze, whipsawing the newly established long energy positions.

Moments like that (though rarely that stark) always spark discussion among the Aspen research team about whether there is something we could add to the model to avoid taking such "bad" trades. But there are some important reasons why those discussions remain only theoretical:

- For one thing, allowing an outlier market move to establish a new trend position is by no means always the wrong idea. On a basic theoretical level, while jump events that run counter to established trends are clearly bad—but there is no obvious way to avoid them—jump events that create trends are not so clearly detrimental, even if they turn out to have one-off, non-repeating causes. For example, both anchoring bias and herding behavior—two common behavioral explanations for (a portion of) the trend premium—would tend to produce profits for a trend model that treats such events as signals, even though it didn't work out that way in 2017.
- Another problem is that a crisis can be punctuated by a string of such events snowballing in the same direction, and given AMFBI's mandate to produce "crisis alpha," the Trend model would be greatly remiss to filter out such events.
- Admittedly, when we've looked at the causes of specific events in 2017 and in certain past years, it has sometimes seemed "obvious" to us that neither crisis nor snowball was likely to result. But that raises another difficulty, which is that the Aspen research team's intuition regarding future market movements has an extremely spotty record, a few examples of calling a "bad trade" in 2017 notwithstanding. In fact, trend following thrives on the failure of such intuition, when market movement continues beyond what any educated observer considers reasonable. (And for what it's worth, we would argue that the so-so track record of our market intuition is far more the norm than the exception.)
- Moreover, any rules that would try to distinguish between "signal" exogenous events and "noise" exogenous events are almost certain to either invoke an increasingly complex web of rules or involve the discretionary right to override trade signals. Neither of those possibilities match Aspen's ethos of building and running models with systematic, transparent simplicity.
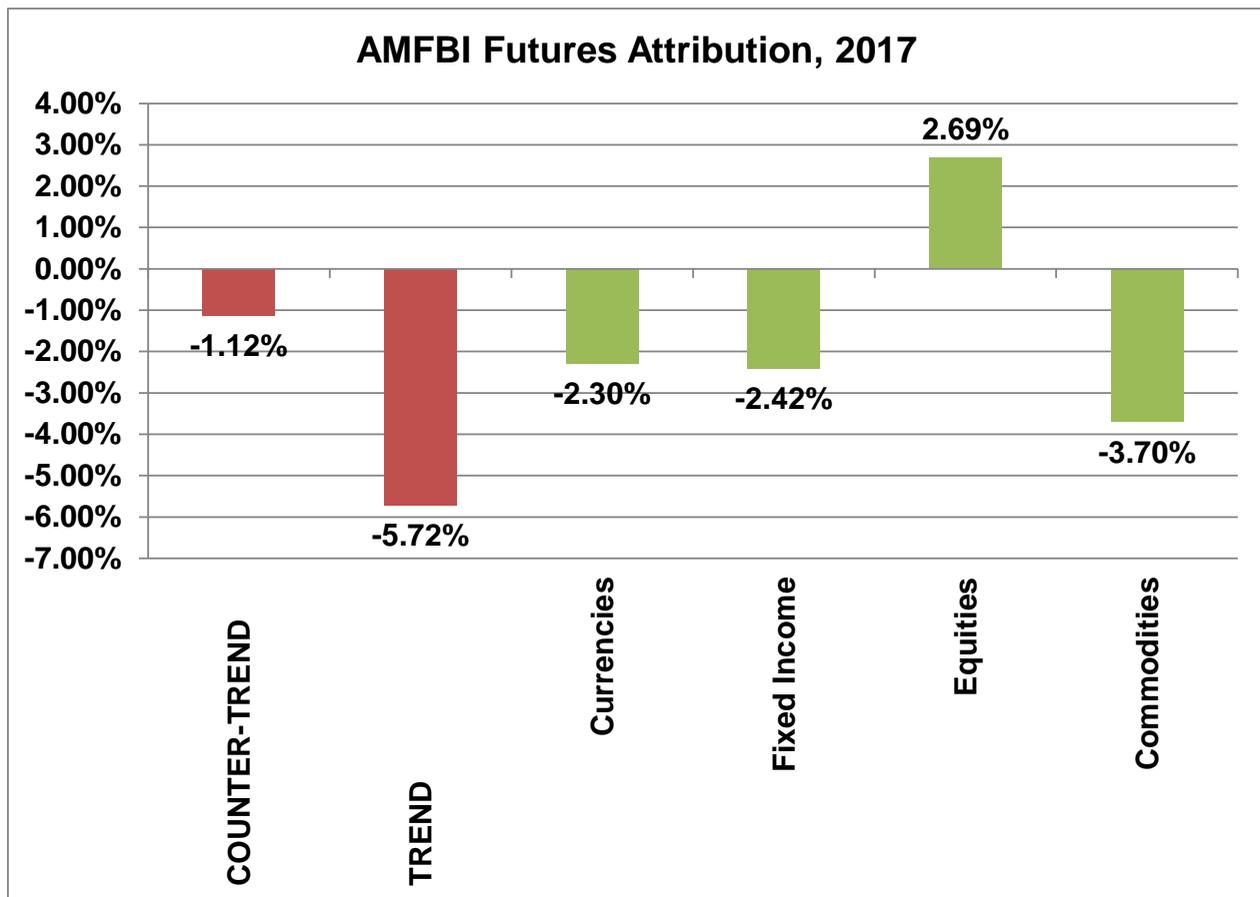
And again, though macro events seemed particularly inclined in 2017 both to run counter to established trends and to set up new trends for failure, such a pattern is not the historic norm, nor do we believe that there is a strong reason to expect it to continue. (Or rather, to resume, given that it has now been more than seven months since the last time such a meaningfully negative event occurred.)

Asset Class Attribution

In many years, an end-to-end annual gain in equities can mask significant volatility intra-year. Consequently, sometimes the answer to observers' questions about why a trend following program "didn't catch" an equity trend is that there actually wasn't as clear a trend as there appears at a cursory glance. But for the most part that was not the case in 2017, as equities generally refrained from all but the most minor pullbacks, with the result that even an unbiased trend system like the AMFBI Trend model has remained long most equity futures markets for most of the year. The S&P 500 trend, in particular, was long the entire year. Through year-end, it had actually remained on the long side for 78 consecutive weeks, and it had been strong long (i.e., all 5 lookbacks long) an incredible 58 of those 78 weeks. Other equity markets have been similar, if somewhat less dramatic, with the result that the aforementioned observers' intuition this year is correct: Equity trends were profitable in 2017, via strong upward returns against a very low-vol backdrop.

Of course, volatility was low in most other markets as well, but outside of equities the prices were more range-bound and trendless, which unfortunately for trend followers is much more typical of low-vol environments. Breaking out full-year attribution in AMFBI produces the following chart:

AMFBI Futures Attribution, 2017

Category	Value
COUNTER-TREND	-1.12%
TREND	-5.72%
Currencies	-2.30%
Fixed Income	-2.42%
Equities	2.69%
Commodities	-3.70%

The Q4 commentary above noted that equity gains were larger than losses elsewhere due to the relative *ex post* sizing of equity trends. The story was obviously not as simple over the full year, as Trend losses in other asset classes were each of approximately the same magnitude as gains in equities.

To understand why, it's important to bear in mind the dynamism of positioning in a trend following system, and to recall that the net losses were accrued entirely in the first 4.5 months of the year.

In the early part of the year, the relative risk weightings were not so clearly defined, in particular because range-bound whipsaws had not yet pushed most of the non-equity portion of the model into mixed, delevered positioning. For example, AMFBI entered the year short across the board in fixed income. The interest rate rise at the end of 2016 was quite strong, and even as bond prices mostly rallied in the early portion of the year, the last holdout on the short side (US Treasurys) did not flip back long until the second rebalance of April. In fact, losses in short positions in the first quarter account for half the total losses in fixed income for the year. We would hasten to point out, though, that this was merely a reversal of gains that accrued to short bond positioning in November and December of 2016.

Recall as well that the overall Trend losses in those first 4.5 months were mostly concentrated in a sequence of brief negative shocks. Those brief shock periods collectively accounted for most of the non-equity losses for the year, whereas they mostly tended to have relatively little effect on either equity P&L or equity positioning. One indicator of the consequences is that the average equity market changed sides only about 4 times in the Index in 2017, but the average non-equity market changed sides about 10 times—a sign of repeated whipsaws.

One final note before moving on: As mentioned in the prior paragraph, AMFBI wasn't purely long the entire year in equities either, except in the S&P 500 futures market. Other equity markets were short at least twice each, but each time quickly reversed back long again. And even without getting short, there were times when equity trend strength weakened prior to a new leg up. Had each equity allocation been held constant at its *ex post* average weighting this year, equity attribution would have been approximately 50% greater than it was. Bear in mind, though, that the ability to respond to nascent drawdowns is an intentional design feature of the Index. Small givebacks when a small drawdown reverses back into equity gains are deemed an acceptable tradeoff in exchange for hedge profits when a small drawdown deepens into a large drawdown, since most AMFBI investors are assumed to have substantial and relatively static long equity exposure elsewhere in their portfolios.

Counter-Trend

A quick note on AMFBI's Counter-Trend sub-model attribution is in order as well. For the Counter-Trend model, AMFBI employs a currency carry, which holds long positions in currencies with the highest domestic interest rates and short positions in currencies with the lowest domestic interest rates.

In practice, long positions in the Australian dollar (AUD) and New Zealand Dollar (NZD) have been holdings in the Counter-Trend model for quite some time, due to those nations having higher interest rates than the other major developed economies. However, the Australia and New Zealand economies have been relatively slow to jump aboard the train of coordinated global growth that drove such strong market optimism in 2017. Thus the developed economies with the highest interest rates also had the least impressive growth relative to expectation. As a consequence, in 2017 the currency carry Counter-Trend model contributed negative attribution to AMFBI for just the second year since the Index went live in 2011.

Though late to the party, the Aussie and Kiwi economies finally appear to be gaining steam, and a string of good economic news in those countries at the end of the year enabled AMFBI to recover nearly half of the yearly Counter-Trend losses—and most of the Q4 losses—in the month of December.

Comments on Performance Relative to the Managed Futures Industry

The year's unusually weak performance for AMFBI relative to industry benchmarks like the BTOP50 Index was noted in the quarterly commentary section above. We can't claim anything remotely resembling infallible insight on the sources of this differential, given our limited window into the activities of other CTAs, but some information can be gleaned by referring back to the usual known differences between the Index's Trend model and the majority of modern trend-following managers. In particular, we know:

- Most trend followers adopt a volatility target, which AMFBI does not.
- Many, if not most, trend followers tilt toward the long side in equity and fixed income trends, relative to AMFBI's average positioning.
- Many trend followers also allocate a larger portion of model risk into equity and/or fixed income positioning.

Beyond that, there are of course many other things that create differences between Index returns and those of other trend managers. But those tendencies in particular are items we can attempt to test for. We don't wish to overstate the usefulness of such tests, as the historical results are uneven. Models that we've built to try to more closely mimic the returns of category averages by imposing the modifications listed above seem to work quite well at times (i.e., via higher benchmark correlation, or more similar positive or negative periodic returns) but don't seem to capture the differences as well in other backdrops.

In 2017, though, the long tilts in equities and fixed income in particular do seem to make a sizable difference. The larger a model's equity exposure, the better its performance (and there is anecdotal evidence that average CTA equity futures exposure was at an all-time high in 2017[4]). Over the last several years, CTA benchmark correlations to fixed income have been almost statically positive, which caused problems for other trend followers in 2016 (leading AMFBI to outperform category averages that year), but would have flipped fixed income attribution from negative to positive in 2017. Also anecdotally, we often found that we could predict on a given day whether AMFBI would out- or underperform most trend following mutual funds based on the returns of equity and bond markets alone.

Tilts away from currency and commodity trends would also have been beneficial. Indeed, based not just on the experience of the Index but also that of a number of commodity-heavy CTAs, one could make an argument that 2017 was among the worst-ever years for physical commodity trend following. For example, the worst performing managed futures mutual fund in 2017 was a commodity-heavy manager that was down more than 18% when it survivor-biased itself out of the rankings by liquidating in late October.

Historical Context

As we discuss in many places elsewhere, while long equity/bond tilts and volatility targets likely produce a higher stand-alone expected return, we would argue that they do so in a manner that reduces the diversification benefit of trend following in the context of an investor portfolio that presumably already includes equity and

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[4] For example, see Two Sigma's analysis:
    Gerardo Manzo and Jeffrey N. Saret (Two Sigma), "CTA Market and Portfolio Diversification", 18 August 2017, www.twosigma.com/insights/cta-market-and-portfolio-diversification.
 See also the Bank of America data referenced at ZeroHedge:
    ZeroHedge, "If Vol-Neutrals Are Finally Liquidating, Could They Crash The Market? Here Is The Math", 17 May 2017, www.zerohedge.com/news/2017-05-17/if-vol-neutrals-are-finally-liquidating-could-they-crash-market-here-math.

fixed income allocations. For example, recall that in the fourth quarter of 2016, a period of rising interest rates, AMFBI substantially outperformed managed futures category averages due to the Index's ability to move more readily to the short side in fixed income futures markets.

Of course when we would anticipate the greatest positive differential between AMFBI and a long-tilted, vol-targeted trend manager would be in a market crash, given that AMFBI's relative ease in getting short equities and its willingness to ride out the volatility of a stress period in the markets are features designed with the idea of capturing "crisis alpha" in such backdrops.

Given the frequency with which we discuss these model differences relative to the average modern-day CTA, we run the risk of giving the impression that AMFBI is doomed to underperform substantially in any year in which equities and bonds post gains. While it is true that an effective overlay of extra equity and bond exposure does give the average modern CTA a leg up in such years, and while it is also true that our own research indicates that AMFBI will likely underperform the category across such years on average, the expected long-run magnitude of that underperformance is much smaller than what was experienced in 2017, and it by no means implies that the Index can never outperform the category in the absence of a crisis. In fact, even after a year that was admittedly a relative performance outlier to the downside, the Index's long-term relative performance offers little reason for concern that AMFBI is missing something important that other CTAs are seeing. Since Aspen went live with AMFBI in 2011, it has only trailed BTOP50 by 0.74%/year. (See the return chart below.) This is significantly less than what Aspen's own research indicates should be added by vol targeting and long equity/bond tilts in a persistent low-vol backdrop like the post-Great Financial Crisis (GFC) era.

AMFBI vs. BTOP50
Growth of 1000, 2011-2017
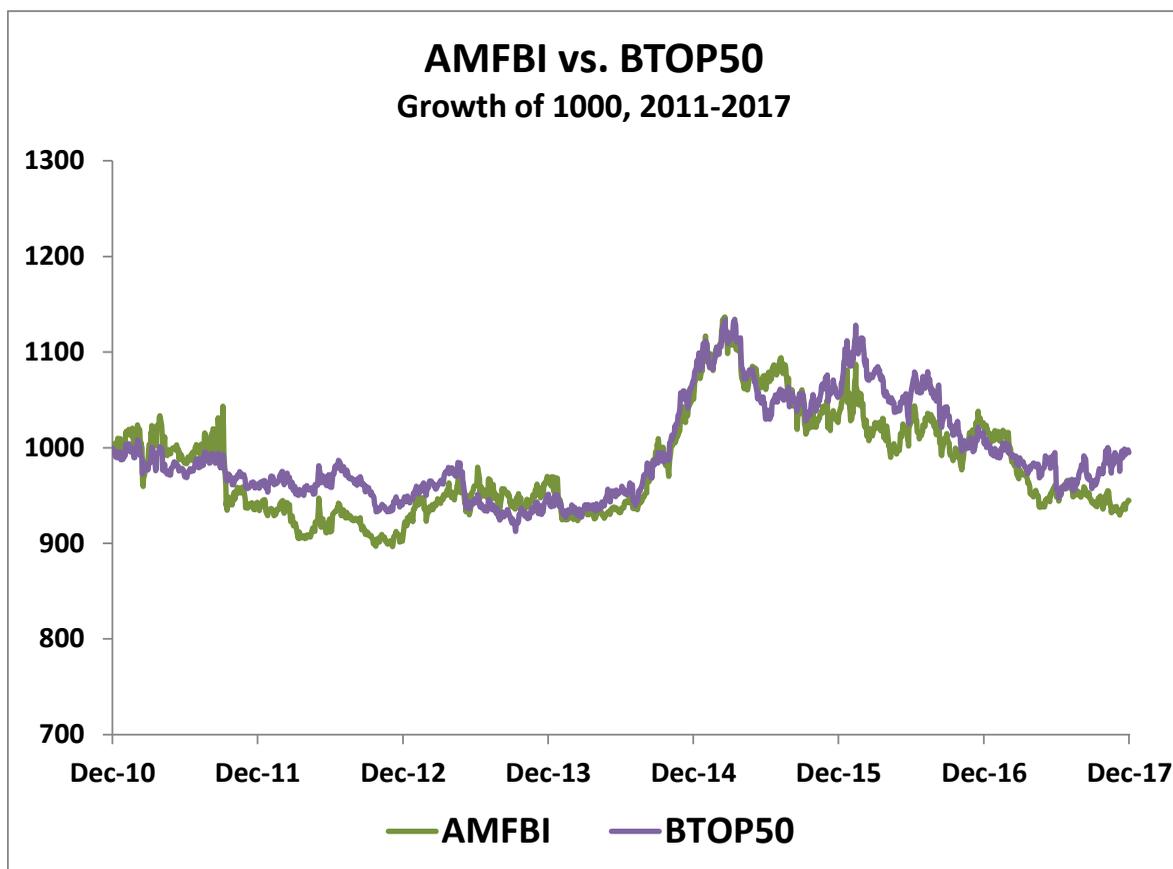
The investment strategy presented is not appropriate for every investor and you should review with your financial advisor(s) the terms and conditions and risk involved with specific products or services.

Notably, this is partly due to the fact that in its live track record AMFBI has experienced a year of outperformance of similar magnitude to the underperformance in 2017. In 2013, the Index returned +7.37% while BTOP50 returned only +0.74%. That was the year of the Taper Tantrum. AMFBI was up in May and June, the months of the tantrum, when most of the category was down badly, largely due to—no surprise—volatility targeting plus long equity and fixed income tilts. Note, however, that the S&P 500 was up 32% for the full year; so while long equity tilts certainly tend to help the managed futures industry outperform AMFBI in a big up year for equities, they by no means guarantee it. And if nothing else, 2013 points to the fact that a performance differential on the order of 700 basis points is not in itself a wildly unexpected outcome.

Looking Ahead

By now the post-GFC runup in equity markets has far exceeded the historical average duration of bull markets. The generally low-volatility nature of that runup was punctuated by a record-breaking dearth of volatility in 2017. The natural question, of course, is how long can this last? To which the snarky, unhelpful, and accurate answer is: Longer than you can imagine, or shorter than you might expect.

In order to translate that unhelpful prognostication into useful guidance for investor portfolio construction, we offer to our readers the lesson of the skyscraper chart:[5]
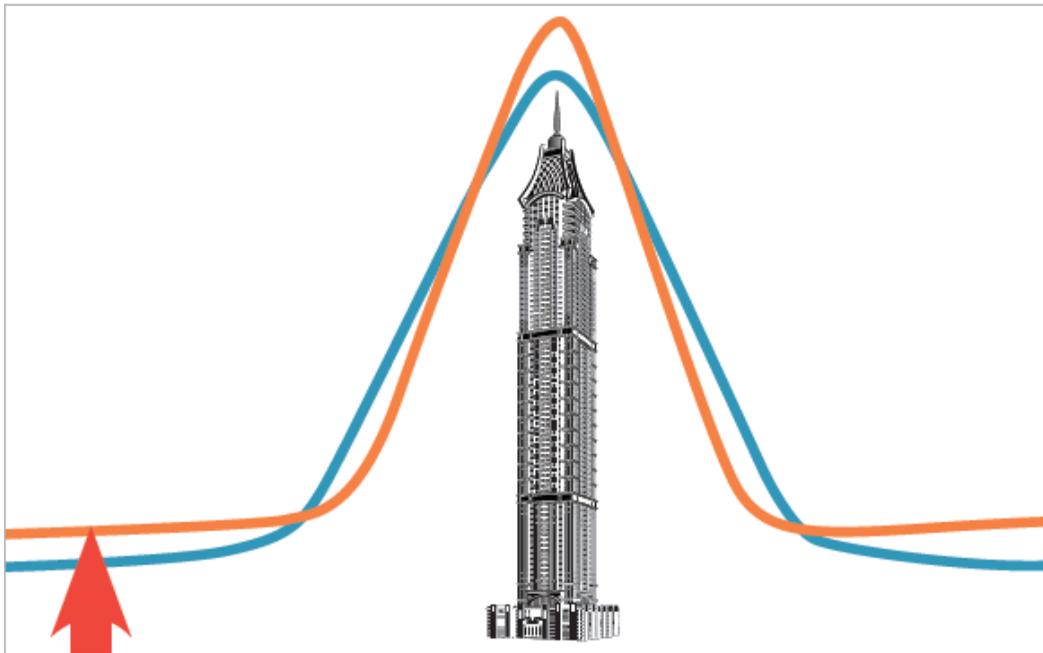
For those who may be unfamiliar with this chart, we recommend watching the Aspen Partners video "Trend Following Post-Crisis" for a detailed explanation.[6] In brief, the idea is as follows:

- Though market *volatility* has been greatly reduced in the post-GFC era, that does not necessarily imply that the underlying drivers of market *risk* have actually been eliminated.

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[5] Adapted from Harold de Boer (Transtrend), "Trend-Following: Riding the Kurtosis," *CTA Intelligence Magazine*, 2013.
[6] Aspen Partners, "Trend Following Post-Crisis," 2017, www.aspenpartners.com/Research-Insights/Managed-Futures-Post-Crisis.

- If the actual risk remains but the volatility has been reduced, then mathematically speaking the only place for the risk to have gone is into the tails—a condition known as "kurtosis"—with particular emphasis on the downside left tail. (The orange curve in the chart above.)
- In other words, the low volatility that markets have experienced post-GFC may actually be driven by a "high peak" of minor market movement that belies the probabilistic presence of "fat tails," implying a greater than usual risk of a significant market crash, and posing a hidden threat to investors' risk assets (e.g., equities).
- But even if the odds of a major market crash are greater than usual, that does not suggest that such a crash is guaranteed—or even altogether likely—over any short- or medium-term time frame, so pulling investors out of risk assets is not a workable solution.
- But then what to do about those fat tails? The benefit of unbiased systematic trend following is that its historical return characteristics suggest that it can offer "crisis alpha" protection against negative tail risk events—thus effectively increasing an investor's equity or other risk asset capacity for the same level of downside risk—without the significant costs associated with direct hedges like long put options.
- What if market activity recedes from its current kurtosis back to a more normal volatility regime? In that event, history suggests that trend following can offer an attractive, uncorrelated positive return in an investor portfolio, while still offering protection against tail events, which would then be less likely over a given timeframe, but still certain to occur eventually.

The second-to-last bullet includes a point that needs to be emphasized after a year like 2017: Post-GFC, while intermediate sub-periods have been particularly difficult, they have been offset by gains at other times, such that the long-run cost of holding a systematic, unbiased trend following model like AMFBI has not been particularly high, especially as compared to the punitive cost of holding direct hedge/insurance vehicles like equity puts in a portfolio.

Of course there are no guarantees; AMFBI could post more years like 2017 in the near future. But particularly given the fact that 2017's result derived so substantially from a peculiar series of seemingly unrelated anti-trend macro events, we believe the odds of such a year recurring are not very high, even if historic low market volatility continues for years to come. And when market volatility returns, particularly in the form of the next market crash, an unbiased, non-vol-targeted trend model like AMFBI should stand ready to provide significant diversification benefits for an investor's portfolio.

Important Disclosures

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.

The Barclays AGG, BTOP50 Index, Euro Stoxx 50, S&P GSCI, 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 or FX: Commonly used abbreviations for "foreign exchange," it is typically used to describe trading in the foreign exchange (currency) markets 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.